

# Board of Directors Meeting Agenda

Date: November 16, 2023

Time: 6:00 p.m.

Location: SMUD Headquarters Building, Auditorium  
6201 S Street, Sacramento, California



## •AMENDED AGENDA

- Closed Session Agenda removed.*

**SACRAMENTO MUNICIPAL UTILITY DISTRICT  
BOARD OF DIRECTORS MEETING  
SMUD HEADQUARTERS BUILDING  
AUDITORIUM – 6201 S STREET  
SACRAMENTO, CALIFORNIA**

***November 16, 2023 – 6:00 p.m.***

Virtual Viewing or Attendance:

Live video streams (view-only) and indexed archives of meetings are available at:  
[http://smud.granicus.com/ViewPublisher.php?view\\_id=16](http://smud.granicus.com/ViewPublisher.php?view_id=16)

**Zoom Webinar Link:** [Join SMUD Board of Directors Meeting Here](#)

**Webinar/Meeting ID:** 161 839 9158

**Passcode:** 940338

**Phone Dial-in Number:** 1-669-254-5252 or 1-833-568-8864 (Toll Free)

Verbal Public Comment:

Members of the public may provide verbal public comment by:

- Registering in advance of a meeting by sending an email to [PublicComment@smud.org](mailto:PublicComment@smud.org), making sure to include the commenter's name, date of the meeting, and topic or agenda item for comment. Microphones will be enabled for virtual or telephonic attendees at the time public comment is called and when the commenter's name is announced.
- Completing a sign-up form at the table outside of the meeting room and giving it to SMUD Security.
- Using the "Raise Hand" feature in Zoom (or pressing \*9 while dialed into the telephone/toll-free number) during the meeting at the time public comment is called. Microphones will be enabled for virtual or telephonic attendees when the commenter's name is announced.

Written Public Comment:

Members of the public may provide written public comment on a specific agenda item or on items not on the agenda (general public comment) by submitting comments via email to [PublicComment@smud.org](mailto:PublicComment@smud.org) or by mailing or bringing physical copies to the meeting. Comments will not be read into the record but will be provided to the Board and placed into the record of the meeting if received within two hours after the meeting ends.

Call to Order.

a. Roll Call.

1. Approval of the Agenda.

2. Committee Chair Reports.
  - a. Committee Chair report of November 14, 2023, Finance and Audit Committee
  - b. Committee Chair report of November 14, 2023, Energy Resources & Customer Services Committee
  - c. Committee Chair report of November 15, 2023, Policy Committee

**Item 6 was reviewed by the October 18, 2023, Energy Resources & Customer Services Committee. Items 7 through 9 were reviewed by the November 14, 2023, Finance and Audit Committee. Item 12 was reviewed by the November 14, 2023, Energy Resources & Customer Services Committee. Items 10, 11 and 13 were reviewed by the November 15, 2023, Policy Committee.**

*Comments from the public are welcome when these agenda items are called.*

**Consent Calendar:**

3. Approve revised Board member compensation for service rendered at the request of the Board (pursuant to Resolution 23-06-02) for the period of October 1, 2023, through October 15, 2023
4. Approve Board member compensation for service rendered at the request of the Board (pursuant to Resolution 23-06-02) for the period of October 16, 2023, through November 15, 2023.
5. Approval of the minutes of the meeting of October 19, 2023.
6. Adopt the **Load Management Standard (LMS) Compliance Plan**. Energy Resources & Customer Services Committee 10/18. (Scott Martin)
7. Accept the monitoring report for **Strategic Direction SD-9, Resource Planning**. Finance and Audit Committee 11/14. (Scott Martin)
8. Approve proposed revisions to **Strategic Direction SD-9, Resource Planning**. Finance and Audit Committee 11/14. (President Sanborn)
9. Approve proposed revisions to **Strategic Direction SD-7, Environmental Leadership**. Finance and Audit Committee 11/14. (President Sanborn)
10. Accept the monitoring report for **Strategic Direction SD-16, Information Management and Security**. Policy Committee 11/15. (Suresh Kotha)
11. Accept the monitoring report for **Strategic Direction SD-17, Enterprise Risk Management**. Policy Committee 11/15. (Jennifer Davidson)

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**Discussion Calendar:**

- 12. Adopt the **California Environmental Quality Act (CEQA) Initial Study and Mitigated Negative Declaration (IS/MND)** for the **EI Rio Substation Project (Project)**; adopt the **Mitigation Monitoring and Report Program**; and approve the **Project**. Energy Resources & Customer Services Committee 11/14. (Frankie McDermott)

*Presenter: Ellias van Ekelenburg*

- 13. Discuss, with possible action, **Election of Officers for 2024** (President and Vice President) for the SMUD Board of Directors. Policy Committee 11/15. (President Sanborn)

*Presenter: President Sanborn*

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**Public Comment:**

- 14. Items not on the agenda.

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**Board and CEO Reports:**

- 15. Directors' Reports.
- 16. President's Report.
- 17. CEO's Report.
  - a. Board Video

**Summary of Board Direction**

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**~~ANNOUNCEMENT OF CLOSED SESSION AGENDA~~**

~~1. Threats to Public Buildings, Services and Facilities.~~

~~Pursuant to Section 54957 of the Government Code:~~

~~Consultation with: Laura Lewis, Chief Legal & Government Affairs Officer;  
Jennifer Davidson, Chief Financial Officer; and Rob Lechner, Director, Facilities,  
Security & Emergency Operations.~~

**Board Committee Meetings and Special Meetings of the Board of Directors are held at the SMUD Headquarters Building, 6201 S Street, Sacramento**

November 14, 2023	Finance and Audit Committee and Special SMUD Board of Directors Meeting	Auditorium*	6:00 p.m.
November 14, 2023	Energy Resources & Customer Services Committee and Special SMUD Board of Directors Meeting	Auditorium	Immediately following the Finance and Audit Committee and Special SMUD Board of Directors Meeting scheduled to begin at 6:00 p.m.
November 15, 2023	Policy Committee and Special SMUD Board of Directors Meeting	Auditorium	6:00 p.m.
December 13, 2023	Finance and Audit Committee and Special SMUD Board of Directors Meeting	Auditorium	6:00 p.m.
December 13, 2023	Policy Committee and Special SMUD Board of Directors Meeting	Auditorium	Immediately following the Finance and Audit Committee and Special SMUD Board of Directors Meeting scheduled to begin at 6:00 p.m.

**Regular Meetings of the Board of Directors are held at the SMUD Headquarters Building, 6201 S Street, Sacramento**

December 14, 2023	Auditorium*	5:30 p.m.
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*\*The Auditorium is located in the lobby of the SMUD Headquarters Building, 6201 S Street, Sacramento, California.*

*Members of the public shall have up to three (3) minutes to provide public comment on items on the agenda or items not on the agenda, but within the jurisdiction of SMUD. The total time allotted to any individual speaker shall not exceed nine (9) minutes.*

*Members of the public wishing to inspect public documents related to agenda items may click on the Information Packet link for this meeting on the [smud.org](http://smud.org) website or may call 1-916-732-7143 to arrange for inspection of the documents at the SMUD Headquarters Building, 6201 S Street, Sacramento, California.*

*ADA Accessibility Procedures: Upon request, SMUD will generally provide appropriate aids and services leading to effective communication for qualified persons with disabilities so that they can participate equally in this meeting. If you need a reasonable auxiliary aid or service for effective communication to participate, please email [Toni.Stelling@smud.org](mailto:Toni.Stelling@smud.org), or contact by phone at 1-916-732-7143, no later than 48 hours before this meeting.*





RESOLUTION NO. \_\_\_\_\_

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby approves revised Board member compensation for service rendered at the request of the Board (pursuant to Resolution 23-06-02) for the period of October 1, 2023, through October 15, 2023.



**DRAFT**

RESOLUTION NO. \_\_\_\_\_

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby approves Board member compensation for service rendered at the request of the Board (pursuant to Resolution 23-06-02) for the period of October 16, 2023, through November 15, 2023.



The Board of Directors of the Sacramento Municipal Utility District met in regular session simultaneously in the Auditorium of the SMUD Headquarters Building at 6201 S Street, Sacramento, and via virtual meeting (online) at 6:02 p.m.

Roll Call:

Presiding: President Sanborn

Present: Directors Rose (6:05 p.m.), Bui-Thompson, Fishman, Herber, Kerth, and Tamayo

Present also were Lora Anguay, acting Chief Executive Officer and General Manager; Joe Schofield, Deputy General Counsel and Assistant Secretary, other members of SMUD's executive management; and SMUD employees and visitors.

Vice President Herber shared the 2030 Climate Action Tip.

President Sanborn called for approval of the agenda. Director Fishman moved for approval of the agenda, Director Kerth seconded, and the agenda was unanimously approved.

President Sanborn then announced that individuals from Organize Sacramento were in attendance and had requested to provide public comment. She stated that rather than wait until the end of the meeting, Agenda Item 13, public comment for items not on the agenda, would now be heard.

Tamie Dramer, Executive Director of Organize Sacramento, thanked the Board for their support and SMUD's sponsorship of the Boards and Commissions Leadership Institute (BCLI) hosted by Organize Sacramento twice a year. She noted that graduates of the most recent cohort were in attendance and wanted to share the impact the Institute had on them. She thanked President Sanborn for presenting to BCLI and outlined the type of training provided to participants, such as, among other things, ethics and rules of order, environmental justice, education equity, transportation justice, and Labor 101.

Alberto Mercado, a recent participant in BCLI, thanked the Board for their support of the program and described his participation. He noted that he was passionate about making a difference in his community, and BCLI provides valuable resources and training to allow individuals to get involved and make a difference.

C. Perez, a recent participant in BCLI, thanked SMUD for sponsoring the training and noted it had inspired her to pursue her Master's degree from Sacramento State in Public Administration.

César Aguirre, a recent participant in BCLI, expressed his gratitude for the program and the leadership development it provides. He thanked President Sanborn for presenting to the cohort and thanked the Board and SMUD for having ambitious climate goals. He stated that he would like to see the County and City also adopt the same level of urgency.

Public comment, a copy of which is attached to these minutes, was also received from the following member of the public:

- Neeta Chowdhry

Director Bui-Thompson, Chair, presented the report on the Strategic Development Committee meeting held on October 10, 2023.

Director Tamayo, Chair, presented the report on the Policy Committee meeting held on October 11, 2023.

Director Kerth, Chair, presented the report on the Finance and Audit Committee meeting held on October 17, 2023.

Director Rose, Chair, presented the report on the Energy Resources & Customer Services Committee meeting held on October 18, 2023.

President Sanborn then called for public comment for items on the agenda, but none were forthcoming.

President Sanborn then addressed the consent calendar consisting of Items 3 through 12. Director Tamayo moved for approval of the consent calendar, Director Bui-Thompson seconded, and Resolution Nos. 23-10-01 through 23-10-10 were unanimously approved.

**RESOLUTION NO. 23-10-01**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby approves Board member compensation for service rendered at the request of the Board (pursuant to Resolution 23-06-02) for the period of September 16, 2023, through October 15, 2023.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

**RESOLUTION NO. 23-10-02**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board accepts the monitoring report for **Strategic Direction SD-6, Safety Leadership**, substantially in the form set forth in **Attachment A** hereto and made a part hereof.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

**SACRAMENTO MUNICIPAL UTILITY DISTRICT**

**OFFICE MEMORANDUM**

**TO:** Board of Directors

**DATE:** September 28, 2023

**FROM:** Claire Rogers *CR 9/28/23*

**SUBJECT: Audit Report No. 28007612  
Board Monitoring Report; SD-6: Safety Leadership**

Internal Audit Services (IAS) received the SD-6 *Safety Leadership* first-half 2023 Biannual Board Monitoring Report and performed the following:

- Selected a sample of statements and assertions in the report for review.
- Interviewed report contributors and verified the methodology used to prepare the statements in our sample.
- Validated the reasonableness of the statements in our sample based on the data or other support provided to us.

During the review, nothing came to IAS' attention that would suggest the items sampled within the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

**CC:**

Paul Lau

# Board Monitoring Report 1<sup>st</sup> and 2<sup>nd</sup> Quarters, 2023

## Strategic Direction SD-6, Safety Leadership



### 1. Background

Strategic Direction SD-6, Safety Leadership states that:

Creating a safe environment for employees and the public is a core value of SMUD.

Through best practice methods and continuous improvement, SMUD will be recognized as a leader in employee safety while also assuring the safety of the public related to SMUD operations and facilities. SMUD commits to a proactive approach, including the active involvement of SMUD leadership, employees, contractors, and the community, as well as comprehensive monitoring of organizational and public safety performance.

Therefore, SMUD will continue to improve safety results to:

#### Workplace Safety

- a) Reduce SMUD's injury severity incidents to 13 or less than by 2025, as measured by OSHA's Days Away Restricted Time (DART), a rate that demonstrates top quartile safety performance for similar size utilities using the Bureau of Labor Statistics (BLS) work-related safety data.
- b) Provide timely, quality health care for injured employees that aids their recovery while maintaining positive financial performance of the workers' compensation program.

#### Contractor Safety

- a) Support contractors to reduce and eliminate potential hazards for Serious Injuries and/or Fatality (SIF) when conducting high risk work.

#### Public Safety

- a) Track and report injuries to the public related to SMUD operations or facilities.
- b) Implement measures to protect the public from injuries related to SMUD operations or facilities.

### 2. Executive Summary

**SMUD is in compliance with the SD-6 direction and is in alignment with SMUD's new 5-year strategy of working toward a zero-incident culture.**

## Workplace Safety

SMUD has recorded 21 OSHA Recordables injuries in the first half of 2023. This is a 40% increase from this time last year (15 OSHA Recordables). Of the 21 injuries, 7 DART (4 Lost Time & 3 Modified Duty injuries) resulted in a 0.66 DART rate. Although we have seen an uptick in workplace injuries during the first and second quarter, SMUD is still on track to meet the 2025 Target (See Appendix A).

Quality care of injured employees is measured through the Workers' Compensation program's performance, which is assessed annually by an independent actuary. SMUD continues to have a reduction in claims over the past three years, a reduction in injury frequency rates, and a reduction in indemnity benefits as presented below.

	2018	2019	2020	2021	2022
<b>No. of Claims (Medical &amp; Indemnity)</b>	120	85	89	59	54
<b>Incident rate per 100 employees</b>	5.06	3.6	2.3	2.4	2.2
<b>Rates per \$100 payroll</b>	.98	.94	.94	.85	.67

This year has continued to present challenges with COVID-19. COVID-19 has not only impacted the way SMUD is getting work done but has also resulted in new and emerging legislation surrounding paid leave and workers' compensation liabilities for COVID related injuries. Despite these challenges SMUD's program remains strong and continues to lead when compared with similarly situated organizations. No COVID-19 claims were made in 2023.

## Contractor Safety

SMUD continues to use ISN to evaluate safety records and performance for high-risk contractors. This evaluation focuses on Contractor Fatality History, OSHA Citation History, DART and Total Recordable Incident Rates (TRIR), Insurance Experience Ratio, Safety Culture Questions, and Safety Program Review. Currently SMUD has 100 contractors in the ISN system.

This year we have increased the number of site safety evaluations for high-risk contractors to validate safety performance on the jobsites. Safety has completed **137** site safety visits through the 2nd Quarter of 2023 and are well on our way to meet the 2023 goal of 200 evaluations. These visits focus on SMUD contractors who work with Power Generation, Environmental Services, Line, Substation, Facilities and Vegetation Management on projects where high-risk work is performed. This work includes high voltage work, working at heights, vegetation management, confined spaces, excavations, etc. Additionally, we have fully integrated the use of the Safety Management System (SMS) for inspections, incident tracking, reporting and investigations of SMUD contractors. This allows SMUD to verify safe working practices by our contractors to reduce the potential for serious injuries or property damage. Contractor reported incidents require an investigation to be completed, and typically will warrant additional site safety visits to verify corrective measures have been put into place to reduce further occurrences.

In addition, SMUD Procurement and Safety have partnered to enhance contract language as it relates to contractor safety requirements, Request for Proposal (RFP) templates for high-risk work and incorporating contractor safety as part of the onboarding process.

### **Public and Community Safety**

SMUD tracks public and community incidents in the Safety Incident Tracking System (SITS) involving car-pole, electrical contact, dig-in incidents, and injuries to the public that are related to SMUD's operations or facilities. For the first half of 2023, there have been 128 incidents where the public struck a SMUD asset with a vehicle, with three fatalities from such events. 36 dig-ins have been reported with no injuries.

### **3. Additional Supporting Information**

The new SD-6 Safety Direction became effective February 2021. Our goal is to achieve the desired performance objectives by year-end 2025. This report summarizes the first half of the 2023 safety performance.

**Safety Leadership.** The Safety Team continues with its integration efforts to support Executive Leadership's 5-year plan that emphasizes zero incidents and injuries and a focus on a zero-incident safety culture. SMUD's Chief Executive Officer (CEO) Paul Lau, re-emphasized the need to improve safety at SMUD with a greater focus on improving our "Safety for Life" culture, reducing the risk of serious injuries and fatalities, implementing a safety management system (SMS), and improving the analysis of injury and incident trends. These goals and strategies are outlined in SMUD's Safety Road Map, which was revised in 2023.

**Safety Management System (SMS).** During the first half of 2023, Safety continued to focus on optimization of Benchmark Gensuite the new Safety Management System (SMS). Online processes are currently in use. The Safety team continue to be enhanced and new processes are being introduced to employees within various applications in SMS. This includes the recording of field tailboards, safety inspections, supervisor employee interactions, EMF meter loans, contractor safety, office and field ergonomics and more. Customized dashboards are being created and will start rolling out during the second half of the year.

**Safety Standards Development.** SMUD's safety team continues to update Health & Safety Standards, as a foundation and in support of the organization's World Class Safety initiatives. The Standards routing process was improved in January 2023, when the feedback for the SMS "Doc Manager" application was not favorably received by end users. The Core Safety Standards Team is now utilizing the same routing process as the Sacramento Power Academy, through SharePoint and using docusign. During 2023 the following procedures were updated; heat illness prevention, contractor safety, and fall protection.

The Standards Team has also implemented the regulatory updates issued from the California Department of Public Health (per CA/OSHA regulations) on COVID-19 requirements, to ensure our Injury Illness Prevention Program (IIPP) and COVID-19 Appendix reflect the most up-to-date regulatory requirements. Information on the updates have been provided to all SMUD personnel in various formats, including Safety Meetings, ENN's, on-site electronic monitors, drop-in meetings, and Safety Training.

**Supervisor-Employee Interactions.** Safety continues to strengthen the quality of the supervisor-employee interaction program by improving inspections and moving the process to the Safety Management System (SMS). Emphasis is placed on field visits for work with the

highest hazard potential. Team Members continued visiting various crews throughout SMUD, to assist with employee safety concerns, processes, procedures, and equipment. For office personnel, an emphasis is placed on observing personnel pertaining to ergonomic risk, and slip/trip/fall hazards in walking areas. During the first half of 2023, a total of 6,495 Supervisor-Employee interactions were complete that resulted in a 132% percentage observed.

**Near Miss Reporting.** Leadership continues to support and encourage near miss and positive observation/good catch reporting. The goal of this process is to identify opportunities for learning, to prevent incidents from occurring. During the first two quarters of 2023, 84 near miss and positive observation/good catch reports have been reported and recorded in the Safety Management System (SMS). Seventy-two have been recorded using the Concern Reporting application and 12 in Incident & Measurements.

**Safely Conducted Observations Reduce Common Hazards (SCORCH).** Throughout the first half of 2023, a total of 2169 employees were observed under the Office & Professional process. Safety awareness campaigns related to **Head/Neck Posture and Back Posture (Non-lifting Related)** were implemented to positively influence employee ownership to a change in behavior. Risk mitigation tips to promote elevated awareness for these behaviors included guidance for proper monitor height and distance settings to avoid sustained awkward postures of the Head/Neck. (Note: top up monitor should be set at eye level and distance at an arm's length as a general rule of thumb) Tips stressing the importance of maintaining a neutral posture with head, shoulders and hips in alignment to avoid awkward postures to the back were provided. (Note: This included tips for avoiding twisting at the torso, leaning forward at the hips, or leaning to one side or the other.) A SMUD cultural opportunity for improvement would be to try and limit employees attending multiple MS Teams/online meetings, schedule meeting micro reenergizer breaks or end meetings 10 minutes early to provide employees time to get up, move and stretch.

Under the Electrical Trades and CFAS-field process, a total of 1918 field employees were observed. Field awareness campaigns focused on **Knee Protection/Ergo Mat and Walk About/Pre-Trip Inspection.** Team meetings and morning tailboards were used to seek employee commitment to the use of the ergo mat when working on a hard surface in a kneeling position no matter the duration of time. Providing the knees some added cushion when performing certain tasks can aid in minimizing the exposure for aches and pains to the knees. The value of early recognition for potential hazards around vehicles prior to departure was another highlighted behavior. This step provides visible confirmation of properly secured loads, identification of vehicle damage, flat tires, and fluid leakage. This topic was a part of quarterly safety meetings along with newly created signage emphasizing carving out time to perform the Walk About.

SCORCH Safety for Life promotions included its "7 Minutes for Safety" digital campaign. This highlighted the use of the Safety Management System (SMS) to complete a safety observation, which on average only takes approximately 7 minutes. Distraction Awareness/Eyes on Path campaigns were implemented to encourage employees to avoid cell phone or any other distractions while walking around campus to avoid potential slip, trips or falls. SCORCH team members attended Dekra's 2023 Safety in Action Conference. SMUD's engagement contributions include serving as a member of Dekra's Conference Steering Committee team, along with providing a presentation of its best practice breakout sessions. Topics from this conference will proudly be shared with all employees during the 3rd quarter in support of SMUD's World Class Safety initiative.

#### **4. Challenges**

**COVID-19.** The safety of our employees is of utmost importance, so we continue to monitor SMUD COVID-19 cases and manage prevention efforts. In 2023 SMUD Safety, People, Services, & Strategies, and the Communications updated the COVID-19 guidance to meet regulatory changes within the Cal-OSHA Emergency Temporary Standard for facial coverings, testing programs, quarantine, and isolation guidelines to protect employees, contractors, and the public. SMUD continues to provide employees with COVID-19 antigen testing at our EC-OC Med Services clinic. Our third-party vendor Axiom Medical continues to handle employee contact tracing and this process has been working well. In order to improve our employee experience, the Safety dept. led the roll out of a new mobile app that allows employees to log positives cases and receive guidance at any time. During Q1/Q2 2023, SMUD has received notifications of 112 COVID positive cases from staff. As required both contact tracing and notification of potential exposures have occurred with all personnel impacted.

**Work-Related Musculoskeletal Disorders (WMSDs)** The safety team continues to partner with business units to a reduce all WMSD's. Ergonomic evaluations are conducted in the office, field, and virtually to meet the needs of the workforce. Safety consulted with a Board-Certified Professional Ergonomist to evaluate our hybrid Ergonomics Program. The consultant identified many success factors as well as a few areas of improvements. Action items include reviewing and updating the Ergonomics Standard, make changes to Ergo Evaluator application in SMS, and creating an Ergonomics SharePoint site. In addition, Safety continues to partner with SCORCH to utilize data to reduce potential soft tissue injuries.

**Wildfire Smoke.** In April of 2023, the safety team reviewed the Health & Safety Standard for Wildfire Smoke for any gaps and collaborated with other work groups to ensure any necessary equipment, to reduce employee exposures were available and ready to deploy. In addition, there was a review and update of the Wildfire Smoke Training to ensure field crew members received information on how to access resources and mitigate hazards, should a Wildfire Smoke event occur. The training was delivered to all field crew personnel in May 2023. Examples of resources available to SMUD employees are: the use of the Purple Air monitoring system, in cab vehicle air filters, PPE, and work/crew scheduling. This year, to date, we have had 0 days of notifications.

#### **5. Recommendation**

SMUD is committed to becoming a recognized leader in safety. Both SMUD's leadership team and employees recognize that to achieve success we must integrate safety into all that we do. It is recommended that the Board accept the Monitoring Report for SD-6.

## **6. Appendices - Business Segment Safety Program Improvement Initiatives**

**Energy Delivery and Operations.** Safety assists with various types of concerns, action items, and provide safety expertise, on topics such as Arc Flash Reduction through Prevention Through Design (PTD) and Fall Protection design and implementation.

The team has continued to work with the SMUD Power Academy, to review internal and external safety training programs, to improve and ensure continued consistency and quality. An example of this work is with the Confined Space Rescue Program. Several team members have worked with an outside vendor and in-house subject matter experts of SMUD, to develop a more robust confined space rescue & equipment training; should a need for a rescue arise on a SMUD jobsite. We understand, in these circumstances, time is of the essence and there is limited subject-matter expert manpower within the Sacramento emergency responders' teams, for these types of rescues. Our crews need to have the tools necessary to perform their own rescues, with knowledge and confidence. Safety also assists with the review of the WASSP Field Procedures for various Business Units within ED&O, to ensure Cal/OSHA regulatory safety requirements are met within the procedures.

In late Q1, Safety began a pilot program for World Class Safety with several field force groups including, Warehouse, Fleet, CMI/Survey, Telecomm, and Meter Shop. The program utilizes our Safety Management System (SMS) to track safety stats focusing on the safe behaviors for continuous improvements. As part of this pilot program the SCORCH Team Lead, work group safety rep/s, and the safety supervisor, review various leading indicators, which are compared to the work group's previous quarterly stats. Examples include but are not limited to the following.

1. Visual inspection or "360 Walk-About"
2. Monthly Vehicle Inspection (Inspection Tool application)
3. Crew Visits with Leadership & Safety (Inspection & ACE Forms application)
4. Near Misses/Good Catches & Field Ergo (Concern Reporting application)
5. Corrective Actions and Safety Process Improvements (ATS application)
6. Safety Training Completion Rate

These efforts were chosen, as they reflect on employee accountability and safe behaviors in which to improve on. The quarterly pilot meetings provide a regular cadence to review our collaborative safety efforts, seek opportunities and additional topics to focus and improve upon, and to raise the organization as a Leader in World Class Safety. This program will continue to grow and develop as we incorporate safety in all we do.

**Joint Labor Management Safety Committee (JLMSC)** continues with an "All field teams' approach" which allows for the sharing of ideas and mitigation controls, of similar risks within the organization, from field work group to field work group.

**Flame Retardant (FR) Clothing** vendor continues deliveries on a regular basis in the ECOC Yard vs. crews driving to the vendor store location. This continues to provide a significant cost savings (in time and gas) to SMUD, by eliminating hundreds of individual trips back and forth by crew members. Field crew response continues to be positive of this safety improvement, which they recognize, and appreciate.

**Field Ergonomics.** The filed ergonomic program has expanded to include all of ED&O, Zero Carbon, and Finance field operations. After an initial group training during the monthly safety

meetings for the various work groups to share the program details, our ergonomic expert has gone out to the respective job sites to provide the crew(s) with specific or personal, one-on-one assistance, covering stretching techniques; providing ergo support tools; identifying awkward postures, excessive/forceful exertions, and repetitive motions. This program originally started within Line Division and has been pro-actively requested by other field force work groups. In Q1 the following work groups began participating; Warehouse field crews, Fleet, Substation, and in Meter Shop. Hydro Operations receives weekly onsite visits in the Fresh Pond Yard along with ergo evaluations for Power Plant staff. Q2 was our most successful month with Line Division. Substation had 2 group trainings both in safety meetings & their "All-Hands" meetings and had 1 new eval and 1 follow up eval. The Warehouse Field Forces had 5 days (different weeks) of walk throughs, with 3 new evals and 3 follow-up evals. Hydro had 4 site visits with walk-throughs at various Power Plants and 1 follow-up eval. And the Fleet Department had 5 site visits & walk throughs, with 2 new evals and 1 follow up visit. Their night shift was visited 1 time- with more to come!

**Safety for Life.** Safety is excited to bring back our in-person Safety Day for SMUD families this year. The in-person Safety for Life event has been in the planning stages for several months and is scheduled to occur in October at The Safety Centers Safetyville town. Some of the events scheduled at Safety Day are: pedestrian safety, bicycle safety, and a CPR class.

Sparky's Crew continues to get families involved in safety by sending postcards and quarterly newsletters to SMUD families enrolled.

As stated in 2022 we have placed more emphasis on getting more personal shares for our Safety for Life communications and we have received many more for the start of 2023. Some very impactful ones recently came from one of SMUD's Directors and an employee sharing their personal stories involving cancer and the importance of regular checkups and screenings.

**Health and Wellness.** Now, more than ever, health and wellness are at the forefront for employees. At SMUD, we continue to support the health and wellbeing of all our employees and provide programs and services to accommodate their needs in a variety of different formats. We're addressing the physical, mental, and emotional health of our employees by offering seminars, webinars, consultations, lunch and learns about various health & wellness topics. We encourage employees to take walks, stretch breaks and other measures to step away from their computer periodically to reset.

To accommodate many of the employees returning to the office, new training was developed and implemented to allow everyone to use the gym safely, at their own convenience. The Fitness Center has been a staple at SMUD for years and provided the space and equipment for employees to resume their normal routine and live a healthier and more balanced lifestyle. SMUD encourages employees to take part in the Health Assessment Program (HAP) to improve their physical, financial, social, spiritual, and emotional wellness.

**Zero Carbon Energy Solutions (ZCES).** Power Generation continues to prioritize employee safety while ensuring critical work is completed. For example, Power Generation employees continue with their Daily Dozen morning stretches for soft tissue injury reduction.

Currently, our OSHA Voluntary Protection Program (VPP) Safety Coordinator continues to work as a liaison between the contractor and the Hydro Operations crews, to ensure the findings are being addressed and completed, as a requirement to maintain the Cal/OSHA VPP status. As a reminder: VPP is designed to recognize employers and their employees who have implemented

safety and health programs which effectively prevent and control occupational hazards. These programs go beyond the minimum required Cal/OSHA regulations and provide the best feasible protection at the site. Achieving this status ensures Hydro Operations will continue with safety process improvements as the annual comprehensive safety audits are performed by the third-party contractor.

VPP establishments are considered leaders in the field of workplace safety and health. The management commitment and employee participation are key elements in achieving VPP recognition. Applications within the Safety Management System's are being utilized by Hydro Operations to ensure employees have a convenient avenue to participate in safety related activities and to track improvement.

**Customer & Community Services (CCS).** Safety and Security continue to work closely with Customer & Community Services to maintain safe operations of the CSC lobby. Ergonomic improvements of the customer cashier lobby are well underway to better accommodate staff to serve our customers. Safety has collaborated with Facilities to help support the need of CCS leadership, to improve operations within the cashier lobby. Ergonomics and space upgrades will allow better workflow of tasks and people within the area, while better serving our customers with more accessibility windows. CCS client support continues to be our goal, so we have increased our visibility through in-person meetings, safety walk throughs and discussions with supervisors.

**Corporate Financial and Administrative Services (CFAS).** This year, the Sacramento area experienced an unprecedented record-breaking storm requiring SMUD to request mutual aid for the first time. Facilities played a crucial role in organizing rest and recovery rooms for our mutual aid. Facilities also continues to support Home-Based Agent workspace installations to ensure ergonomic comfort for employees working at home. Facilities and Safety collaborated in developing a new tailboard form for Buildings and Grounds. The new tailboard was developed to be more relevant to the tasks being performed and allowed easier tracking and trending of safety observations identified in the tailboard. Tailboard participation increased to 70% within the first month of implementation. Facilities completed the ECOC Shops Building EV Charger Installations project and installed a total of 25 new EV chargers in support of the SMUD 2030 Zero Carbon goal of supporting EV Charging infrastructure throughout SMUD campuses as a united effort with SMUD contractors.

During the storm, the Warehouse provided 24/7 support in emergency deliveries of poles and transformers in addition to providing and procuring supplies and equipment for our SMUD employees and mutual aid. The Warehouse continues to partner with Safety in heat-illness prevention mitigations to ensure all field employees have access to cool water, portable shade, and UV skin protection. During days with high heat hazards, Warehouse provides electrolyte-replenishing beverages to field employees. Safety and Warehouse have collaborated to provide a different brand of electrolyte-replenishing powder packets convenient for field forces that offered greater hydration and is readily available in vending machines. Safety and Warehouse also collaborated on inspecting and purchasing new personal fall protection equipment for the Sacramento Power Academy Climbing School as a joint effort to ensure Climbing School students are using safe, effective, and readily available fall protection equipment.

Warehouse, Fleet, and Safety collaborated to encourage increased employee engagement during monthly safety meetings. Warehouse and Fleet incorporated employee Safety for Life presentations in which employees receive the opportunity to present a personal safety share relevant to their personal lives both at work or outside of work. Warehouse, Fleet, and Safety

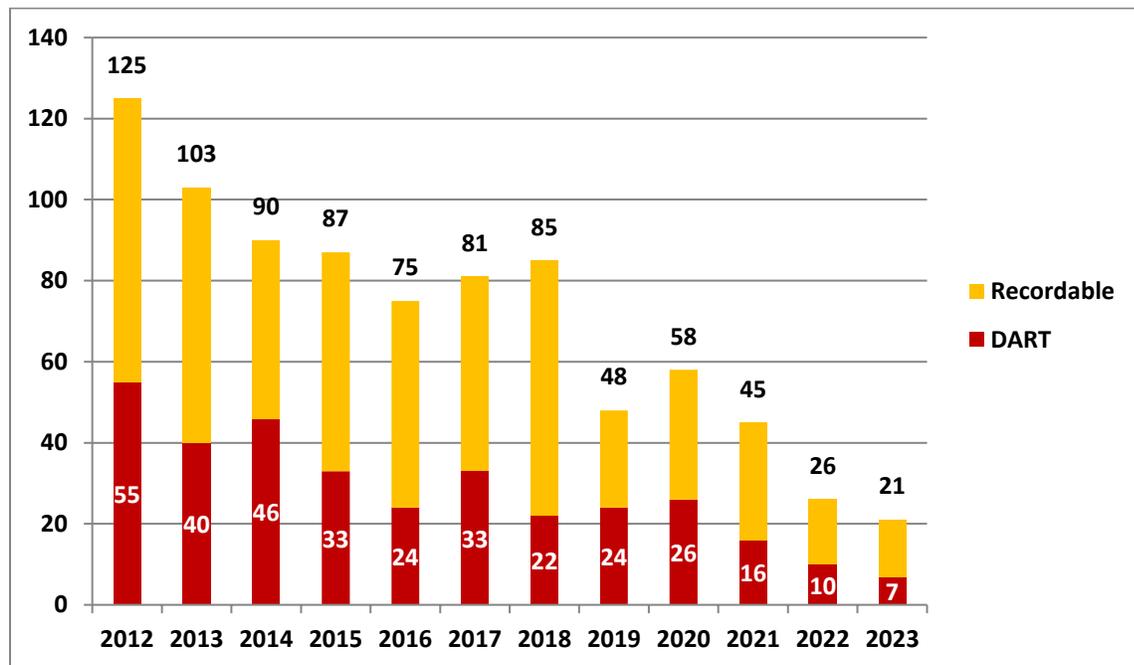
also collaborated on implementing the Injury Prevention Program with ROC Physical Therapy to address employee ergonomic concerns and prevent possible ergonomic injuries. Fleet switched to Geotab as their new fleet tracking system. To improve safe driving awareness, Fleet developed a dashboard to share metrics of assigned fleet vehicles with various business units. Fleet employees continue to participate in EV training courses customized to suit SMUD's needs in preparation for the transition to an all-electrified fleet by 2030.

All business units continue to partner in a consultative collaborative development of a World Class Safety program as One SMUD with quarterly meetings addressing leading and lagging indicators and the latest safety observation trends across the enterprise.

**Driver Safety.** Supervisors are conducting side-by-side ride alongs to provide coaching and safe driving skills guidance. While Safety was able to provide additional in-person class room and behind the wheel Smith System training. Driving Rodeos continue to be in high demand and the new partnership with Safetyville turned out to be a big success. In 2023 Safety hosted a Driving Rodeo events for Substation operations. Safety has increased the sharing of driving-safety related topics at ED&O Safety meetings this year and is working on new safe-driving messaging materials for the ECOC Yard, HQ and Fresh Pond parking areas, as well as for digital displays at each location. Additionally, a refresh of the safe driving decals on Fleet vehicles is under way. Safe driving is being emphasized in vehicle reports that are provided to directors and managers who have frequent drivers. The reports are focused on speeding with the potential of more driving details to be added.

## Appendix A

### DART Count and OSHA Recordable 2012-2023



**RESOLUTION NO. 23-10-03**

**WHEREAS**, Contract No. 4500140795 with **Mars Transformers, LLC (Mars)** was awarded on an emergency direct procurement basis in August 2023 for the period August 29, 2023, to November 30, 2023, for an amount not to exceed \$1,847,848 for the purchase, transportation and installation of one 75MVA 230kV Transformer to temporarily replace a power transformer that failed at **Camino Powerhouse**; and

**WHEREAS**, Mars is the only reliable source for large power transformers in the current market that meet SMUD's needs and urgent timeline for the Camino power generation site; and

**WHEREAS**, staff has negotiated the commercial terms and conditions for a second large 100MVA Power Transformer, which is intended to be a permanent replacement unit for Camino 1; and

**WHEREAS**, increasing the contract amount will allow SMUD to move forward without delay and significant costs to secure the purchase of the permanent transformer to restore a critical power generation facility and system reliability; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

**Section 1.** That this Board hereby authorizes the Chief Executive Officer and General Manager, or his designee, to increase the contract not-to-exceed amount for power transformers by \$5,000,000, from \$1,847,848 to \$6,847,848 plus applicable sales tax, for Contract No. 4500140795 with **Mars Transformers LLC**.

**Section 2.** The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the terms and conditions of the contract that, in his prudent judgment: (a) further the primary purpose of the

contract; (b) are intended to provide a net benefit to SMUD; and (c) do not exceed the authorized contract amount and applicable contingencies.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

## RESOLUTION NO. 23-10-04

**WHEREAS**, Contract No. 4500137959 with **Wood Mackenzie dba Power Advocate, Inc. (Power Advocate)** was awarded as a sole source contract for the period March 6, 2023, to December 31, 2023, for a not-to-exceed amount of \$1,000,000 for consulting services to support the Supply Chain team in three priority areas: 1) supply chain risk management, 2) category sourcing opportunities, and 3) the future of the supply chain procurement team with regard to renewable generation and distributed energy resources categories; and

**WHEREAS**, Contract Change No. 1 extended the expiration date by four months from December 31, 2023, to April 30, 2024, and increased the contract amount by \$500,000, from \$1,000,000 to \$1,500,000; and

**WHEREAS**, further development, planning, and execution of contracting strategies for critical infrastructure, equipment, and services are key to support the clean energy transition including i) power control center planning and construction, ii) transmission and distribution equipment, and iii) the evaluation of engineer, procurement and construction generation project opportunities; and

**WHEREAS**, increasing the contract amount and extending the expiration date will allow SMUD to move forward with strategic planning and development efforts that will include the following areas of focus: 1) formulate strategic supply chain recommendations to senior leadership and project staff, 2) advise on go-to-market approaches based on global perspective of market conditions, 3) provide expert perspective of global trends within electric utilities and clean energy transition, and 4) provide supply chain category analytical excellence; and

**WHEREAS**, the pricing is considered fair and reasonable as SMUD has negotiated a 13% discount to the rates for a cost savings of approximately \$192,000 over the term of the contract; and

**WHEREAS**, it would be an idle act to formally competitively bid the procurement of consulting services since **Power Advocate** is uniquely positioned to support this work in that they pair extensive knowledge of global energy

markets with their unique cost and supply chain intelligence technology as a service that no other consulting firm has the depth and breadth of expertise coupled with the market intelligence and technology as a service; **NOW, THEREFORE,**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

**Section 1.** That this Board hereby authorizes the Chief Executive Officer and General Manager, or his designee, to extend the contract expiration date from April 30, 2024, to March 31, 2026, and to increase the contract not-to-exceed amount for consulting services by \$3,000,000, from \$1,500,000 to \$4,500,000, for Contract No. 4500137959 with **Wood Mackenzie dba Power Advocate, Inc.**

**Section 2.** The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the terms and conditions of the contract that, in his prudent judgment: (a) further the primary purpose of the contract; (b) are intended to provide a net benefit to SMUD; and (c) do not exceed the authorized contract amount and applicable contingencies.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

## RESOLUTION NO. 23-10-05

**WHEREAS**, by Resolution No. 19-04-05, adopted on April 25, 2019, this Board authorized the Chief Executive Officer and General Manager to award Contract No. 4500116379 to **Efficiency First California (EFCA)** to provide administrative services for SMUD's Home Performance Program for the period of May 1, 2019, to April 30, 2022, with two optional one-year extensions, for a total amount not to exceed \$7,800,000; and

**WHEREAS**, Contract Change No. 1 added a new subcontractor, **Brighton Energy**, to assist CalCERTS, Inc. with field verifications; and

**WHEREAS**, Contract Change No. 2 added a new subcontractor, **R. Connally Construction Consulting**, to assist with Field Quality Checks; and

**WHEREAS**, Contract Change No. 3 updated items in the Non-disclosure Agreement (NDA); and

**WHEREAS**, Contract Change No. 4 extended the contract expiration date by one year to April 30, 2023; and

**WHEREAS**, Contract Change No. 5 revised the scope, rate schedule, and NDA; and

**WHEREAS**, Contract Change No. 6 extended the expiration date by one year to April 30, 2024; and

**WHEREAS**, **EFCA** has been awarded four contracts to support SMUD programs through solicitations and is an integral part of SMUD's Advanced Home Solutions, Charge@Home, and forthcoming Commercial Energy Building Electrification (BE) and Electrical Vehicle (EV) programs; and

**WHEREAS**, **EFCA's** processes, procedures, platform, and contractor relationships are essential to the SMUD programs that promote building decarbonization; and

**WHEREAS**, **EFCA**, as Program Administrator, provides essential program administration support, including desktop review, field quality control, contractor webinars, and field mentoring while also overseeing the SMUD Contractor Network and managing the Software as a Service platform that

houses all project data and is used by contractors to validate SMUD customers and enter project information; and

**WHEREAS**, increasing the contract amount and extending the contract term will ensure critical program continuity and minimize disruption of essential electrification programs while expanding commercial program participation; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

**Section 1.** That this Board hereby authorizes the Chief Executive Officer and General Manager, or his designee, to execute Contract Change No. 7 to Contract No. 4500116379 with **Efficiency First California** to extend the expiration date by three years from April 30, 2024, to April 30, 2027, and to increase the contract by \$12,000,000 with three optional one-year extensions to April 30, 2030, for \$3,000,000 each or \$9,000,000 in the aggregate, for a total contract not-to-exceed amount of \$28,800,000.

**Section 2.** The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the terms and conditions of the contract that, in his prudent judgment: (a) further the primary purpose of the contract; (b) are intended to provide a net benefit to SMUD; and (c) do not exceed the authorized contract amount and applicable contingencies.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

**RESOLUTION NO. 23-10-06**

**WHEREAS**, by Resolution No. 22-10-18, adopted on November 2, 2022, this Board made findings that the sale of the fee interest in real property within the **Solano Wind Resources Area (Solano Property)** was exempt from the Surplus Land Act in light of exchanged land rights and furtherance of SMUD's energy generation, storage and transmission purposes; and

**WHEREAS**, SMUD received a \$5,000,000 contribution from the sale of the **Solano Property** to be used at SMUD's discretion through its **Sustainable Communities Program** to minimize the impact of its transition to clean power on historically underserved communities and neighborhoods; and

**WHEREAS**, if SMUD were to recognize the revenue upon the sales transaction, the revenue would be recognized in one period and the matching expenses could be recognized in a different period; and

**WHEREAS**, the **Sustainable Communities Program** expenses will be recognized in the period incurred; and

**WHEREAS**, normal accounting practices would be to recognize the revenues and expenses in the accounting period incurred; and

**WHEREAS**, pursuant to Governmental Accounting Standards Board (GASB) codification section Re10 Regulated Operations, for rate-making purposes, it would be appropriate to match the expenses with the revenues so that the revenue is recognized in the same period in which the amount is expended and will, therefore, more accurately reflect revenues and expenses in the same period; **NOW, THEREFORE,**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board authorizes SMUD's Accountant to defer recognition of \$5,000,000 in revenue from the contribution received from the sale of the **Solano Property** as a regulatory liability and then match revenue recognition to

expenses related to SMUD's **Sustainable Communities Program** in the appropriate accounting period for rate-making purposes.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

**RESOLUTION NO. 23-10-07**

**WHEREAS**, the Infrastructure Investment and Jobs Act of 2021 (IIJA) was enacted by Congress and signed into law; and

**WHEREAS**, the IIJA adds Section 111(d)(20) to the Public Utility Regulatory Policies Act of 1978 (PURPA), which requires SMUD to consider a new proposed regulatory standard relating to Demand-Response Practices; and

**WHEREAS**, through Resolution No. 22-10-15, the Board commenced consideration of the Demand-Response Practices Standard; **NOW, THEREFORE,**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

The Board Determination on the Demand-Response Practices Standard is hereby adopted and approved, substantially in the form of

**Attachment B.**

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

SACRAMENTO MUNICIPAL UTILITY DISTRICT

PUBLIC UTILITY REGULATORY POLICIES ACT OF 1978 AS AMENDED BY THE INFRASTRUCTURE  
INVESTMENT AND JOBS ACT OF 2021

Board Determination on the Demand-Response Practices Standard

Summary

The Sacramento Municipal Utility District's (SMUD) Board of Directors has made its determination on the Demand-Response Practices Standard set forth in Section 111(d)(20) of the Public Utility Regulatory Policies Act of 1978 (PURPA), as amended by the Infrastructure Investment and Jobs Act of 2021 (IIJA). The Board considered the Demand-Response Practices Standard on the basis of its effect on conservation of energy, efficient use of facilities and resources, and equity among electrical consumers, and the objective and requirements of the Municipal Utility District Act (Cal. Pub. Util. Code, § 11501 et seq.).

Statement of Facts

The IIJA was enacted on November 15, 2021, adding new obligations under Title 1 of PURPA. IIJA amended Section 111(d) of PURPA to require each non-regulated utility to consider a new proposed regulatory standard which encourages utilities to promote the use of demand-response practices by customers to reduce electricity consumption during periods of unusually high demand. SMUD is a covered utility for purposes of PURPA.

SMUD commenced consideration of the standard on October 20, 2022, through Board Resolution No. 22-10-15. On October 18, 2023, the Staff Report and Findings on the Demand-Response Practices Standard (Staff Report) was presented and discussed at a public hearing conducted by the SMUD Board at the Energy Resource and Customer Services Committee meeting. SMUD provided public notice of the hearing and the Staff Report was also made available to the public on SMUD's web site ([www.smud.org](http://www.smud.org)) prior to the hearing. Comments were requested from the public as to the need and desire for SMUD to adopt the Demand-Response Practices Standard. Transcript copies of the public hearing and written materials submitted are available for public inspection.

Determination

The Board has considered the information contained in the Staff Report and adoption of the Demand-Response Practices Standard. The Board has determined that its consideration of the Demand-Response Practices Standard, and the determinations made with respect thereto, are in accord with the provisions of the Municipal Utility District Act and PURPA, as amended by the IIJA. The Demand-Response Practices Standard has been considered in light of the record developed during the proceedings on the standard. The Board recognizes the importance of and concurs in the purpose of

conservation of electrical energy, efficiency in the use of facilities and resources, and equitable rates as described in PURPA. These purposes were considered in reaching the determination below.

The Board's determination follows.

I. Standard Under Consideration:

DEMAND-RESPONSE PRACTICES STANDARD

"Section 111(d)(20) -

*(A) In general*

*Each electric utility shall promote the use of demand-response and demand flexibility practices by commercial, residential, and industrial consumers to reduce electricity consumption during periods of unusually high demand.*

*(B) Rate recovery*

...

*(ii) Nonregulated electric utilities*

*A nonregulated electric utility may establish rate mechanisms for the timely recovery of the costs of promoting demand-response and demand flexibility practices in accordance with subparagraph (A)."*

II. Findings:

1. SMUD has adopted Competitive Rates Strategic Direction No. 2 (SD-2) which, among other things, requires rates be designed with a goal to reflect the cost of energy when it is used, reduce consumption during periods of high system demand, encourage energy efficiency and conservation, provide customers flexibility and choices.
2. SMUD has adopted Environmental Leadership Strategic Direction No. 7 (SD-7) which, among other things, requires SMUD to conduct its business affairs and operations in a sustainable manner by minimizing environmental impacts and conserving resources, and promotes the efficient use of energy by our customers.
3. SMUD has adopted Resource Planning Strategic-Direction Policy No. 9 (SD-9) which prioritizes carbon emissions reduction by, among other things, pursuing energy efficiency and new technologies which serve to provide flexible demand response capability.
4. SMUD has for decades provided demand-response programs to promote the more efficient use of electricity and reduce usage during periods of high demand, including the PowerDirect program for commercial/industrial customers and an air conditioning load management program for residential customers.
5. SMUD's 2030 Zero Carbon Plan contemplates 360 – 1,320 MW of Virtual Power Plants (VVPs) contributing to our demand-response supply, made up of residential and commercial loads, as well as managed electric vehicle charging and vehicle-to-grid (V2G) dispatch. SMUD

launched a new residential VPP demand-response program in 2022 focused on thermostats and another one in 2023 focused on load control switches, and anticipates incorporating battery storage and potentially V2G into our VPP programs.

6. SMUD is actively engaged in V2G pilot programs and is exploring ways to ensure customers are charging their vehicles at optimum times for the grid, and anticipates by 2030 as many as 1 in 3 kWhs SMUD delivers will be used to serve electric vehicles.
7. SMUD has partnered with electric vehicle manufacturers to offer residential customers access to a managed charging program and has program offerings that incentivize the adoption of Automated Load Management Systems which shifts charging load to low demand periods.
8. SMUD's demand-response programs are designed to account for the variance in costs of purchasing and generating electricity, and therefore do not require separate rate recovery mechanisms because the program costs are offset by the savings on our commodity budget.
9. SMUD has adopted Time-of-Day pricing for its commercial/industrial customers which promotes demand-response during the peak period of 4-9 p.m. and for residential customers during the peak period of 5-8 p.m., and also in the summer months during mid-peak periods of 12-5 p.m. and 8 p.m.-midnight.
10. SMUD has a Critical Peak Pricing rate which further incentivizes residential customer participation in demand-response programs that utilize thermostats and batteries to reduce electricity consumption during high demand periods.
11. As reflected in the Strategic Direction, and through its various programs, initiatives, and rates, SMUD's demand-response practices meet the new federal standard.

III. Determination by the SMUD Board

The Demand-Response Practices Standard is appropriate for use by SMUD.

**RESOLUTION NO. 23-10-08**

**WHEREAS**, the Infrastructure Investment and Jobs Act of 2021 (IIJA) was enacted by Congress and signed into law; and

**WHEREAS**, the IIJA adds Section 111(d)(21) to the Public Utility Regulatory Policies Act of 1978 (PURPA), which requires SMUD to consider a new proposed regulatory standard relating to Electric Vehicle Charging Programs; and

**WHEREAS**, through Resolution No. 22-10-15, the Board commenced consideration of the Electric Vehicle Charging Programs Standard;

**NOW, THEREFORE,**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

The Board Determination on the Electric Vehicle Charging Programs Standard is hereby adopted and approved, substantially in the form of

**Attachment C.**

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

SACRAMENTO MUNICIPAL UTILITY DISTRICT

PUBLIC UTILITY REGULATORY POLICIES ACT OF 1978 AS AMENDED BY THE INFRASTRUCTURE  
INVESTMENT AND JOBS ACT OF 2021

Board Determination on the Electric Vehicle Charging Programs Standard

Summary

The Sacramento Municipal Utility District's (SMUD) Board of Directors has made its determination on the Electric Vehicle Charging Programs Standard set forth in Section 111(d)(20) of the Public Utility Regulatory Policies Act of 1978 (PURPA), as amended by the Infrastructure Investment and Jobs Act of 2021 (IIJA). The Board considered the Electric Vehicle Charging Programs Standard on the basis of its effect on conservation of energy, efficient use of facilities and resources, and equity among electrical consumers, and the objective and requirements of the Municipal Utility District Act (Cal. Pub. Util. Code, § 11501 et seq.).

Statement of Facts

The IIJA was enacted on November 15, 2021, adding new obligations under Title 1 of PURPA. IIJA amended Section 111(d) of PURPA to require each non-regulated utility to consider a new proposed regulatory standard which encourages utilities to promote greater electrification of the transportation sector. SMUD is a covered utility for purposes of PURPA.

SMUD commenced consideration of the standard on October 20, 2022, through Board Resolution No. 22-10-15. On October 18, 2023, the Staff Report and Findings on the Electric Vehicle Charging Programs Standard (Staff Report) was presented and discussed at a public hearing conducted by the SMUD Board at the Energy Resource and Customer Services Committee meeting. SMUD provided public notice of the hearing and the Staff Report was also made available to the public on SMUD's web site ([www.smud.org](http://www.smud.org)) prior to the hearing. Comments were requested from the public as to the need and desire for SMUD to adopt the Electric Vehicle Charging Programs Standard. Transcript copies of the public hearing and written materials submitted are available for public inspection.

Determination

The Board has considered the information contained in the Staff Report and adoption of the Electric Vehicle Charging Programs Standard. The Board has determined that its consideration of the Electric Vehicle Charging Programs Standard, and the determinations made with respect thereto, are in accord with the provisions of the Municipal Utility District Act and PURPA, as amended by the IIJA. The Electric Vehicle Charging Programs Standard has been considered in light of the record developed during the proceedings on the standard. The Board recognizes the importance of and concurs in the purpose of conservation of electrical energy, efficiency in the use of facilities and resources, and equitable rates as described in PURPA. These purposes were considered in reaching the determination below.

The Board's determination follows.

I. Standard Under Consideration:

ELECTRIC VEHICLE CHARGING PROGRAMS STANDARD

“Section 111(d)(21) -

*Each State<sup>1</sup> shall consider measures to promote greater electrification of the transportation sector, including the establishment of rates that —*

- (A) promote affordable and equitable electric vehicle charging options for residential, commercial, and public electric vehicle charging infrastructure;*
- (B) improve the customer experience associated with electric vehicle charging, including by reducing charging times for light-, medium-, and heavy-duty vehicles;*
- (C) accelerate third-party investment in electric vehicle charging for light-, medium-, and heavy-duty vehicles; and*
- (D) appropriately recover the marginal costs of delivering electricity to electric vehicles and electric vehicle charging infrastructure.”*

II. Findings:

1. SMUD has adopted Competitive Rates Strategic Direction No. 2 (SD-2) which, among other things, requires rates be designed to reflect the cost of energy when it is used and equitably allocate costs across and within customer classes.
2. SMUD has adopted Environmental Leadership Strategic Direction No. 7 (SD-7) which makes environmental leadership a core value of SMUD by, among other things, promoting the advancement of the electrification of vehicles.
3. SMUD has adopted Resource Planning Strategic-Direction Policy No. 9 (SD-9) which prioritizes carbon emissions reduction by, among other things, pursuing vehicle electrification to reduce 1,000,000 metric tons from transportation in 2030 while at the same time improving equity for under-served communities.
4. SMUD’s 2030 Zero Carbon Plan recognizes that widespread adoption of electric vehicles will be key to achieving zero carbon by prioritizing electrification of transportation. Just last year in 2022, staff updated SMUD’s Board of Directors on its Enterprise Electric Vehicle Strategy to accelerate the transition to electricity as a transportation fuel to meet the decarbonization goals set out by the 2030 Zero Carbon Plan.
5. SMUD has initiated cooperative agreements to advance the electric transportation sector, both at the regional level and on a broader scale, including a 4-Agency Memorandum of Understanding, joining Sacramento Area Council of Governments (SACOG), Sacramento Metropolitan Air Quality Management District (SMAQMD), and Sacramento Regional Transit (SacRT) to create a regional zero emission vehicle deployment strategy that prioritizes electrification in under-resourced communities, personal and shared ride vehicles, public

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<sup>1</sup> “State” is defined to include a nonregulated electric utility, such as SMUD.

and private transit, micro-transit and passenger shuttles, and medium and heavy-duty fleets.

6. SMUD also partnered with Plug In America to launch its dealer engagement program to train, certify and support dealers selling electric vehicles in our service territory and to deploy an online electric vehicle buying guide.
7. SMUD is an active member of the Sacramento PEV Collaborative, Sacramento Clean Air Partnership, and the West Coast Clean Transit Corridor Initiative to accelerate infrastructure planning and deployment of charging plazas along key transportation corridors.
8. SMUD collaborates with partners to identify grant opportunities that include potential awards to scale charging deployments serving multifamily residents, surrounding communities, and regional corridor fast charging to reduce charging times. For example, SMUD, SACOG, SMAQMD, SacRT, Sacramento Clean Cities, the California Mobility Center, and the Cities of Sacramento and West Sacramento recently completed a California Energy Commission (CEC) funded blueprint study of electric vehicle infrastructure.
9. SMUD's Charge@Home program provides up to \$1,000 in rebates for residential wiring upgrades and installation of home electric vehicle charging equipment.
10. SMUD upgrades and equips homes at no cost to the residents for electric vehicle charging for customers participating in the Clean Cars 4 All (CC4A) low-income program.
11. SMUD's multifamily program conducts comprehensive electrification assessments with recommendations for charger installations through the SMUD Contractor Network and the SMUD eFuel<sup>sm</sup> Solutions program. And SMUD was recently awarded a CEC grant to install over 100 chargers in new, existing, and planned multifamily complexes.
12. SMUD helped build and energize Sacramento's first eMobility Hub in the Del Paso Heights neighborhood, an historically under-resourced community. SMUD is actively exploring locations for siting of additional eMobility Hubs by assessing the impact on surrounding communities to determine the efficacy of scaling eMobility Hubs to as many as 52 sites.
13. SMUD has deployed direct current (DC) fast charging at six sites to address and alleviate concerns about access to charging, range anxiety and charging times, and the CEC recently awarded SMUD a grant to upgrade the DC fast chargers at two of the six existing sites and to add a seventh SMUD fast charging site.
14. For commercial/industrial customers, SMUD offers incentives up to \$30,000 to support the deployment of high-power DC fast chargers (greater than 50 kW) and up to \$15,000 in incentives for electric vehicle purchases by commercial fleets. An additional \$15,000 is available for those who site DC fast chargers in equity locations.
15. SMUD partnered with Electrify America as one of the first Green City investment focal areas to deploy seven DC fast charging sites.
16. SMUD is the first utility to directly partner with the CEC and the Center for Sustainable Energy to provide \$1,000,000 in direct incentive dollars to help fund the California Electric Vehicle Incentive Program in our service territory, which through 2022, led to the deployment of more than 100 DC fast chargers across our service territory.
17. SMUD has begun development of a smartphone electric vehicle app featuring an integrated e-Roaming platform to provide SMUD customers with single account access to multiple

- charging network partners and to deliver more equitable access and rates for electric charging by residents in multifamily homes and equity communities.
18. SMUD has adopted a residential electric vehicle rate discount of 1.5 cents/kWh off of the standard retail rate and also a commercial pilot electric vehicle rate intended to mitigate demand charges for low utilization at the beginning of charging infrastructure deployments; both of which are designed to recover SMUD's marginal cost by reflecting the cost of energy when it is used and equitably allocate costs across and within customer classes.
  19. As reflected in the Strategic Direction, and through its various practices, initiatives, and rates, SMUD's electric vehicle charging programs meet the new federal standard.

III. Determination by the SMUD Board

The Electric Vehicle Charging Programs Standard is appropriate for use by SMUD.

**RESOLUTION NO. 23-10-09**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board accepts the monitoring report for **Strategic Direction SD-10, Innovation**, substantially in the form set forth in **Attachment D** hereto and made a part hereof.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

**SACRAMENTO MUNICIPAL UTILITY DISTRICT**

**OFFICE MEMORANDUM**

**TO:** Board of Directors

**DATE:** September 28, 2023

**FROM:** Claire Rogers *CR 9/28/23*

**SUBJECT: Audit Report No. 28007611**  
**Board Monitoring Report; SD-10: Innovation**

Internal Audit Services (IAS) received the SD-10 *Innovation* 2023 Annual Board Monitoring Report and performed the following:

- Selected a sample of statements and assertions in the report for review.
- Interviewed report contributors and verified the methodology used to prepare the statements in our sample.
- Validated the reasonableness of the statements in our sample based on the data or other support provided to us.

During the review, nothing came to IAS' attention that would suggest the items sampled within the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

**CC:**

Paul Lau

# Board Monitoring Report 2023

## Strategic Direction, SD-10 Innovation



### 1) Background

SD-10 States: Delivering innovative solutions, products and services to our customers is a core value. To assure our long-term competitiveness, SMUD shall invest in research and development projects that support its core and key values and integrate emerging technologies and new business models into SMUD’s customer offerings in a way that balances risk and opportunity and benefits our customers and community.

### 2) Executive Summary

SMUD’s Research & Development portfolio (R&D) addresses innovation and challenges in *electric transportation, energy efficiency, building electrification, load flexibility, thermal transition, and climate change*. The research provides insight into future planning and supports the development of near-term technology solutions for SMUD customers and the grid, in support of SMUD’s target of zero carbon by 2030 and associated thermal transition. The number of individual projects in the R&D portfolio were reduced this year to focus on foundational initiatives supporting SMUD’s Zero Carbon Plan (ZCP) goals and significant effort was expended supporting the pursuit and delivery of awarded state and federal funding opportunities.

**Our conclusion is that SMUD is in compliance with SD-10 Innovation.**

SD Requirement	Purpose	Outcome	Notes
<b>Project Implementation</b>	Project distribution indicates breadth of portfolio diversity and prioritization of program areas.	33 active projects in 2023. 6 projects are complete as of August 1, 2023 <sup>1</sup> .	This reflects a 21% decrease in active projects and 14% reduction in completions compared to previous reporting period.
<b>Risk</b>	Technology risk assesses ability to meet expected performance goals. Implementation risk assesses probability of deployment.	66% of projects are deemed low to medium-low technology risk. 66% are deemed low to medium-low implementation risk.	The risk portfolio is consistent with the previous reporting period. Potential risks are managed by creating a diversified portfolio and partnering with other entities to distribute risk and mitigation.
<b>Benefits</b>	Research stage and benefits timeframe indicate the relevance of portfolio to address customer needs and strategic planning.	73% of projects are in stages 4-5 <sup>2</sup> . 85% are expected to provide benefits to SMUD or customers within 5 years.	Percent of stages 4-5 is consistent with 2022’s 91%, reflecting the focus on near-term applications. Benefits time frame is consistent with 2022.

Table 1: SD Requirements Compliance

<sup>1</sup> Reporting metrics and achievements reflect the reporting period of August 1, 2022 – July 31, 2023.

<sup>2</sup> Stage 1 - Preliminary Investigation, Stage 2 - Concept Definition/Lab scale, Stage 3 - Concept Development (Prototype/bench scale), Stage 4 - Technology Development and Verification (pilot scale; field testing), Stage 5 - Commercialization

### 3) Additional Supporting Information

**Project Implementation:** SMUD's Research and Development team has the primary responsibility of meeting SD-10; however, notable innovation occurs throughout SMUD.

#### **Electric Transportation (ET)**

Transportation electrification improves air quality and reduces net greenhouse gas emissions and petroleum consumption to support energy sustainability, while creating new revenue streams for SMUD. This strategy is supported through investigation of mitigation of grid impacts due to charging, improvement of electric vehicles (EV) value via pricing signals and remote controls, increased EV adoption and access to charging. SMUD is specifically exploring multiple opportunities to expand our understanding of Vehicle-to-Grid (V2G) capabilities, applications, and implications.

#### Key Achievements:

- SMUD was awarded \$2.23M by the California Energy Commission REACH grant for the ChargeReady Community project, to deploy EV chargers to underserved multi-family homes. SMUD staff have begun conducting visits and delivered the Community Engagement Plan to the CEC. Construction is expected to begin later this year.
- The Del Paso Mobility Hub (five level 2 and two DC fast chargers) completed interconnection this summer. Evaluation over the next year of the hub's utilization and business model serving shared electric vehicles and an electric shuttle will inform SMUD's strategy to increase EV charging access for hard to reach customers.
- The Residential Managed EV Charging pilot has enrolled over 300 customers with vehicles from GM, Ford and BMW. Recruitment to Tesla customers began this summer and is expected to reach 500 customers. No results yet, staff are working with the Auto OEMs on QC/QA of the data collected to date as part of early evaluation efforts.
- The CEC BESTFIT grant with the Twin Rivers Unified School District (TRUSD) aims to evaluate the effectiveness of managed charging (V1G) and V2G capabilities of electric school buses and light duty vehicles to balance impacts on customer and utility electrical distribution infrastructure and create value through grid services. Targeted use cases include reduced grid impacts, reduced customer infrastructure costs, wholesale cost avoidance, and mirror performance of stationary storage with V2G. With charger/bus compatibility issues now resolved, the charging infrastructure including bidirectional equipment has reached a stable point with formal interconnection expected soon. Ford Pro has been supporting Automated Load Management for TRUSD and is currently developing managed charging and bidirectional charging software to support testing.
- The Light Duty Fleet V2G project has installed a Fermata FE-15 bidirectional charger (V2G) on SMUD's campus and is being tested using SMUD's fleet Nissan Leaf and a Nissan Leaf on loan from Tokyo Electric Power Company. This charger is UL certified with endorsement by Nissan that it does not void their vehicle warranty. Currently planning to test Fermata's new FE-20 bidirectional charger.
- Continued collaboration with auto OEMs on emerging bidirectional charging products. Collaboration with GM includes grant application coordination and planning for a future light duty fleet bidirectional charging demonstration. Collaboration with TEPCO,

Fermata, and Nissan includes grant application coordination and planning for future demonstration of commercial and residential light duty fleet bidirectional charging.

### **Energy Efficiency (EE) & Electric Buildings (EB)**

This program area optimizes energy delivery costs and improves grid asset utilization through targeted, time-specific energy efficiency and building electrification as well as by capturing permanent outcomes in building codes. R&D explores emerging and underutilized technologies; working to lower barriers to technology adoption.

#### Key Achievements:

- Statewide, 32 - 120V Heat Pump Water Heater (HPWH) installations were monitored and found to save money and time compared to standard 240V HPWH installations on average, primarily due to reduced electrical interventions.
- Staff completed phase 1 of the Home Infrastructure Planning project, creating a process for collection and cleaning of data sourced from inside and outside SMUD. Staff transition delayed the launch of phase 2 until Q3 2023, which will conduct analysis to develop tools and forecasts to help distribution planners and customers make optimal decisions regarding utility service upgrades supporting residential electrification.

### **Load Flexibility**

This program supports cost-effective, reliable, scalable flexible resource growth to serve future grid needs. R&D determines functional, operational and market viability of flexible loads to align supply and demand, give customers bill management options, improve air quality, and reduce carbon emissions.

#### Key Achievements:

- SMUD launched the My Energy Optimizer, Partner level, in June 2022. The pilot is ahead of plan with over 13,000 thermostats enrolled. SMUD is working with the vendor on staggered dispatch of thermostats, to attempt to create a steadier, more predictable load shed during events. Recruitment for Partner+ begins this fall, targeting customer-owned and sited battery storage to operate a Virtual Power Plant, maximizing value to customers and benefitting grid operations.
- Smart inverters allow utilities to monitor residential PV and storage (potentially as an alternative to generation submeters) and provide control functionality to assist in grid support. This project will test smart inverter connection via two pathways: direct connection and through vendors/aggregators. Direct connection will assist in development of the DERMS, while the vendor/aggregator pathway leverage OEM and aggregator relationships to establish pilot access agreements to a broader range of smart inverters. Data analysis for the direct connection pathway is underway with testing for the vendor/aggregator pathway to initiate soon.

### **Thermal Transition**

R&D pursues innovative grid, storage and generation solutions to facilitate SMUD's goal of zero carbon by 2030 and accelerate interconnection of grid-connected systems and devices to ensure safe and efficient operation. This program supports system reliability

and reducing emissions through alignment of DERs and zero-carbon generation with grid needs. It seeks to improve grid reliability through reduced outage frequency and duration; control of the distribution system, voltage and frequency variations, and overload conditions; and optimize grid benefits of DERs through advancing integration standards and coordinated automation.

#### Key Achievements:

- The Lithium-Ion 4 MW / 8 MWh utility-scale storage battery at the Hedge substation supports the StorageShares program and SMUD's goal of adding 1,100 MWs of battery capacity by 2030. Proximity to the Sacramento Power Academy training facility will foster opportunities for workforce development in battery storage operations. We declared Commercial Operations Date early this year and continue to troubleshoot operation and seek performance enhancements. Performance benchmarking and use case testing to begin late 2023.
- The ESS Phase 1 demonstration will deploy 4 MW / 32 MWh of Long Duration Energy Storage (LDES) iron flow batteries. This project will compare the reliability and uptimes of LDES and Lithium-Ion batteries as part of SMUD's partnership with ESS. Two ESS battery models will be tested: the Energy Warehouse and Energy Center. Construction of 6 Energy Warehouses has been completed at the Hedge Power Academy. Site Acceptance Testing is in process with use case and performance testing to follow.
- Renewable Natural Gas (RNG) and Green Hydrogen remain the leading alternative fuel candidates to convert and decarbonize thermal generation fleet operations longer term. Mote, in collaboration with SMUD, was awarded \$500k by the CA Department of Conservation Forest Biomass to Carbon-Negative Biofuels Pilot Program. This project intends to use waste biomass from clearing the UARP transmission corridor for Thermochemical conversion to hydrogen. This grant focuses on site selection, pre-construction project validation and engineering, community benefits, and Front-End Engineering Design for consideration as a project for development. This project ends this year and will provide insight on investments needed to supply green hydrogen.
- The Dynamic Line Rating evaluation tests the achievability and usability of the LineVision V3 monitoring system for short-term operational and long-term planning decisions regarding transmission lines. The goal is to increase the efficiency of transmission asset utilization while maintaining reliability. Data analysis has been completed for one years' worth of data on one of the UARP transmission lines with business case evaluation underway to decide whether to operationalize this technology and pursue targeted deployment on other transmission lines.

#### **Climate Change**

This program provides technical, economic, and policy expertise on climate change and impacts to SMUD territory. It compliments SMUD's Zero Carbon Plan and aligns with our board direction to address climate vulnerabilities, and we partner with our customers and community on mitigation opportunities and regenerative, net positive projects.

#### Key Achievements:

- Carbon Farming and Ecosystem Service Research is a four-year study aiming to restore California prairie under PV panels at Rancho Seco II. The project is evaluating the use of native pollinator plant species to reduce operational costs associated with vegetation management, erosion control and fire protection at utility solar sites, quantifying the impact on the power production of the PV system, and measuring the carbon captured and sequestered in the soil by these plants.

### **Enterprise-Wide Innovations**

While SD-10 innovation goals are met by R&D research programs, additional notable achievements occurred across SMUD supporting progressive customer offerings.

- The Innovation program at SMUD is evolving to focus on identifying and tracking strategic partnerships with local and regional community members and vendors from around the world to bring technology to scale that solves for SMUD's 2030 zero carbon objective. Interactions with 20 vendors are currently being tracked in 2023.
- IT's Energy Trading and Contracts (ET&C) is leveraging Python technology to automate regression testing of SMUD's PCI Energy Solution's resource optimization system. Upgrades occur twice a year, totaling 600 hours of testing. To date, 20% of the manual regression tests around product customizations have been automated.
- ET&C completed a Container orchestration proof of concept to reduce maintenance and improve reliability using a serverless cloud architecture for 100+ Docker microservices.
- DERMS Phase 1 and ADMS development is complete, implemented Q3 2022. DERMS Phase 2 development and building the QA DERMS test system is complete. DERMS Phase 3 design completed, continuing development of the core DERMS system functionality. SolarEdge and Virtual Peaker are continuing to integrate their systems into DERMS. DERMS Phase 2 and 3 are planned to go-live together September 2024.

**Summary:** As SMUD shifts to implementation of the 2030 Zero Carbon Plan, R&D has ramped up support for thermal transition and load flexibility technologies and business models, focused on energy storage and electric transportation, while continuing to advance research in climate change. These innovations help mitigate grid infrastructure impacts, maintain customer choice and offer new solutions toward a low carbon future. Our diverse portfolio helps maintain long-term competitiveness and balance risk with potential environmental and economic benefits, ensuring community benefits.

**4) Challenges:** 2023 continued in a primarily remote work environment with increasing physical attendance on site throughout the year. Vigilance remains due to the ongoing health impacts of COVID-19, and concern about supply chain and inflationary impacts. The R&D team was reorganized as part of the Strategic Partnerships and Grants team to better reflect the integration of R&D with partnership and external funding opportunities. Staff resources were focused on providing subject matter expertise for efforts supporting zero carbon by 2030, balanced between grant planning, acquisition and delivery to reduce SMUD's cost for R&D and project planning and implementation.

**5) Recommendation:** Recommend the Board accept the SD-10 Monitoring Report.

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

**Table 2: R&D Projects**

Research Program	ID	Project Name	Project Description	SD-10 Benefits	Start Date	End Date	Ward
Building Electrification	120	Home Infrastructure Planning Phase 2	This project will develop a Residential End State model to provide load growth insights and intelligence to optimize decision-making for distribution system upgrades, recommend program offerings, and estimate the likely costs of full electrification due to panel upgrades and distribution grid upgrades.	The main goal is to reduce the costs incurred by SMUD and our residential customers as they electrify their homes decarbonizing our district. This will help to reduce future rate increases expected from the 2030 Zero Carbon Plan and it will accelerate our decarbonization transition of residential homes.	5/1/2023	12/29/2023	All
Building Electrification	72	120V Heat Pump Water Heater Field Trial	Conduct a statewide field trial of 120V heat pump water heaters, to ensure their performance meets the needs of customers, and to investigate typical installation costs and technical hurdles. Water heating and space heating together account for two thirds of residential energy usage in the US therefore should be included in any plan to decarbonize the built environment and by installing 120V HPWH, panel upgrades may be avoided.	SMUD will be one of the first utilities nationally to deploy 120V HPWH as part of a program. In parallel with introducing this new technology without delay, SMUD is testing its effectiveness in the field, in order to make course corrections to the technology and program delivery as needed. Assuming the study results are favorable, these updated to SMUD existing program will be made in early 2024.	4/27/2021	7/31/2023	All

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Building Electrification	67	St. Francis Manor Central HPWH Study	SMUD staff monitored the performance and benefits of converting a gas powered (boiler) domestic hot water system to a heat pump water heater (HPWH) driven system and found that primarily due to incorrect flows/piping of the water flow and the addition of a kitchen, there was insufficient hot water to serve demand throughout the year. However, simple solutions have been identified (adjust the direction of the water flow and install a dedicated HPWH for the kitchen) to meet the customer's needs and deem this project a success.	Confirm the realized savings and benefit of replacing existing boiler and gas-powered hot water systems in a central plant with a HPWH with small gas backup, which will inform replacements for the 50-100 similar commercial sites within SMUD territory that could electrify the hot water system.	4/1/2021	9/30/2023	5
Building Electrification	65	CalTF	Co-funding CalTF's development of the eTRM (Electronic Technical Resource Manual) as the basis for IOU EE program deemed measure savings. The eTRM adds functionality for POUs to use the available data and transition to transparent accounting of savings, including Carbon savings. POUs can set different baselines for measure savings than the IOUs.	SMUD will benefit from a centralized California eTRM online repository for all statewide deemed measures. The platform will ensure the accuracy, transparency, and accessibility of all deemed measure values, supplementing our current approach of conducting M&V studies every three years.	1/1/2018	12/31/2022	All

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Building Electrification	112	Home Infrastructure Planning (Phase I)	Phase I leverages historical SMUD single-family electrification programs data to understand drivers for service panel upgrades. Collaboration with SMUD IT will generate Machine Learning predictions based on building attributes, customer demographics, and existing infrastructure. In later phases, these predictions will be the basis for customer engagements on building electrification, incentives programs, and predictive distribution planning.	Generating insights about infrastructure upgrades for SMUD distribution planners, electrification program designers, and SMUD Customers. The innovative tools produced in this project will help scale programs and optimally allocate resources towards 2030 ZCP goals.	10/22/2021	11/25/2022	All
Climate Change	64	Carbon Farming and Ecosystem Service Research at RSSII	Conduct field experiments at Rancho Seco to research ecosystems and evaluate the use of native species/pollinators to reduce the operational costs associated with vegetation management, erosion control, and fire protection. The project will explore the effects of vegetation and panel layout on PV generation and soil carbon.	The project will help identify and demonstrate strategies to integrate ecosystem services and agricultural value into large scale solar projects, helping to mitigate their environmental impact and build public support for their continued construction, assisting SMUD in achieving the 2030 ZCP.	1/30/2021	1/30/2026	2
Climate Change	109	Natural Refrigerant Incentive Pilot Program	Provides incentive for customer natural refrigerant systems, replacing super-polluting conventional refrigerants with high global warming potential. SMUD's first incentive program based on GHG reduction, not kWh savings. Monitored field pilots are underway at Grocery Outlet and Raley's stores in Sacramento.	DEED grant funding (\$125K) was secured to support the Grocery Outlet project and technology transfer. First of its kind for the utility industry, this program demonstrates SMUD's leadership in leveraging relationships with our customers to help them save money and reduce GHG emissions in the region.	1/1/2018	12/31/2022	All
Electric Transportation	20	Twin Rivers Commercial Managed Charging (V1G, V2G)	Incorporate electric school buses and light duty vehicles to evaluate the effectiveness of managed charging and vehicle-to-grid capabilities to balance impacts on customer and utility electrical distribution and create value through grid services.	V1G findings will support smart charging applications which can mitigate customer charging costs and support grid management and deferred infrastructure upgrades. Reduce grid impacts, reduced customer infrastructure build-out cost, wholesale energy or capacity cost avoidance, and mirror characteristics of stationary storage using V2G.	1/30/2021	9/30/2024	5
Electric Transportation	107	V2G Commercial Expansion	This project will build off the electric school bus project with Twin Rivers Unified School District. We will demonstrate and test Automated Load Management, Managed Charging, and Vehicle to Grid functionality with electric school buses and other capable EVs.	Reduce grid impacts, reduced customer infrastructure build-out cost, wholesale energy or capacity cost avoidance, and mirror characteristics of stationary storage using V2G.	1/1/2022	12/30/2024	All

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Electric Transportation	114	V4AMERICA	SMUD, GM and CMC are partnering to plan and deploy GM's EV fleet management solution to help reduce impacts to the grid through managed charging and vehicle to grid (V2G) dispatch.	This is a unique opportunity for SMUD to work with an automaker OEM in developing and piloting their charge management software. Effective charge management and Vehicle to Grid (V2G) dispatch has the potential to mitigate millions in grid infrastructure upgrades to support electrification of personal vehicles and commercial fleets over the coming decade.	1/1/2023	9/30/2025	All
Electric Transportation	15	Zeus Electric Truck Deployment	Collaboration with the California Mobility Center and Zeus Electric Chassis to deploy and test five Medium-Duty Electric Vehicles. Five unique configurations of the Zeus truck will operate in SMUD's fleet to study the performance, duty-cycle, and costs associated with utilizing electric trucks.	Inform both SMUD operations and customers of the challenges and benefits of fleet electrification. This project synergizes with the launch of the California Mobility Center which will support local economies and improve health and safety in DACs.	1/3/2023	6/30/2023	All
Electric Transportation	97	ChargeReady Community	In early 2022, SMUD was awarded the CEC's Reliable, Equitable, and Accessible Charging for multi-family Housing (REACH) grant (GFO-21-603) to deploy charging infrastructure to multi-family housing units (MFHs) in underserved communities. The main goal of the project is to develop a technical and business model to inform future deployments and disseminate knowledge in the industry. Project partners include Mutual Housing and the SMAQMD. The project team will install at least 108 Level II handles at up to 10 locations in Sacramento, utilizing SMUD's eFuel program for design and construction. OLD description: ChargeReady Community is the Sacramento region's replicable, equity-first EV charging solution for multi-family housing (MFH). Powered by Sacramento Municipal Utilities District (SMUD) and in partnership with community-based organization (CBO) and site host Mutual Housing California (Mutual Housing) and Sacramento Metropolitan Air Quality Management District (SMAQMD), ChargeReady Community will deploy a pilot model that transitions EV charging in under-resourced communities from inaccessible amenity to expected, critical infrastructure.	Help SMUD better understand the challenges and opportunities of deploying EVSEs in multi-unit dwelling in underserved communities, helping SMUD advance the adoption of electric transportation, which contributes to GHG emissions reductions, and promoting equity in transportation.	5/11/2022	6/30/2025	All

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Electric Transportation	17	Del Paso Mobility Hub	Help create an e-Mobility hub for different modes of transportation, such as taxis, Uber, Jump, buses, etc. It will also include EV charging capability as well as gig cars. The first project in execution is the Del Paso Mobility Hub.	This is a novel project and transportation facility concept. It includes electric and fuel cell vehicles, including an electric shuttle, EV charging, shared vehicles, electric micro-mobility (ebikes and electric scooters) and transportation services.	9/1/2022	8/31/2023	5
Electric Transportation	104	Light Duty Fleet V2G	This project will test and demonstrate V2X functionality on campus with capable fleet vehicles such as the Nissan Leaf and Ford F150 Lightning. We hope to understand interconnection process, installation requirements, and V2X functionality through this project before proposing a larger scale pilot.	Informed deployment of light-duty V2X will reduce grid impacts and customer infrastructure build-out costs. LDV fleet management can also offer wholesale energy or capacity cost avoidance, and mirror characteristics of stationary storage.	1/1/2022	12/31/2023	All
Electric Transportation	22	Residential Managed EV Charging (V1G)	Actively manage residential EV charging times and peak power consumption. Managed EV charging can enable deferral of distribution system upgrades, smooth the duck curve, reduce renewable generation curtailment, and provide import and export arbitrage opportunities.	Benefits include reduction of the financial risks associated with transportation electrification, specifically by mitigating the risk of overloading electrical distribution infrastructure. Another secondary benefit is to better align energy delivery for charging with low-cost energy supply.	10/1/2021	12/30/2024	All
Electric Transportation	24	SMUD-Owned EVSE	Operation and maintenance of SMUD's public level 2 and DCFC charging stations.	Increase EV adoption by having publicly available working charging stations in high trafficked areas.	1/1/2014	12/31/2027	All
Energy Storage	119	ESS Flow Battery R&D	Project will deploy 29 ESS Energy Centers at Hedge Solar Farm. These centers will be 3.55 MW/28.4 MWh of long duration energy storage. The project will test the reliability and uptimes for comparison of LDES and Lithium-Ion batteries.	This field demonstration will test the reliability and technical parameters of the ESS long duration flow batteries in comparison to lithium-ion batteries as well as the ability to scale up to larger installations of 200MW.	5/1/2023	7/1/2026	3
Energy Storage	122	Hedge 4 MW/8MWh Monitoring and Maintenance	Operation of a 4 MW / 8 MWh utility-scale storage battery to test different operational modes and grid interactions.	The operation and testing of the Hedge Lithium-ion battery will inform the installation and direction of SMUD's future battery projects as they ramp up to meet the 2030 plan of ~3000MW of renewables and storage.	1/20/2023	1/19/2025	3
Energy Storage	6	Hedge Utility-Scale Battery	Deployment and operation of a 4 MW / 8 MWh utility-scale storage battery to test different operational modes and grid interactions.	The Hedge Battery supports the StorageShares program and SMUD's goal of adding 1,100 MWs of battery capacity in the coming decade. Proximity to the Sacramento Power Academy training facility will foster opportunities for workforce development in battery storage operations.	3/1/2019	8/31/2023	3

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Energy Storage	5	Residential Energy Storage Programs	Continuation of Residential BTM energy storage systems including Commitment to Operate, Smart Energy Optimizer, and PowerMinder. Study of these systems will answer research questions regarding how customers respond to dispatch models, what communication standards could promote battery manufacturer relationships and data communication quality.	Residential BTM energy storage are customer-facing innovations that will provide resilience and system benefits to customers and SMUD alike. This work will inform future pilots including Multi-DER and Capacity Contracts VPPs.	1/1/2021	12/31/2023	All
Energy Storage	29	Sunverge in Schools	Partner with schools to install eight battery energy storage units at high schools or colleges to provide early hands-on education of battery energy storage systems.	Support local workforce development by developing a battery energy storage curriculum and installing battery energy storage system at educational institutes.	1/1/2021	8/21/2023	
Energy Storage	87	LDES Market & Technology Report	This project will perform detailed technology and cost characterization of Long Duration Energy Storage (LDES) technologies. Existence of developers, suppliers, cost and performance characteristics, market of LDES options and the techno-economic feasibility of adopting and implementing LDES will be considered. Perform an assessment of the viability and adoption of LDES that provide compelling features that help mitigate the issues associated with variable and intermittent renewables by improving its dispatchability and help meet or exceed SMUD's Zero Carbon Plan (ZCP). Investigate current, planned and potential LDES technologies that will provide highest values to SMUD. Perform comparative analysis of viable LDES technologies, discuss pros & cons, along with attributes for next steps that will meet or exceed ZCP.	Empower SMUD planners to make confident technology decisions along the flexible path to zero carbon. These technologies will provide grid stability and predictable electricity prices for SMUD customers.	4/29/2021	4/29/2023	All
Generation and Sequestration	34	Dairy Digesters eRIN Applications	Develop and submit the biogas-to-electricity pathway applications for Van Steyn, Van Warmerdam and New Hope dairy digesters under the Renewable Fuel Standard (RFS) for electricity Renewable Identification Number (eRIN) credits, generated when electricity produced from dairy digester biogas is used to charge electric vehicles in SMUD service territory.	The use of eRIN credits could unlock \$0.12/kWh to \$0.33/kWh of electricity generated for electric vehicle charging. This legal and financial innovation offer sound investment into biofuels production and carbon-negative transportation for electric vehicles.	1/1/2021	12/31/2023	7
Generation and Sequestration	55	DER Carbon Tool	Expand DER planning and modeling tool that assesses carbon reduction/savings, budgeting, portfolio optimization, cost effectiveness and load forecasting to include EE, Load flexibility, ET solar PV and battery storage measures.	Provide hourly forecasting of load shapes, evaluate carbon impacts and cost effectiveness for programs. Provides insights about DER valuation and the attribution of GHG reductions.	11/1/2020	12/31/2023	All

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Generation and Sequestration	91	Hydrogen Blend Collaborative Research	Address the barriers on pipeline materials compatibility and degradation related to the blending of hydrogen into natural gas pipelines, a concept referred to as HyBlend. SMUD will provide data and serve as one of the injection points of H2. The data that will be provided will be analyzed to quantify the costs and opportunities of H2 production and integration into the natural gas system.	The HyBlend project will specify the role Hydrogen can play in the transformation of SMUD's thermal generation. HyBlend is a leading fuel choice that offers benefits for seasonal energy storage, resilience, and GHG emissions reductions.	7/1/2021	7/30/2023	All
Generation and Sequestration	39	LCFS Electricity Pathways for Dairy Digesters, Solar and Wind	LCFS Electricity pathway applications for Van Warmerdam, Van Steyn and New Hope dairy digesters, wastewater biogas and wind/solar that perform carbon intensity life cycle modeling, certification, verification, monetization, and reporting for LCFS credits to charge electric vehicles in SMUD territory. This initiative stimulates revenue generation, supports the growth of electric transportation and advanced renewable generation and helps achieve carbon zero target goal.	At full utilization of the 30 dairies and 14,000 cows in SMUD territory, the dairy digesters could offset a minimum of 70,000 Metric Tons of CO2 per year, while garnering \$12.6 Million per year in LCFS credits. In 2021, Van Warmerdam and Van Steyn reduced 7,856 MT of GHG worth \$1.2M LCFS. This project also proved the financial viability of Zero Carbon Intensity (CI) wind generation, which garnered approximately \$1 Million from LCFS.	6/1/2019	12/31/2030	All
Generation and Sequestration	77	NET Power - Allam Fetvedt Cycle (Super Critical CO2 Cycle) Study	Participation in the EPRI SDF which will perform research on the Allam Fetvedt Cycle for supercritical carbon capture. The project will yield a technology assessment, value proposition, and analysis of SMUD-focused applications.	Key information on the design of Allam-Fetvedt Cycles was learned during this project, along with detailed testing data and performance assessments. The project provided insights on the technology and its operations, informing SMUD that it is too early to invest in deployment of this technology.	4/28/2021	12/31/2023	All
Generation and Sequestration	124	TC Biomass to Hydrogen Production and Delivery Facility Site Evaluation	Mote in collaboration with SMUD was awarded \$500k by the CA Department of Conservation Forest Biomass to Carbon-Negative Biofuels Pilot Program. The project motivation has the end goal of using waste biomass from clearing the UARP transmission corridor for Thermochemical conversion to hydrogen. This grant project will focus on candidate site selection, pre-construction project validation and engineering, community benefits plan, and begin Front-End Engineering Design (FEED) for consideration as a potential project for development.	This project will provide insight on investments needed to build a supply of green hydrogen.	1/1/2023	12/31/2023	All
Grid Evolution	89	Smart Inverters	This project will test smart inverter connection via two pathways: direct connection and through vendors/aggregators. Direct connection will assist in development of the DERMS, while the vendor/aggregator pathway leverage OEM and aggregator relationships to establish pilot access agreements to a broader range of smart inverters.	Smart inverters are new technology that allows SMUD to monitor residential PV and storage and provides control functionality to assist in grid support.	7/1/2021	3/31/2023	All

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Grid Evolution	45	Transmission Line Monitoring	Test the achievability and usability of Dynamic Line Ratings (DLR) to inform short-term operational and long-term planning decisions, using the LineVision V3 monitoring system.	Increases efficiency of transmission asset utilization while maintaining reliability. Advanced line rating methodologies can result in cost savings and operational benefits.	4/22/2021	12/31/2023	All
Grid Evolution	101	EPRI Substations SF6 Alternatives project	EPRI conducted high voltage tests on a range of alternatives, to study the safe and effective handling, operation, maintenance, and disposal of these new alternative approaches, and study the tradeoffs utilities will face after implementation.	Access to insights discovered by EPRI that will help our ability to comply with regulations to phase out the use of SF6 gas after January 1, 2025. The AirPlus formulation has been discontinued and there are now two manufacturers pursuing the g3 alternative, with additional research and testing to follow.	9/1/2021	12/31/2022	All
Load Flexibility	49	My Energy Optimizer Partner (Multi-DER VPP)	This project will research the ability of the proposed solution to orchestrate a diversity of qualifying residential customer-sited devices to deliver load flexibility needs throughout the year and to assess whether it makes sense to continue to scale-up. My Energy Optimizer (MEO) give aggregators control of residential customers thermostats and battery systems to deliver load flexibility needs throughout the year. Should the research result in favorable findings, these offerings will become reliable assets that grid can depend on when load needs to be shifted.	Upon successful completion of the Multi-DER VPP, SMUD will have a guaranteed, load flexible residential program. This load will be integrated with the DERMS and allow SMUD to operate as required for business needs (EIM/RA/Emergency). Assuming these offerings result in consistent reliable load shifts, it will be incorporated into SMUD DERMS to allow SMUD to operate as required for business needs (EIM/RA/Emergency).	1/5/2021	12/31/2024	All
Load Flexibility	69	EnergyKit HEMS field demo	Ynventive, CLTC, Panasonic and SMUD have partnered to install the EnergyKit home energy management system into eight residential homes and evaluate it's performance managing residential loads in response to price signals and demand thresholds.	Assuming the EnergyKit EMS performs as expected, it could enable customers to reliably shift their loads due to price signals and provide an alternative to panel upgrades for capacity constrained customers interested in electrification.	4/30/2021	9/30/2024	All

**Table 3: Enterprise-Wide Initiatives**

Initiative Name	Initiative Description	Initiative Benefits	Start Date	End Date	Ward
Strategic Partnerships (formerly "Innovation Program")	The Innovation program at SMUD is evolving to focus on identifying and tracking strategic partnerships with local and regional community members and vendors from around the world to bring technology to scale that solves for SMUD's 2030 zero carbon objective. Interactions with 20 vendors are currently being tracked in 2023	Coordinate interactions across SMUD with external vendors offering new products and solutions that support SMUD in achieving our 2030 Clean Energy Vision. Reduce staff time spent responding to shotgun meeting requests from prospective vendors.	2023	Ongoing	All
Automated regression testing	IT's Energy Trading and Contracts team is leveraging Python technology to automate regression test of SMUD's PCI Energy Solution's resource optimization system.	Upgrades occur twice a year for a total of 600 hours of testing. To date, 20% of the manual regression tests around product customizations have been automated.	2023	2023	All

**SD-10 Innovation 2022 Board Monitoring Report  
Appendix**

Container orchestration proof of concept	IT's Energy Trading and Contracts team leveraged a serverless architecture in the cloud to implement a Container orchestration proof of concept for SMUD's Docker microservices. Containers combine an app plus its configuration and dependencies into a single, independently deployable unit.	Containers are an excellent fit for bundling and deploying independent microservices. This approach will reduce the maintenance and improve reliability of SMUD's 100 plus Docker microservices (computer applications).	2023	2023	All
DERMS	Strategic business partnership with OSI to develop a Distributed Energy Resource Management System whereas SCADA and behind the meter resources can be used to solve distribution constraints, participate in the market, and manage flexible loads.	Leverage DER capabilities to meet economic objectives, peak load reduction, local constraint issues, deferred infrastructure investment, and grid optimization. As OSI's partner, SMUD shares revenue from future sales.	2018	2028	All
ADMS	Implement a real-time Advanced Distribution Management System (ADMS) Platform (DMS and D-SCADA) to improve management and control of distribution system, enhance distribution operations functions, optimize distribution system and improve forecasting accuracy.	ADMS is the foundation to support providing SMUD's Distribution System Operations a 360 view of distribution and is required to support future DERMS Phases.	2018	2022	All

**RESOLUTION NO. 23-10-10**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board accepts the monitoring report for **Strategic Direction SD-19, Diversified Business**, substantially in the form set forth in **Attachment E** hereto and made a part hereof.

Approved: October 19, 2023

INTRODUCED: DIRECTOR TAMAYO				
SECONDED: DIRECTOR BUI-THOMPSON				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

**SACRAMENTO MUNICIPAL UTILITY DISTRICT**

**OFFICE MEMORANDUM**

**TO:** Board of Directors

**DATE:** September 28, 2023

**FROM:** Claire Rogers *CR 9/28/23*

**SUBJECT: Audit Report No. 28007601**  
**Board Monitoring Report; SD-19: Diversified Business**

Internal Audit Services (IAS) received the SD-19 *Diversified Business* 2022 Annual Board Monitoring Report and performed the following:

- Selected a sample of statements and assertions in the report for review.
- Interviewed report contributors and verified the methodology used to prepare the statements in our sample.
- Validated the reasonableness of the statements in our sample based on the data or other support provided to us.

During the review, nothing came to IAS' attention that would suggest the items sampled within the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

**CC:**

Paul Lau

# Board Monitoring Report FY 2022 SD-19, Diversified Business



## 1) Background

Strategic Direction SD-19 states that:

Broadening and diversifying the products and services that SMUD offers is a key value. The desired results are to: a) generate new revenues that contribute to SMUD's long-term financial health; b) spur the creation of innovative products and services; c) capture the value of SMUD's brand and intellectual property; d) better leverage and optimize SMUD's assets; and e) enable SMUD to continue to attract and retain a talented workforce.

Therefore:

- a) SMUD shall broaden and diversify its lines of business, which may include:
  - i) Being an external service provider;
  - ii) Expanding wholesale energy market opportunities;
  - iii) Capitalizing on intellectual property and assets to develop products and services either solely or through strategic partnerships;
  - iv) Selling products and services aligned with SMUD's purpose and Strategic Directions.
  
- b) SMUD shall ensure any new lines of business:
  - i) Benefit SMUD's customers and our community;
  - ii) Achieve a balanced, diversified portfolio of rewards and risks;
  - iii) Create economic value without compromising SMUD's financial health;
  - iv) Do not pose unreasonable risk to SMUD's reputation;
  - v) Align with, leverage, and optimize SMUD's strengths, assets and expertise;
  - vi) Position SMUD for the future.

## 2) Executive Summary

- a) The 2030 Zero Carbon Plan has positioned SMUD as a leader in the utility industry. The Diversified Business portfolio utilizes that leadership position to build revenue generating partnerships with technology developers, pursue external funding (grants) to support innovation and partnership, enable technology solutions to become fully commercialized through real world pilots and demonstrations, and provide services to other organizations to support their decarbonization efforts.
  
- b) **SMUD is in compliance with SD-19, Diversified Business.**
  
- c) Eliminating the final 10% of emissions from SMUD's energy supply requires the development of new technology and business models. External funding allows

SMUD to accelerate the pursuit of partnerships and emerging technologies that are necessary to reach zero emissions. Without external funding many these pursuits could become cost prohibitive.

External Funding (2022)

Total SMUD Project Costs	Funds Awarded to SMUD	SMUD Cost Share
\$15,177,496	\$9,193,211	\$5,984,285

Grant funding also supports workforce development and training initiatives that help develop a talented workforce with the skills necessary to support building and maintaining a zero carbon economy.

- d) Partnership benefits to SMUD may include revenue sharing agreements, intellectual property development, future pricing commitments, service based payments and/or partner commitments to regional investment. Partners benefit from SMUDs zero carbon leadership, subject matter expertise and collaboration on real world pilots and full-scale demonstrations.

Strategic Partners and Revenue Generating Relationships

Partner	Area of Focus
Open Systems International, Inc. (OSI)	ADMS / DERMS
ESS Inc.	Long Duration Energy Storage
Swell Energy	Virtual Power Plant Aggregator
California Mobility Center	Mobility Innovation and Workforce Development
GridX	Data analytics and customer information platform developer
Simple Energy (Uplight)	Customer engagement and load flexibility
Smart Energy Water (SEW)	Customer Experience Platform Development
Community Choice Aggregators	Community Choice Aggregation services

Portfolio Revenue

2022 Gross Revenue	2022 Costs	2022 Net Revenue
\$10,456,183	\$9,294,409	\$1,161,774

3) Additional Supporting Information

- a) Additional funding

Funding is most often pursued through grants, however this category is not limited to grants. SMUD considers foundation funding, disaster recovery funds,

state and federal funding allocations and other sources of funding in this category. Descriptions of 2022 funding are listed in Appendix A.

- b) Community Choice Aggregator Services  
SMUD currently provides services to (5) community choice aggregators. Specific details on these CCA's are listed in Appendix B.
- c) Technology and Industry Partners  
Diversified business is often an outcome of technology and industry partnerships. These relationships often build on the successes of individual pilots, projects, or other innovation initiatives. Specific details of projects and innovation are outlined in the SD-10, Innovation monitoring report. Additional strategic partnership details are included in appendix C of this report.

#### **4) Challenges**

- a) The inflation reduction act along with other recent economic drivers has created an environment with significant opportunities to pursue external funding. That environment alongside SMUD's leadership position in pushing towards zero carbon has created a significant number of potential opportunities and partnerships to consider. The prevalence of funding opportunities and the volume of companies with a desire to work with SMUD create challenges in filtering through the volume of opportunities in pursuit of the best opportunities. Strategic partnerships are often made more complex due to involving technologies that are not fully commercialized or market ready. This combination of technology maturity and the broad scope of funding opportunities means that SMUD must be highly selective in choosing who to partner with and which funding opportunities to pursue.

Developing the correct portfolio of grants and partnerships is critical to meeting the direction of SD-19. Pursuing too many initiatives in parallel can result in a lack of support on the most important areas of focus. Additionally, it is critical that the efforts pursued have strong alignment with each other and the overall zero carbon plan.

- b) The long-term economic benefit from strategic partnerships begins with the impact that work can have on our community and the elimination of carbon from the electrical system. Benefits beyond those local value streams, especially recurring revenue, require development and delivery of long-term business models. The time it takes those business models to develop and evolve can be highly variable. Due to the long-term uncertainty of new revenue models SMUD first verifies that partnership pursued under SD-19 will benefit SMUD customers and our community prior to considering long term revenue generation.

#### **5) Recommendation**

It is recommended that the Board accept the Fiscal Year 2022 Monitoring Report for SD-19, Diversified Business.

## Appendix A

### External Funding Project Descriptions

- 1) SMUD Neighborhood Electrification Project:** This project will build on years of energy efficiency, weatherization and electrification work for customers most in need, focusing on one of the most under-resourced neighborhoods in the Sacramento region –Meadowview. This project will provide clean energy technology for up to 300 single family homes in the same neighborhood, aiming for full electrification of homes when feasible and cost-effective. Families residing in these homes will benefit from better indoor air quality, lower utility bills, and lower financial stress associated with failure of older existing appliances. When feasible, homes will be EV-ready, so residents will be able to consider acquiring an electric car, offering vehicle fuel, service, maintenance, and other cost savings for the households, and improvements to regional air quality and contribution to meeting statewide GHG reduction goals.

SMUD will take a holistic neighborhood approach while utilizing many existing program processes, resources and partnerships. Electrifying a neighborhood may create efficiencies in terms of marketing, outreach, planning, design, equipment costs and labor costs. In addition, it helps decarbonize a specific under-resourced neighborhood and establishes the neighborhood as a showcase for what's possible in the region, while reducing the energy burden on stressed households.

- 2) Reach 1.0 – Charge Ready Community:** ChargeReady Community is the Sacramento region's replicable, equity-first electric vehicle (EV) charging solution for multi-family housing (MFH). Powered by Sacramento Municipal Utilities District (SMUD), and in partnership with Mutual Housing California (Mutual Housing), ChargeReady Community will deploy a model that transitions charging in under-resourced communities from inaccessible amenity to expected, critical infrastructure.

*ChargeReady Community's* unique approach will implement streamlined installation for both existing and new-construction MFH, no and low-cost payment options including solutions for under and unbanked residents, and persona and neighborhood-based resources and outreach that build toward EV usage and ownership. With SMUD and Mutual Housing California's *ChargeReady Community* will empower impacted neighborhoods and ensure Sacramento communities are livable, resilient, and ready for a low-carbon future.

- 3) Forest Biomass to Carbon-Negative Biofuels Pilot Program (MOTE):** Hydrogen and biofuels have the potential to be significant contributors to grid decarbonization. The MOTE projects is designed to evaluate the opportunity to utilize biomass from forest management to create hydrogen that can be used to

help power future thermal resources period. This project specifically is a study to evaluate potential sites and community impact.

- 4) BRIC - Microgrid Scoping Project:** Inverters and other distributed energy resources are continuing to play a larger role in the overall operation of the electrical system. The microgrid scoping project is a study to look at the potential role those technologies may play to enable microgrids that can be leveraged to both support the electrical system and increase resiliency for our community. The study will develop a blue print for micro grid planning and development which can be leveraged to create resiliency centers. Additionally, the results of this study will be leveraged future grant applications and provide insight and guidance for future microgrid projects.

## Appendix B

### Community Choice Aggregator Detail

**Community Choice Aggregation.** In 2002, Assembly Bill 117 was passed to establish Community Choice Aggregation in the State by authorizing Community Choice Aggregators (“CCAs”) to aggregate customer electric load and purchase electricity for customers. SMUD sees the growth of CCAs as an opportunity to support organizations with values closely aligned with SMUD’s values, while also generating additional revenue for SMUD. CCA programs are proliferating in the State thanks to support for expanding renewable energy use and desire for local control particularly for electricity procurement. There are numerous CCAs operating in the State, and more are anticipated to launch in the future. CCAs are responsible for procuring wholesale power, setting the generation rate, and staffing a call center to handle opt-outs and questions about the power portfolio. The local investor-owned utility (“IOU”) continues to deliver electricity from the electric grid, maintain its electric infrastructure, bill customers and collect payments.

In October 2017, SMUD contracted with Valley Clean Energy (“VCE”). VCE is a joint powers agency formed in 2016 by the City of Woodland, the City of Davis and Yolo County to implement a local CCA program. The service territory expanded to include the City of Winters in 2021.

In February 2018, SMUD contracted with East Bay Community Energy (“EBCE”). EBCE is a joint powers agency formed in 2016 by the cities of Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Oakland, Piedmont, San Leandro and Union City in Alameda County to implement a local CCA program. EBCE expanded its territory to the cities of Pleasanton, Newark, and Tracy in April 2021.

In June 2019, SMUD contracted with Silicon Valley Clean Energy (“SVCE”). SVCE is a joint powers agency formed in 2016 by the cities of Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Saratoga, Sunnyvale and Unincorporated Santa Clara County to implement a local CCA program.

In October 2022, SMUD contracted with Marin Clean Energy (“MCE”). MCE is a joint powers agency formed in 2010 and represents 37 member communities across four Bay Area counties: Contra Costa, Marin, Napa and Solano.

In December 2022, SMUD contracted with Sonoma Clean Power (“SCP”). SCP is a joint powers agency that serves Sonoma and Mendocino counties.

## Appendix C

### Partner List and Description

- 1) Open System International, Inc. (OSI):** Strategic technology partnership to implement and deploy an industry-leading Distributed Energy Resource Management System (DERMS). SMUD will receive royalties from future sales of the enhanced product suite for DERMS. DERMS Phase 1 and ADMS development is complete, implemented Q3 2022. DERMS Phase 2 development and building the QA DERMS test system is complete. DERMS Phase 3 design completed, continuing development of the core DERMS system functionality. SolarEdge and Virtual Peaker are continuing to integrate their systems into DERMS. DERMS Phase 2 and 3 are planned to go-live together September 2024.
- 2) ESS Inc.:** Agreement to provide up to 200 megawatts (MW) / 2 gigawatt-hours (GWh) of ESS' environmentally safe and sustainable long duration energy storage solutions.

The agreement calls for ESS to deliver a mix of its Energy Warehouse™ and Energy Center™ long-duration energy storage (LDES) solutions for integration with the SMUD electric grid beginning in 2023. SMUD will deploy the LDES systems in support of its 2030 Zero Carbon Plan which aims to reduce thermal generation, maximize local solar generation, provide neighborhood resiliency, and increase social justice and equity. LDES is a key component in SMUD's decarbonization plan, without compromising reliability or low electricity rates.

As part of this multi-year agreement, ESS intends to set up facilities for battery system assembly, operations and maintenance support and project delivery in Sacramento, creating local, high paying jobs. In addition, SMUD and ESS plan to establish a Center of Excellence to expand the workforce and knowledge base for LDES technology in partnership with higher education institutions. The Center will provide advanced LDES technical training, creating a statewide skilled talent pool to help build and maintain California's fast-growing long-duration energy storage resources.

- 3) Swell Energy:** agreement for Swell to act as the aggregator for the My Energy Optimizer Partner+ program – a residential customer-driven virtual power plant initiative.

The initial effort will bring 20 MWh and 10 MW of renewable capacity to SMUD by recruiting, installing and aggregating capacity from customers' battery storage systems located in the utility's service area. The program has the opportunity to scale to 54 MWh and 27 MW over the term of the partnership.

- 4) **California Mobility Center (CMC):** The CMC is working to create a regional technology HUB that focuses on advancing mobility related technologies and the workforce needed to support them. The CMC works with many regional partners including SMUD to pursue mobility related grants, engage with technology companies interested in the Sacramento area, identify workforce needs to facilitate transformation of the mobility industry and provide community workforce development opportunities.
- 5) **GridX:** SMUD and GridX have partnered to pilot and demonstrate GridX technology. These pilots provide a mutual benefit for SMUD and GridX. SMUD customers benefit from GridX data analytics to help inform their energy decisions. Additionally when these pilots support GridX to expand their services to additional clients some of that revenue is shared with SMUD to support long term affordability.
- 6) **Simple Energy (Uplight):** Simple Energy has partnered with SMUD to operate the SMUD Energy Store. This partnership is a revenue sharing agreement that benefits directly from sales on the Energy Store site.
- 7) **Smart Energy Systems, Inc. dba Smart Energy Water (SEW):** SEW is a digital platform developer dedicated to solving global energy and water crises. SMUD and SEW are Co-developing innovative utility centric communication tools such as, customer facing self-service modules, payment processing, prepay, eMobility, and advanced analytics for grid resilience. These tools support SMUD in our zero carbon journey and may generate future shared revenue if the tools are adopted by other utilities.

President Sanborn then turned to Directors' Reports.

Director Rose reported on his attendance at the Sacramento Valley Conservancy's Treasures of the Valley event.

Director Bui-Thompson reported on her attendance at the Metro Chamber of Commerce's Study Mission to Toronto.

Director Fishman reported on his attendance at the SMUD sponsored Spaghetti Feed for Project R.I.D.E. He then reported on his participation in the Greater Arden Chamber of Commerce and the Arden-Howe Property Business Improvement District (PBID) Business Walk, as well as the Asian Chamber of Commerce Internal Study Mission. He noted that one business, Solidigm, had stated a motivating factor in their decision to open their business in Rancho Cordova was its being within SMUD's service territory.

Vice President Herber reported on her tour of the Elk Grove Food Bank. She then reported on her attendance at the Center for Fathers and Families' Salute to Fatherhood event, as well as her participation in a 2x2 meeting with the Sacramento Tree Foundation along with Director Kerth. She thanked Sustainable Communities staff for the recent community resource expo and for also organizing a meeting with community partners to promote the 2030 Zero Carbon Plan. She concluded by reporting on her attendance at the Greater Sacramento Urban League's 55<sup>th</sup> Anniversary Evening of Empowerment Awards Gala.

Director Kerth congratulated Simeon Gant for the successful launch of the Del Paso Heights Mobility Center. He then reported on his attendance at the Del Paso Heights Mutual Assistance Network board meeting, the Del Paso Boulevard Partnership board meeting, and the North Sac Chamber board meeting. He closed his report by noting that a tree planting at Mama Marks Park had been postponed, but he was looking forward to its being rescheduled and was glad to see that the park was getting some much needed attention.

Director Tamayo reported on his attendance at the Salute to Fatherhood event as well as the Elk Grove Giant Pumpkin Festival. He then reported on his attendance at the South Sacramento Multicultural Festival

organized by the local chapter of the National Council of Negro Women. He reported on his attendance at Green Tech's grand opening of the Del Paso Heights Mobility Center. He briefly touched on a meeting he had with Councilmember Caity Maple regarding discussion on creating more e-Mobility hubs.

President Sanborn reported on her participation, along with Chief Zero Carbon Officer Lora Anguay, in a tour of the Rio Bravo Facility provided by the California Department of Conservation. She reported on her attendance at the Sacramento Black Chamber's Connecting the Dots event where Chief Customer Officer Brandy Bolden spoke about her experience as a Black woman leader at SMUD. She reported on her attendance, along with Director Tamayo, at the American River Natural History Association's Naturefest Event. She stated she had met with members of the Benito Juarez Association and connected them with staff to assist with impacts from the recent rate increase. She concluded by thanking Simeon Gant, the Sacramento Metropolitan Air Quality Management District, the City of Sacramento, and Assemblymember Kevin McCarty's office for their partnership in making the Del Paso Heights Mobility Center a reality.

Lora Anguay, acting Chief Executive Officer and General Manager, reported on the following items:

- 1) Grid Resilience and Innovation Partnerships (GRIP).** I would like to start by sharing some late breaking news. We were excited when the Department of Energy announced earlier this week that we received a \$50 million grant through their Grid Resilience and Innovation Partnerships program. The grant is for our Connected Clean PowerCity project, which will create an intelligent ecosystem for managing the grid with greater precision and supports the regional need for resilience and grid hardening to support our clean energy transition. Key components of the grant include deployment of 200,000 next-generation smart meters, an advanced distributed energy resource management system (DERMS) and other enabling

technologies, including the modernization of our outage management system (OMS). Another key part of the grant is our partnership with the Wilton Rancheria Tribe of Miwok Native Americans. We will partner on a case study to demonstrate how advanced smart grid components can integrate with site specific distributed energy resources, such as electric vehicles, solar, storage and more.

2) **“Contact SMUD First” Campaign.** As you know, transportation is one of the largest contributors to carbon emissions in California, which is why transportation is a key part of our Zero Carbon Plan. We were excited to launch our latest “Contact SMUD First” campaign, to support and engage customers in our zero-carbon journey. This multi-language and multi-channel campaign encourages customers to contact SMUD first when they are considering all things electric vehicle (EVs). With over 42,000 electric vehicles in SMUD’s territory, and the state mandate for all new cars sold in 2035 and beyond to be zero-emission vehicles, the need for customer information and education continues to grow. To support this anticipated growth of EVs in our service territory and this campaign, a dedicated team of EV advisors in SMUD’s Contact Center will provide enhanced, one-on-one customer support. We will help to right size charging options at home, provide information about charging on the go, discuss available incentives, and ways to save money with our EV discounted rate.

3) **Green Tech Mobility Hub.** As several of you have mentioned, we were proud to support the opening of the Green Tech Mobility Hub last week. This brand-new zero emission mobility hub will help build transportation equity in the Del Paso Heights area. The mobility hub will solve for many issues the area is facing – and provide more educational equity through access to

job training for more than 100 youth. These kinds of game-changing projects are the essence of our 2030 Clean Energy Vision. We are tackling climate change, improving health outcomes, promoting economic development, and all through an equity lens. Thank you to all the Board Members who attended last week's ribbon cutting event, and to President Sanborn for speaking at the event.

4) **Awards.** I am happy to share that SMUD and our team have won some well-deserved awards this month.

- The *Sacramento Bee* Equity Lab announced that SMUD's Chief Customer Officer Brandy Bolden is among this year's Top 20 Black Change Makers. Brandy's accomplishments at SMUD and in the community have been critical in helping to improve the lives of our customers and communities, especially those most in need. As Chief Customer Officer, Brandy works every day to help all our customers and the communities we serve through her impactful role in executing our Community Impact Plan and 2030 Clean Energy Vision work, with a focus on equity and supporting our communities of color. Congratulations Brandy on this well-deserved recognition!
- SMUD also received three Excellence in Communications awards from the American Public Power Association (APPA) for our social media Virtual Reality headset giveaway campaign, our CleanPowerCity.org microsite and for our Clean Energy Terms videos.

5) **Board Video.** That is a great segue to tonight's video. It is one of the APPA award-winning, animated educational videos that has been created to help customers learn about clean energy

terms, which will help them to join us on our journey to a clean energy future. This video is one of three created so far in this series that is featured on our YouTube channel, social media, SMUD.org and is used in various other educational settings to help customers learn about what it means to have clean, reliable power.

President Sanborn commented that the report demonstrates the great work SMUD staff is doing. She then commended the Board Office staff and stated the newly hired Special Assistant Crystal Henderson was doing a great job. She thanked Karen Wilfley, Senior Administrative Assistant, for the wonderful work she had done as Interim Special Assistant.

President Sanborn requested the Summary of Board Direction, but there were no items.

No further business appearing, President Sanborn adjourned the meeting at 6:56 p.m.

Approved:

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President

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Assistant Secretary

**From:** [nchowdhry](#)  
**To:** [Public Comment](#)  
**Subject:** [EXTERNAL] new power lines  
**Date:** Sunday, October 15, 2023 9:03:52 PM

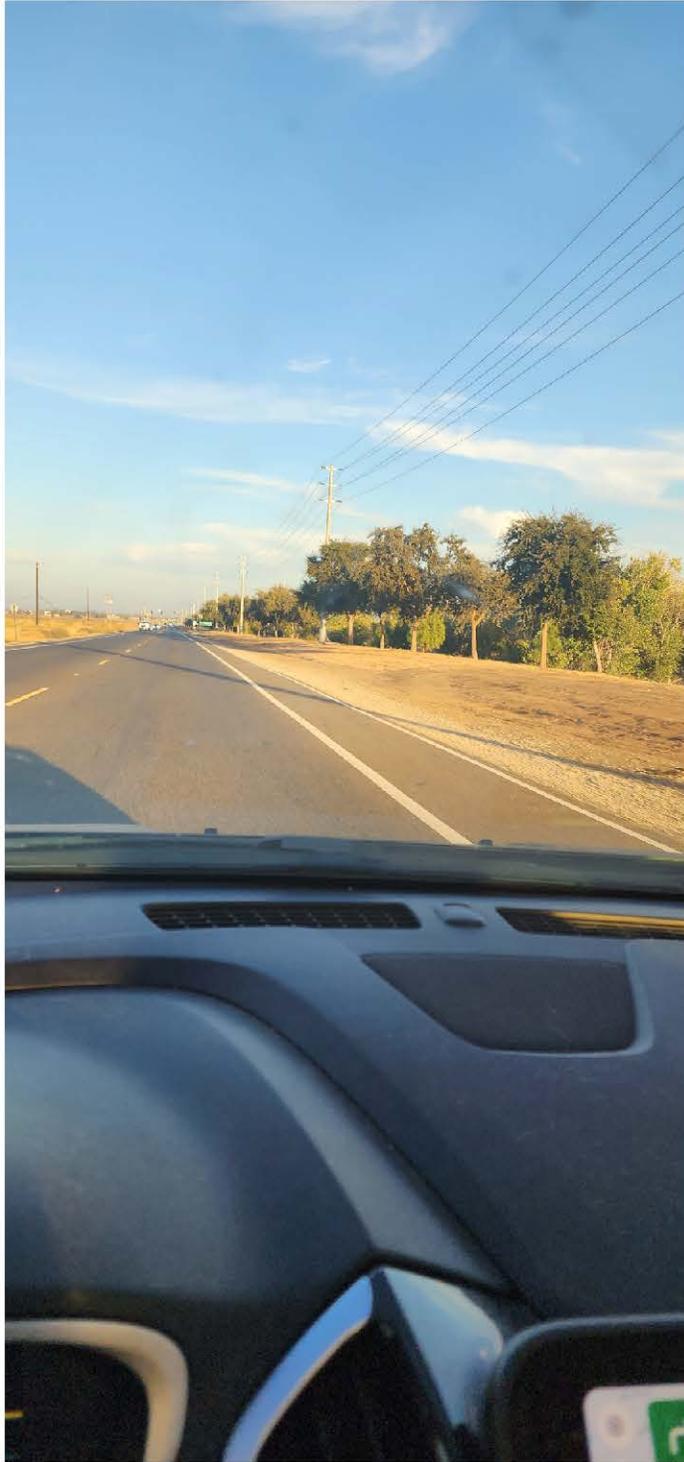
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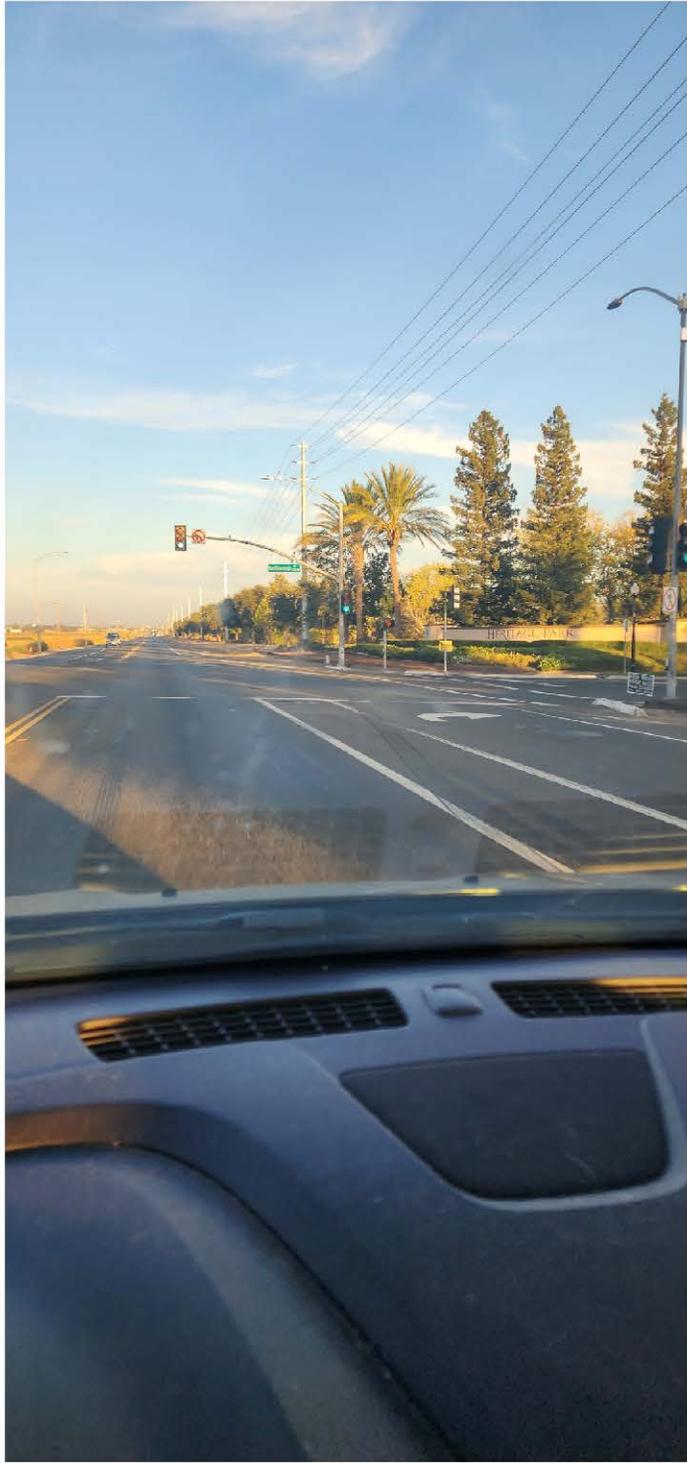
**CAUTION:** This email originated from outside of SMUD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

I live in the Hamptons development off of East Commerce and Elkhorn Road. I recently noticed new power poles going up on the residential side of Elkhorn, rather than the agricultural side that already has lines. Others have commented regarding how close the lines are to residential areas. I'm assuming you did an impact and that there is a reason they were moved to the residential side. My concern is that the placement did not seem to take into consideration the trees that were already planted along Elkhorn Road between Natomas Blvd and E. Commerce. The lines were built directly over the trees. While they are short now, in less than five years I expect the trees to be hitting the lines. This seems like very poor placement/foresight and I hope you will take steps to uproot and move the trees or uproot and move the power lines. Budgets for line maintenance are always strained so the likelihood of regular tree trimming is low. Increasing the potential for fires and outages so close to residential areas make no sense. Thank you.

Neeta Chowdhry









# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

TO				TO						
1.	Scott Martin	6.								
2.		7.								
3.		8.								
4.		9.	<b>Legal</b>							
5.		10.	<b>CEO &amp; General Manager</b>							
<b>Consent Calendar</b>	<input checked="" type="checkbox"/>	<b>Yes</b>	<b>No</b> <i>If no, schedule a dry run presentation.</i>			<b>Budgeted</b>	<input checked="" type="checkbox"/>	<b>Yes</b>	<b>No</b> <i>(If no, explain in Cost/Budgeted section.)</i>	
FROM (IPR) Joy Mastache			DEPARTMENT Office of the General Counsel				MAIL STOP B406	EXT. 5906	DATE SENT 11/03/23	

**NARRATIVE:**

**Requested Action:** Adopt the **Load Management Standard (LMS) Compliance Plan.**

**Summary:** The California Energy Commission (CEC) amended LMS regulation became effective in April 2023. The goal of the regulation is to encourage the use of energy at off-peak hours, encourage the control of peak loads to improve system efficiency and reliability, lessen or delay the need for new capacity, and reduce fossil fuel consumption and greenhouse gas emissions. To achieve these goals, the LMS regulation requires the large utilities, including large Publicly Owned Utilities – SMUD and LADWP - (POUs), to evaluate the design and implementation of hourly marginal cost-based rates. If, based on the evaluation, the utilities do not propose dynamic rates, they must evaluate the implementation of programs that allow customers to automatically respond to price signals available in the CEC’s centralized database. The LMS regulation contains additional requirements for providing access to price signals and information about the benefits of reducing peak loads. POU may modify or delay the requirements in the LMS regulation and adopt a more technologically feasible, equitable, safe or cost-effective way to achieve the requirements after making findings based on the evaluation, as detailed in their compliance plan.

In accordance with the LMS regulations, the plan was submitted to the Board on September 29, 2023. It describes how SMUD will meet the goals and requirements of the regulation, and includes evaluation of dynamic hourly rates and programs. Following presentation of the plan at the publicly noticed October 18, 2023, Energy Resources and Customer Services Committee the plan remained available for review and comment. No comments were received.

The plan is being presented to the Board for adoption at this November 16, 2023, meeting. Once the compliance plan has been adopted by the Board, it must be submitted to the CEC.

SMUD recommends Board adopt a compliance plan under which SMUD will continue offering our time-dependent rates and current and planned load flexibility programs, and will reevaluate the specified rate and program designs in the next update of our Plan. Staff does not at this time propose new hourly marginal cost-based rates or programs those because, among other reasons, SMUD’s current marginal cost-based Time-of-Day (TOD) rates and load flexibility programs consistently meet the same objectives of the LMS regulation.

**Board Policy:** Strategic Direction SD-2, Competitive Rates; Strategic Direction SD-7, Environmental Leadership  
*(Number & Title)*

**Benefits:** Meet regulatory compliance requirement.

**Cost/Budgeted:** Implementing new dynamic hourly rates would significantly increase cost. Offering existing marginal cost-based TOD rates and load flexibility programs is included in SMUD’s budget.

**Alternatives:** Not adopt the proposed plan and require development of hourly dynamic rates and/or programs.

**Affected Parties:** SMUD and SMUD Customers

**Coordination:** Enterprise Strategy, Government Affairs, Legal, Advanced Energy Solutions, Information Technology, Zero Carbon Energy Solutions

**Presenter:** Alcides Hernandez, Manager, Revenue Strategy

**Additional Links:**

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SUBJECT <b>2023 Load Management Standard (LMS) Compliance Plan</b>	ITEM NO. (FOR LEGAL USE ONLY) <b>6</b>
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

**DRAFT**

# **Load Management Standard Compliance Plan**

September 29, 2023

A Sacramento Municipal Utility District Publication

Load Management Standard Compliance Plan

September 29, 2023

Prepared by: Sacramento Municipal Utility District's

Revenue Strategy Department

Under the direction of: Paul Lau, CEO & General Manager

1	Executive Summary .....	5
2	Introduction .....	7
2.1	About SMUD .....	7
2.1.1	SMUD’s Zero Carbon Plan .....	7
2.1.2	Role of Load Flexibility .....	8
2.1.3	SMUD’s ADMS/DERMS Platform .....	8
2.2	Load Management Standards .....	8
2.2.1	SMUD’s Compliance Plan Roadmap .....	9
2.2.2	SMUD’s Compliance Plan Administration .....	10
3	Access to Price Signals .....	12
3.1	Publication of Machine-Readable Rates in MIDAS.....	12
3.1.1	Upload of time-dependent rates.....	12
3.1.2	Provide RINs to Customers.....	13
3.1.3	Statewide RIN Access Tool.....	13
4	Dynamic Rates.....	15
4.1	Overview of Current Time-Dependent Rates.....	15
4.1.1	Residential Rates .....	15
4.1.2	Commercial and Industrial (C&I) Time of Day Rates .....	17
4.1.3	Agricultural Time of Day (TOD) Rate .....	17
4.2	SMUD’s Rate Development Process.....	17
4.2.1	Strategic Direction on Competitive Rates .....	17
4.2.2	Rate Design and Implementation.....	18
4.3	Evaluation of New Dynamic Rates .....	21
4.3.1	Cost Effectiveness Evaluation .....	21
4.3.2	Equity .....	28
4.3.3	Technological Feasibility.....	29
4.3.4	Benefits to the Grid and Customers.....	32
4.3.5	Compliance Approach .....	35
5	Load Flexibility Programs .....	36
5.1	Overview of SMUD Load Flexibility Programs.....	36
5.1.1	Residential Programs.....	37
5.1.2	Nonresidential Programs.....	38
5.2	Evaluation of Programs .....	40

5.2.1	Cost-Effectiveness .....	40
5.2.2	Equity .....	43
5.2.3	Technological Feasibility.....	44
5.2.4	Benefits to the Grid and Customers.....	45
5.2.5	Compliance Approach .....	46
6	Public Information Program .....	47
6.1	SMUD’s Communications Approach .....	47
6.2	Current Outreach and Marketing.....	47
6.3	Compliance Approach .....	50
7	Delay and Modification of Compliance Requirements .....	51
7.1	Providing RINs to Customers.....	51
7.2	Statewide RIN Access Tool .....	51
7.2.1	Development of Statewide Tool.....	51
7.2.2	Implementation of Statewide Tool.....	52
7.3	Dynamic Rates.....	52
7.4	Dynamic Response Load Flexibility Programs .....	53
7.4.1	Identification of Cost-Effective Load Flexibility Programs .....	53
7.4.2	Voluntary Participation in Cost-Effective Load Flexibility Programs.....	53
Appendix A	.....	55

# 1 Executive Summary

The goal of the California Energy Commission's (CEC) Load Management Standard (LMS) regulation, which went into effect in April of 2023, is to: 1) encourage the use of energy at off-peak hours; 2) promote load flexibility; 3) encourage the control of daily and seasonal peak loads to improve electric system efficiency and reliability; 4) lessen or delay the need for new electrical capacity; and, 5) reduce fossil fuel consumption and greenhouse gas emissions.

To accomplish these goals, the LMS regulation requires California's Large Investor Owned Utilities (IOUs), Large Publicly Owned Utilities (POUs), defined as SMUD and the Los Angeles Department of Water and Power, and Large Community Choice Aggregators (CCAs) to develop and propose rate structures that change at least hourly based upon marginal costs. If, after performing an evaluation, a utility determines not to propose new rates because offering such rates to its customers would not materially reduce peak load, the utility must offer cost-effective load flexibility programs, including programs that allow its customers to automatically respond to hourly or sub-hourly marginal cost-based rates, marginal prices, or greenhouse gas (GHG) signals from the CEC-maintained Market Informed Demand Automation Server (MIDAS) database, where the utility determines such programs would materially reduce peak load.

Each utility must develop a compliance plan describing how they will meet the various requirements of the LMS regulation. The POUs and CCAs may delay or modify compliance with such requirements if they can show that despite good faith effort, the regulatory requirements must be modified to provide a more technologically feasible, equitable, safe, or cost-effective way to achieve the LMS regulation goals.

SMUD strongly supports the intent and goals of the LMS regulation and is working towards similar goals through our ambitious 2030 Zero Carbon Plan, where we are striving to eliminate all carbon emissions from our power supply by 2030. Reducing peak load through price signals like our time-based rates, has proven to be highly effective at reducing system peak, stress on the grid, carbon emissions, and saving customers money. SMUD is actively pursuing additional methods of achieving these goals through new programs and industry-leading pilots, which are helping us understand how we can most effectively partner with customers with behind-the-meter devices in a way that maximizes the resource and is supportive of our customer experience.

SMUD's compliance plan (Plan) includes considerations of the specified marginal cost-based rate structures and programs, as described in the LMS regulation, and evaluates each with respect to cost-effectiveness, equity, technological feasibility, benefits to the grid and to customers. In this filing, SMUD will meet the objectives of the LMS regulation with our existing time-dependent rates, and our current and planned portfolio of load flexibility programs.

Based on SMUD's evaluation, we cannot conclude that implementing complex new rate structures that change at least hourly by January 1, 2026, would result in material reductions in peak load reduction relative to SMUD's existing time-dependent rates and programs, or be cost effective. This is, in large part, because SMUD's existing rates, coupled with our current and planned load flexibility programs and pilots, capture a substantial portion of the available load shift benefits from SMUD's customers. In addition, implementation of unfamiliar and complex rate structures without sufficient testing and refinement of the new rate designs would likely result in low customer adoption, further limiting

realization of any potential added load shift benefits. Similarly, SMUD's evaluation cannot conclude that implementing new programs that allow for automated response to MIDAS signals would result in incremental reductions in peak load or be cost-effective, relative to SMUD's current and planned load flexibility programs and pilots.

In this Plan SMUD sets forth, based on the evaluation of dynamic rates and programs that follow, what it has determined to be a more cost-effective, customer centric and technologically feasible way for SMUD to, in good faith, achieve the LMS regulation goals. Accordingly, SMUD will continue offering our time-dependent rates and current and planned load flexibility programs, and reevaluate the specified rate and program designs in the next update of our Plan, informed by the results from our pilots. While new dynamic rates and new programs with automated response to MIDAS are not required where they have not been demonstrated to materially reduce peak load, SMUD sets forth in this Plan how the LMS requirements are modified to provide its more cost-effective, customer centric and technologically feasible solution.

SMUD's Plan was submitted to the SMUD Board within six months of April 1, 2023, and was adopted by the SMUD Board in a duly noticed public meeting on November 16, 2023. This decision was made by SMUD's Board acting as its rate-approving body. SMUD will review the Plan every three years following adoption, and material Plan updates will be submitted to the SMUD Board for approval. This Plan will be filed with the CEC.

# 2 Introduction

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## 2.1 About SMUD

SMUD is a not-for-profit, publicly owned, electric utility (POU) headquartered in Sacramento, California. As a POU, SMUD is governed by a seven-member popularly elected Board of Directors (Board) that determines policy and appoints the Chief Executive Officer and General Manager who is responsible for SMUD’s overall management and operations. Responsibility for the development and implementation of this Plan is delegated to SMUD’s Chief Strategy Officer.

SMUD’s service area covers approximately 900 square miles and includes parts of Sacramento County, and small adjoining portions of Placer and Yolo Counties. The service area includes Sacramento, the State Capital, and the populous areas to the northeast and south of the City of Sacramento, and the agricultural areas to the north and south. In total, SMUD serves a population of approximately 1.5 million and has four (4) distinct customer classes – residential, commercial & industrial, agricultural, and street lighting & traffic signals (lighting). The default rate for all SMUD customers, with the exception of lighting and agricultural customers, are marginal cost-based time-dependent rates. This includes SMUD’s successful residential Time-of-Day (TOD) rate which encourages customers to reduce their electricity use between 5 p.m. and 8 p.m. All of SMUD’s rate schedules are posted on SMUD’s website ([Rate Information \(smud.org\)](https://www.smud.org)).

As a POU, SMUD’s Board is its rate-approving body. The Board has authority to establish rates and charges for all SMUD services, and such rates are not subject to oversight by other governmental agencies, federal, state or local. SMUD engages in a comprehensive and robust public process prior to adopting new or revised rates and service regulations. This 3-month public process includes media and public outreach at various community events. The process kicks-off with notice published in the local papers and release of a report detailing the proposed rate changes together with the expected impacts to customer bills. As part of this process, SMUD holds two public workshops, a public hearing and conducts a final Board vote on the rate proposal.

### 2.1.1 SMUD’s Zero Carbon Plan

In July 2020, SMUD’s Board declared a climate emergency and adopted a resolution calling for SMUD to take significant and consequential actions to reduce its carbon footprint by 2030. On April 28, 2021, the Board approved SMUD’s 2030 Zero Carbon Plan (the “Zero Carbon Plan”). The Zero Carbon Plan is SMUD’s roadmap to completely eliminating Greenhouse Gas (GHG) emissions from our electricity supply by 2030, while maintaining reliable service and affordable rates. To achieve these goals, the Zero Carbon Plan focuses on four main areas: natural gas generation repurposing; proven clean technologies; new technologies and business models, including load flexibility; and financial impacts and options. We are partnering with our customers, communities, and a wide range of stakeholders to ensure that our entire community has the opportunity to benefit from a carbon-free economy.

As we pursue our Zero Carbon Plan, SMUD is committed to keeping electric service affordable and rate increases at or below the rate of inflation. To accomplish this, the Zero Carbon Plan estimates the need for SMUD to realize sustained annual savings. SMUD currently plans to achieve these sustained annual

savings by exploring the implementation of operational savings strategies, leveraging innovative approaches including load flexibility, and pursuing partnership and grant opportunities.

### 2.1.2 Role of Load Flexibility

Enabling load flexibility is a key strategy in achieving SMUD’s Zero Carbon Plan goals. Load flexibility programs support reduced carbon emissions, reduce the need for new peak resources, help SMUD manage and operate the system, and save customers money. SMUD is focused on fully utilizing our intermittent resources when they are available and reducing peak usage at times when such resources are scarce. The Zero Carbon Plan forecasts that customer-owned resources and SMUD customer-focused programs will contribute between 364 and 1,325 MW of capacity to SMUD’s grid by 2030, and as such, SMUD is leaning in on programs and learning from cutting-edge pilots to maximize cost-effective resources that can be achieved through partnership with our customers.

### 2.1.3 SMUD’s ADMS/DERMS Platform

To support the expansion of load flexibility resources and their critical role in supporting our Zero Carbon Plan, SMUD has made, and continues to make, significant investments in technology to enable distributed energy resource (DER) integration. In 2022, after years of planning, SMUD deployed our Advanced Distribution Management System (ADMS) and initial phase of our Distributed Energy Resource Management (DERMS) platform technology. With these two systems online and working together, SMUD will shift from a one-way centralized distribution system to a two-way decentralized distribution system that allows us to manage and optimize distributed energy resources that include battery storage, demand response programs, smart thermostats, connected appliances, electric vehicles (EVs) and more.

SMUD is currently building out DERMS functionality and continuing to evaluate device partners and aggregators that can integrate product offerings into DERMS. In the next few years, SMUD anticipates that our DERMS system will enable full DER integration across bulk and distribution system value streams. These include, but are not limited to, advanced distribution system management applications, scheduling DERs based on economic and reliability considerations, scheduling DER Virtual Power Plants (VPPs) into electricity markets, and integrating with aggregator platforms that allow customers to participate in programs that control and leverage behind-the-meter DERs to respond to grid needs.

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## 2.2 Load Management Standards

The CEC’s LMS regulation encourages shifting electricity use from times of day when it is expensive and polluting to times when it is cheaper and cleaner. Load management, or demand flexibility, can save customers money on their energy bills, reduce greenhouse gas emissions, and help strengthen the resiliency of the electricity grid. Load management is defined as “any utility program or activity that is intended to reshape deliberately a utility’s load duration curve” (Public Resources Code, section 25132). Also known as demand management and load flexibility, load management reduces the need for new large electrical generation and backup generation devices. It is also a key strategy to ensure a reliable grid, keep energy costs down, integrate renewable energy resources, and reduce greenhouse gas (GHG) emissions. The intent of load management standards is to encourage electricity customers to shift electricity demand away from high demand periods, when peaking power plants and other polluting generators are in use, to times when lower-cost clean electricity is available.

Amendments to the LMS regulation became effective in April 2023. These amendments require the largest investor and publicly owned utilities, and community choice aggregators, to give all customers access to rates and programs that provide the information needed to optimize their energy use. Specifically, the revised LMS regulation requires Large POUs, defined as SMUD and the Los Angeles Department of Water and Power, to develop “marginal cost-based rates or public programs” with “marginal cost” defined as “the change in current and future electric system cost that is caused by a change in electricity supply and demand during a specified time interval at a specified location,” and the calculation of total marginal cost prescribed as:

“the sum of the marginal energy cost, the marginal capacity cost (generation, transmission, and distribution), and any other appropriate time and location dependent marginal costs, including the locational marginal cost of associated greenhouse gas emissions, on a time interval of no more than one hour. Energy cost computations shall reflect locational marginal cost pricing as determined by the associated balancing authority, such as the Los Angeles Department of Water and Power, the Balancing Authority of Northern California, or other balancing authority. Marginal capacity cost computations shall reflect the variations in the probability and value of system reliability of each component (generation, transmission, and distribution)”.

In this Plan, SMUD uses the term “dynamic rates” or “dynamic price signals” to capture the idea of responding to these marginal cost signals on an hourly or sub-hourly basis.

#### 2.2.1 SMUD’s Compliance Plan Roadmap

Section 1623.1(c) requires SMUD, along with the other regulated entities, to prepare a compliance plan consistent with the LMS requirements. Following is a roadmap identifying where each regulatory requirement is addressed within SMUD’s LMS Plan.

<b>Regulation Section</b>	<b>Requirement</b>	<b>Plan Section</b>
§1623.1(c)	Within three months of regulation effective date, upload existing time-dependent rates to the MIDAS database	3.1
§1623.1(a)(1)	Within six months of regulation effective date, develop and submit compliance plan addressing how SMUD plans to comply with LMS requirements, and including evaluation of marginal cost-based rates and programs, to SMUD’s Board. The plan must be considered for adoption within 60 days after submission.	2.2.2.1
§1623.1(a)(3)(A)	Submit compliance plan to CEC within 30 days of adoption of the plan. Respond to requests for additional information and/or recommendations with 90 days.	2.2.2.2
§1623(c)	Within one year of regulation effective date, provide customers access to their Rate Identification Numbers (RIN) on billing statements and in online accounts using both text and QR	3.1.2

§1623(c)	Within 18 months of regulation effective date, develop and submit to the CEC, in conjunction with the other obligated utilities, a single statewide standard tool for authorized rate data access by third parties, and the terms and conditions for using the tool. Upon CEC approval, maintain and implement the tool.	3.1.3
§1623.1(b)(3)	Within 18 months of regulation effective date, submit to the CEC a list of load flexibility programs deemed cost effective by SMUD. The portfolio of programs must provide at least one option to automate response to MIDAS signals for each customer class where SMUD’s Board has determined such a program would materially reduce peak demand.	5.2.5.1
§1623.1(a)(3)(C)	Submit annual reports to the CEC demonstrating implementation of plan, as approved by the Board	2.2.2.4
§1623.1(b)(2)	Within two years of the regulation effective date, submit at least one marginal cost-based rate to Board for approval for any customer class(es) where such a rate will materially reduce peak load.	4.3.5
§1623.1(b)(2)	Within three years of the regulation effective date, offer customers voluntary participation in either a marginal cost-based rate, if approved by the Board, or a cost-effective load flexibility program	4.3.5 and 5.2.5.2
§1623.1(b)(5)	Conduct a public information program to inform and educate affected customers why marginal cost-based rates or load flexibility programs and automation are needed, how they will be used, and how these rates and programs can save customers money	6.3
§1623.1(a)(1)(C)	Review the plan at least once every 3 years after the plan is adopted and submit a plan update to the Board if there is a material change	2.2.2.3

## 2.2.2 SMUD’s Compliance Plan Administration

### 2.2.2.1 *Plan development and Board approval process*

Section 1623.1(a) requires each Large POU to submit to its rate-approving body a compliance plan that is consistent with the applicable requirements of the LMS regulation. The plan must be submitted within six months of the regulation effective date, which is October 1, 2023, and must be considered for adoption by the rate-approving body in a duly noticed public meeting within 60 days of submission.

This Plan meets the requirements of the CEC regulation, Section 1623.1(a). The description of how SMUD complies with each of the elements is provided in the subsequent sections. The Plan was submitted to the Board prior to October 1, 2023, and presented to the SMUD Board at duly noticed meetings on October 18 and November 16, 2023. The SMUD Board approved this Plan by resolution XX.

#### *2.2.2.2 CEC review process*

Section 1623.1(a)(3) specifies that, upon adoption by the POU rate approving-body, the plan must be submitted to the CEC Executive Director within 30 days for review. Note that the SMUD Board is the sole authority to approve rates; in this regulatory proceeding, the CEC's role is limited to determining whether the plan that the SMUD Board has adopted complies with the regulation.

Following the Plan presentation and adoption by the SMUD's Board on November 16, 2023, the Plan will be submitted to the CEC by December 16, 2023, for review. Any requests for additional information or recommended changes will be addressed and a written response submitted to the CEC within 90 days as required in the regulation.

#### *2.2.2.3 Triennial plan review*

Section 1623.1(a)(1)(C) requires each Large POU to review its compliance plan at least once every three years. Where there is a material change to the factors considered in evaluating marginal cost-based rates and programs, the Large POU must submit a plan update to its rate-approving body. Material revisions to the plan shall follow the same process as the initial plan approval.

This Plan will be reviewed by SMUD every three years following the date of adoption and material Plan updates will be submitted to the SMUD Board for approval. This Plan and any approved material updates will be duly submitted to the CEC.

#### *2.2.2.4 Annual reporting*

Section 1623.1(a)(3)(C) requires each Large POU to submit to the CEC Executive Director demonstrating implementation of its Load Management Standards compliance plan. Each POU must submit the initial report one year after adoption of the plan by the POU's rate-approving body, and annually thereafter.

SMUD will timely submit annual reports to the CEC Executive Director describing the implementation of this Plan.

# 3 Access to Price Signals

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## 3.1 Publication of Machine-Readable Rates in MIDAS

The CEC developed the MIDAS database alongside the LMS regulation for the purpose of allowing customers and automation service providers to link flexible loads to a machine-readable database of rates and other grid signals to automate demand flexibility. The LMS regulation requires the obligated utilities to populate rate information into MIDAS and take steps to facilitate access to MIDAS signals for customers and their authorized third parties. This section of SMUD's Plan describes how SMUD will meet these requirements.

### 3.1.1 Upload of time-dependent rates

Section 1623.1(c) requires each Large POU to upload existing time-dependent rates to the CEC's MIDAS database within three months of the regulation effective date, which is July 1, 2023. As part of the MIDAS upload process, each rate must be assigned a Rate Identification Number (RIN). The RIN is used to uniquely identify the rate in the CEC's MIDAS database. When provided a RIN, the MIDAS database will return information about the rate and any associated marginal signals to which the customer may automate response.

Large POUs are also required to upload new time-dependent rates, or changes to existing rates, prior to the effective date of that rate. The time-dependent rates uploaded to the MIDAS database must include all applicable time-dependent cost components, including generation, distribution, and transmission.

#### 3.1.1.1 Existing rates uploaded to MIDAS

On June 30, 2023, SMUD staff successfully uploaded the 75 rate permutations of our time-dependent residential and non-residential rates. A list of our current time-dependent rates and their RINs can be found in Appendix A.

A message of success was returned for each rate file loaded to MIDAS. SMUD also performed random retrieval of rates as a second point of confirmation to the successful rate upload and to validate accuracy of rates recorded in MIDAS. SMUD has provided some feedback and suggestions to the CEC to improve the rate upload experience, including removal or increase of data set limits, token valid periods and file loading features.

#### 3.1.1.2 Future rate uploads

Going forward, SMUD will upload rates as needed to reflect rate changes. SMUD will also upload new rates as new time-dependent rates or rate components are developed. SMUD will follow a process similar to that successfully used for our initial upload in June 2023. Staff will create rate files in csv format, convert them to XML format and load them to MIDAS through the application programming interface (API).

Rate uploads for each rate permutation may take place annually, or quarterly where constrained by MIDAS' 50,000 per rate ValueData group limits. Rates with more dynamic rate changes, such as SMUD's Critical Peak Pricing rate, may be uploaded more frequently during the summer months.

SMUD is working toward solutions that will streamline the upload process of its time-dependent rates to MIDAS to provide resource savings and more fully utilize potential MIDAS capabilities.

### 3.1.2 Provide RINs to Customers

Section 1623(c)(4) requires each Large POU to provide customers access to their RIN(s) on customer billing statements and online accounts using both text and quick response (QR) or similar machine-readable digital code. This access must be provided within one year of the regulation effective date, which is April 1, 2024.

#### 3.1.2.1 Implementation plan

Currently, SMUD issues electricity charges on two different billing statements, the Customer Bill and the Collective Bill. The Customer Bill is the standard presentment of electricity billing statements to customers. The Collective Bill is the presentment issued to customers who have multiple accounts that elect to receive their electricity bills mailed together. Customers also have access to billing statements through their protected on-line accounts.

SMUD plans to make the RINs available in text and QR form on both the Customer Bill and the Collective Bill statements on or before April 1, 2024. This will allow customers to access their RIN on the billing statement received by mail or accessed online.

Existing billing statement designs are not structured to support this additional information. SMUD is working with its bill print vendor to identify and implement solutions that are cost effective and easily understood by the customer.

To prevent costly and confusing bill redesign changes, SMUD plans to leverage the existing bill layout and designs to present the RIN text and QR code for both the Customer Bill and Collective Bill statements. SMUD has entered into an agreement with our bill print vendor to update applications to generate QR codes for Collective Bill statements, determine the best location to place QR codes and encode the RIN code within the specific QR code. Staff also plans to procure professional services in the fourth quarter of 2023 to support developments for the Customer Bill statements. These services will include programming changes to update Customer Bill files with RINs and QR codes.

Based on vendor's scope of work and estimated completion timeframes, SMUD anticipates including RIN text and QR codes on customer billing statements starting on or before the April 2024 billing cycle.

#### 3.1.2.2 Remediation of potential delays

A technical review of both the Collective Bill and Customer Bill design structure will be performed to determine best placement of RIN text and a QR code on the bill. If the review shows that placement of the RIN information on the bills will require a bill redesign, presentment of QR codes on billing statements will be delayed and only the RIN in text form will be available on the bill by April 1, 2024. A full bill redesign evaluation would be needed to explore bill redesign options, cost, and new timing for making RINs available in QR code on the bills.

### 3.1.3 Statewide RIN Access Tool

Section 1623(c) requires the Large IOUs, Large POUs, and Large CCAs to collaboratively develop a single statewide standard tool for authorized rate data access by third parties, along with a single set of terms and conditions for third parties using the tool. The tool must do all of the following:

- Provide the RIN(s) for the rate(s) applicable to a customer's premises.
- Provide any RIN(s) for the rate(s) to which the customer is eligible to be switched.
- Provide estimated average or annual bill amounts based on the customer's current rate and any other rate(s) for the customer is eligible to be switched if such calculation tools already exist.
- Enable authorized third parties, upon direction and consent of the customer, modify the customer's applicable rate, to be reflected in the next billing cycle.

The tool must also incorporate reasonable and applicable cybersecurity measures, minimize enrollment barriers, and be accessible in a digital, machine-readable format according to best practices and standards.

The tool must be submitted to the CEC for approval within 18 months of the regulation effective date, which is October 1, 2024. Once the tool is approved by the CEC, each Large IOU, Large POU, and Large CCA must implement and maintain the tool.

#### *3.1.3.1 Statewide tool development*

SMUD will collaborate with the other regulated parties to meet the regulatory requirements by October 1, 2024. Once our Plan is approved by our Board, SMUD expects that our subject matter experts will be more fully available to engage in this effort.

At the time of this filing, SMUD has committed staff to join the working group to collaborate with other utilities for the development of a statewide tool for third party access. SMUD is in the process of compiling its internal infrastructure needs and business requirements to prepare for the working group discussions.

SMUD participated in a working group meeting held on September 20, 2023, and is currently awaiting input from the other utilities about the scope, funding, and coordination for the project. As a POU, SMUD does not earn a rate of return on its infrastructure investments. Any costs incurred by SMUD associated with developing this Statewide tool would be spread among all SMUD customers. If additional funding were needed, other work would need to be delayed or cancelled to absorb unplanned costs associated with the statewide tool beyond staffing and internal operational resources.

#### *3.1.3.2 Implementation of statewide tool*

In order to implement the statewide tool, once approved, SMUD's internal infrastructure must be updated to integrate and support the tool. SMUD is unable to specifically identify the full scope of integration work until the final tool is designed and approved by the CEC. Concurrent with the development process, however, SMUD is reviewing its internal infrastructure and scheduling budget requests. Implementation projects will be added to SMUD's annual work prioritization process. While SMUD anticipates complying with this requirement, any delays in development of the tool could result in implementation delays. Similarly, if the costs of integrating the tool result in an undue hardship to SMUD or its customers, SMUD may seek to delay or modify compliance with this requirement. Certain events could also cause a delay in implementation because resources would have to be used elsewhere. Some examples could include an emergency rate action or a climate related event, such as the storms experienced in January 2023.

# 4 Dynamic Rates

The LMS regulation identifies dynamic hourly or sub-hourly rates as a central tool for achieving the goals of encouraging off-peak energy usage, encouraging control of daily and seasonal peak loads, lessening, or delaying the need for new electrical capacity, and reducing fossil fuel consumption and associated GHGs. Section 1623.1(b)(2) of the regulation directs the Large POU's to seek approval from their Boards for at least one dynamic rate for each customer class for which its rate-approving body determines such rate will materially reduce peak load. The application must be submitted within two years of the regulation effective date, or by April 1, 2025. Approved rates would be implemented the following year, or by April 1, 2026, in accordance with section 1623.1(b)(4).

Section 1623.1(a)(1) first requires each Large POU to evaluate, as part of its compliance plan, the cost effectiveness, equity, technological feasibility, benefits to the grid, and benefits to customers, of dynamic rates for each customer class. After evaluating such rates, the Large POU may instead propose and evaluate specified programs and/or delay or modify compliance with the LMS requirements.

This section of SMUD's Plan provides an overview of SMUD's current time-dependent rates, describes SMUD's rate development process, and addresses the requirement to evaluate the implementation of dynamic rates on the timeframes specified in the LMS regulation.

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## 4.1 Overview of Current Time-Dependent Rates

SMUD currently offers at least one marginal cost-based time-dependent rate to nearly all of our customers. As previously described, SMUD has four customer classes: residential; commercial and industrial (C&I); agricultural; and lighting. With the exception of lighting and unmetered customers, all customers have access to Time-of-Day (TOD) rates. Excluding lighting and unmetered customers, 96% of our customers are on TOD rates. Some customers have access to additional time-dependent rate options based on enabling devices and technology. Moreover, SMUD's time-dependent rates are not the only mechanism we use to encourage customer peak load shift; as further described in Section 5, we offer several load flexibility programs that incorporate time-varying marginal cost-based signals and are developing new pilot offerings, some of which test response to different price signals.

Following is a summary of our time-dependent rates currently available to customers.

### 4.1.1 Residential Rates

SMUD's residential TOD rate is the standard rate for our residential customers. Customers with enabling devices also have the opportunity to participate in two additional time-dependent rates: our Critical Peak Pricing (CPP) and our Electric Vehicle (EV) rate adder.

#### 4.1.1.1 *Standard Time-of-Day (TOD) Rate*

Under SMUD's residential TOD rate, customers pay different rates depending on the season, day, and hours of energy use. During the summer months (June 1 through September 30), there are three rate periods: Peak (weekdays 5 pm – 8 pm), Mid-Peak (weekdays 12 pm – 5 pm and 8 pm – 12 am), and Off-Peak (weekdays 12 am – 12 pm, weekends, and holidays). In the non-summer months (October 1 – May

31), there are two rate periods: Peak (weekdays 5 pm – 8 pm) and Off-Peak (weekdays 12 pm – 5 pm and 8 pm – 12 am, weekends, and holidays). These time periods were selected because they best aligned with highest peak loads and marginal electricity prices, while also being simple and easy for customers to understand.

SMUD’s residential TOD was implemented between the fall of 2018 and spring of 2019 following an extensive pilot study, SmartPricing Options, and has been extremely successful. Currently, approximately 97% of our residential customers are enrolled in the rate. The high adoption and retention of this rate has yielded significant benefits for SMUD and our customers. We estimate an annual peak load reduction of 4-8% (75-130 MW) attributable to the residential TOD rate, corresponding to approximately 12,000 tonnes of avoided GHG emissions and approximately \$11-16 million in commodity cost savings.

#### *4.1.1.2 Optional Critical Peak Pricing (CPP) Rate*

SMUD’s residential TOD rates are designed to provide price signals to customers to let them know when conserving energy is most beneficial and will save them money. However, these price signals are designed for conditions seen on days with average energy use, not for those few hours during the year when the demand for energy is so high it puts stress on the grid, such as during a heat wave. To address the costs and environmental impact of those few hours, SMUD began offering the Critical Peak Pricing (CPP) rate in June 2022 for customers that participate in qualifying device automation programs.

The CPP rate builds off the residential TOD rate structure, with several key pricing differences. Participating customers receive a per-kWh discount for Mid-Peak and Off-Peak prices during the summer months and pay a fixed per-kWh price premium for usage during a program event. SMUD can call program events during any hour of the day during summer months, up to 50 hours per summer and no more than once per day, and the events may span multiple time-of-day periods. The event prices and discounts are posted on SMUD’s website and may be updated annually to respond to changes in market conditions and customer enrollments.

Customers participating in the CPP rate must enroll in a qualifying SMUD program that allows for automatic adjustments of enrolled devices. SMUD’s programs also further customer participation through an upfront signup reward or an incentive toward the purchase of enabling technology.

This rate will be evaluated for effectiveness in the first quarter of 2024. Depending on the results of the evaluation, we could adjust the CPP rate discount and premium to stay current with costs and promote more customer participation, if needed.

#### *4.1.1.3 Optional EV Rate*

SMUD offers an EV rate adder to the residential TOD rate structure that is available for owners of plug-in EVs. Under this adder, customers can receive an additional 1.5¢ per kWh credit for charging EVs between midnight and 6 a.m. every day, all year long. This shifts the plug-in EV charging load to lower usage hours when it costs SMUD less to serve the customer, reduces the possibility of overloading local distribution transformers, and helps reduce the need for additional generation, transmission, and distribution capacity. Approximately half of all SMUD EV customers have enrolled in this rate. Separate from our EV rate option, SMUD is piloting a Managed EV Charging program, which is discussed further in Section 5.1.1.5

#### 4.1.2 Commercial and Industrial (C&I) Time of Day Rates

SMUD's C&I customer class includes all commercial and industrial customers. Within this customer class, individual tariffs are available based on customer load size. SMUD's current C&I TOD rates are available to all commercial and industrial customers, except those that are unmetered. The rates are similar in concept to the residential TOD, except the rate periods differ. During the summer, there are two rate periods: Peak (weekdays 4 pm – 9 pm) and Off-Peak (weekdays 9 pm – 4 pm, weekends, and holidays). During the non-summer months, the rate periods are Peak (weekdays 4 pm – 9 pm), Off-Peak Saver (weekdays, weekends, and holidays 9 am – 4 pm), and Off-Peak (all other hours).

SMUD has offered time-dependent rates to C&I customers for decades, and our customers have adapted to the rates and price signals that the rates provide. In 2019, SMUD's Board approved a rate restructure that included changing the TOD rate periods to better reflect marginal cost-based pricing signals, a higher price per kWh when electricity is most expensive to provide, and a lower price when it costs less. This realignment gives customers the opportunity to manage their usage and bills while helping reduce peak energy use and the need to buy power from less environmentally sustainable sources.

SMUD began implementing these changes to our C&I TOD customers at the end of 2021 and the full rollout was completed in the first quarter of 2022. Staff will be evaluating the effectiveness of our newly restructured C&I rates within the next year.

#### 4.1.3 Agricultural Time of Day (TOD) Rate

SMUD also offers a TOD rate for agricultural customers. During the summer months (May through October), the Peak period is 7 am – 10 am and 5 pm – 8 pm on weekdays. In the winter months (November through April), the Peak period is 2 pm – 8 pm on weekdays. All other hours are considered Off-Peak, including holidays and weekends.

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## 4.2 SMUD's Rate Development Process

### 4.2.1 Strategic Direction on Competitive Rates

The rate development process at SMUD is guided by our Board policy, first adopted in 2003 and most recently revised in 2021. SMUD's Strategic Direction 2, Competitive Rates (SD-2) includes the following objectives:

- Establish rate targets that are 18% below Pacific Gas and Electric (PG&E) system average rates and at least 10% below PG&E published rates for each customer class.
- Be competitive with other local utilities on a system average rate basis.
- Reflect the cost of energy when it is used or exported to the grid.
- Reduce consumption during periods of high system demand.
- Encourage energy efficiency, conservation and carbon reduction.
- Encourage cost-effective and environmentally beneficial DER.
- Minimize the rate of change in the transition from one rate design to another.
- Provide customers flexibility and choices.

- Be as simple and easy to understand as possible.
- Address the needs of people with low incomes and severe medical conditions.
- Equitably allocate costs across and within customer classes.

When designing rates, SMUD must balance all of these competing objectives – many of which are reflected in the objectives of the LMS regulation. While our direction includes developing marginal cost-based rates that reflect the cost of energy and reduce consumption during peak demand, it also requires us to consider customer experience, such as by ensuring rates are as simple and easy to understand as possible and avoiding abrupt transitions in rate design or bills.

#### 4.2.2 Rate Design and Implementation

Consistent with our SD-2 guidance, SMUD takes deliberate measures to ensure that any new rate we develop will be successful, effective, and accepted by our customers. This includes conducting pilots to determine the effectiveness of different rate options and improve upon customer experience prior to adopting and implementing new rates. It also includes iteratively developing and executing on communications and outreach strategies, new educational tools, rate comparison reports, and any technology or billing system enhancements that are needed to ensure that the implementation of a new rate, once designed, is smooth and successful.

While, in practice, this can be a lengthy and costly process, SMUD attributes the success of current time-dependent rates, including high customer acceptance and consistent load shift benefits, to our careful and comprehensive approach to planning, implementation, and customer experience. In addition, even after rate implementation, SMUD continues to monitor the effectiveness of our rates with respect to shifting peak load.

To illustrate this process, following summarizes the development and implementation of SMUD’s two current time-dependent residential rates.

##### 4.2.2.1 *SmartPricing Options Pilot*

In summer 2012 and 2013, SMUD conducted a comprehensive SmartPricing Options<sup>1</sup> (SPO) pilot, which evaluated the impacts of time-based rates, enabling technology, and recruitment methods on energy consumption and peak demand, as part of our broader Consumer Behavior Study. The SPO pilot tested three time-varying pricing plans (time of use with a 4 pm – 7 pm peak, critical peak pricing, and a combination of both) and two recruitment strategies (opt-in or default). The pilot included a seven-month recruitment period and over a year and half of planning before the pricing plans took effect.

The results of the study, released in September 2014, showed that both experimental TOD and CPP rates were effective, but customers preferred the experimental TOD rate by about 2 to 1 given the choice. The pilot and study were so successful that it became a national and international resource used by laboratories and universities to conduct research on time-of-day rates and behavioral studies.

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<sup>1</sup> The SPO pilot was a component of SMUD’s Consumer Behavior Study. See the final evaluation dated Sep 5, 2014. <https://www.smud.org/-/media/Documents/Corporate/About-Us/Energy-Research-and-Development/research-SmartPricing-options-final-evaluation.ashx>

#### 4.2.2.2 Residential TOD

Based on the successful results of the SPO pilot, SMUD decided to pursue the development of TOD rates. However, significant additional planning and development was needed to ensure we could successfully roll out the rates with positive customer acceptance and maximal efficacy. At the time of rollout, SMUD was the only utility in the state to plan and roll out standard TOD rates for all its residential customers. Eventually, and given the success story from SMUD, the California Public Utilities Commission (CPUC) ordered the IOUs to follow the same trend with the adoption of time-based rates for their residential customers. SMUD was a pioneer in rate design and our success was the result of several years of planning after the SPO pilot was concluded.

In 2016, SMUD introduced an optional time-of-day rate (4 pm – 7 pm peak) for all residential customers, with the goal to test systems and processes before the actual roll out of the standard TOD rate. Planned implementation was phased over two years, starting with a small subset of residential customers. This staging allowed staff time to provide customers with education on time-of-use rates, develop new customer tools, and upgrade systems and processes needed to prepare for a larger number of customers transitioning to the rate.

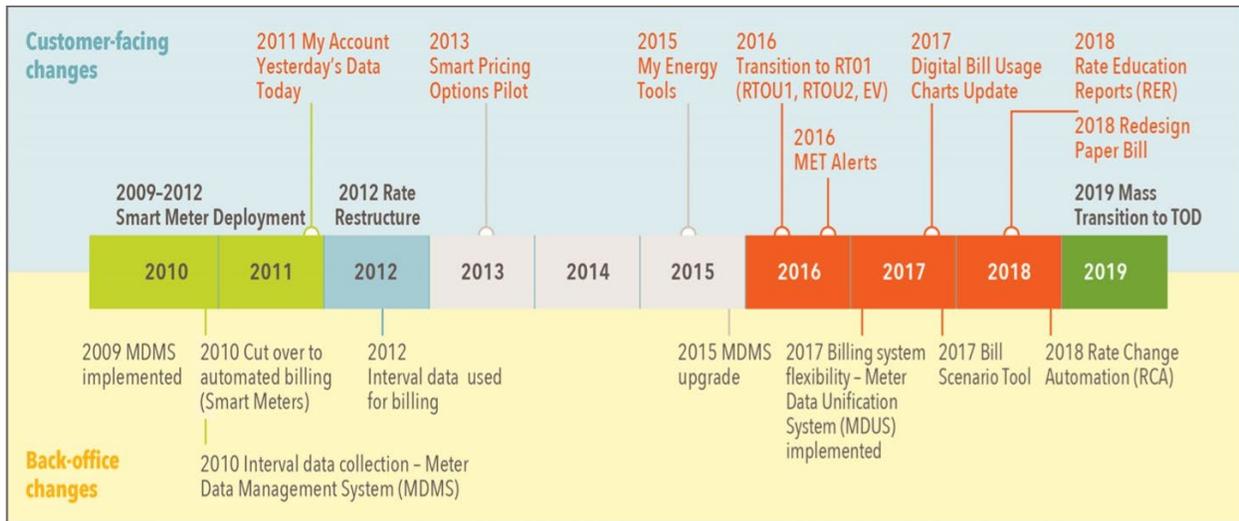
Concurrently, SMUD staff performed research and analysis to refine the rate in support of developing a future standard for all residential customers. The results of this analysis shifted the peak period to 5 pm – 8 pm to better align with the highest peak loads and marginal costs. The rate design was also influenced by the feedback received from the community and subject matter experts in the industry to balance a number of rate principles and customer experience.

SMUD's Board approved the standard TOD rate in 2017 and SMUD began another staged rollout beginning in late 2018 and completing in 2019. Based on our experience with the pilots and the optional TOD rate, SMUD developed additional customer tools, including an interactive TOD cost estimator, redesigned the billing experience, developed and launched a phased marketing campaign with simple, easy-to-understand messages, and undertook targeted outreach efforts. The education and marketing campaign was the most comprehensive campaign we have ever conducted in the transition from one rate design to another and was key to the successful completion of that milestone.

Each year since full residential TOD implementation, the results with respect to enrollment, peak load reduction, and carbon reduction have met or exceeded expectations based on the pilot. SMUD attributes the continued success of our residential TOD rates to the time invested testing and refining rates, educational tools, and attention to the customer experience. In addition, the TOD implementation process reaffirmed our understanding that rate simplicity and customer engagement and satisfaction drives the adoption and ultimate success of a rate.

Below is a timeline outlining some of the key milestones leading up to the implementation of SMUD's residential TOD rate, starting with the deployment of enabling technology that preceded the SPO pilot.

Figure 1 – Residential TOD Planning and Implementation Timeline



#### 4.2.2.3 Critical Peak Pricing (CPP)

The results of the SPO pilot showed that a CPP rate with an underlying time-of-day rate structure could achieve an overall load reduction of 20.9% during event hours. However, the development of this optional rate followed both the successful implementation of our residential TOD rate structure and the increased availability of enabling technology, such as programmable thermostats and battery storage, that would allow customers to respond automatically or manually to event signals.

SMUD’s Board approved the optional CPP rate in 2021, and SMUD began offering it in June 2022 for customers that participate in qualifying programs. SMUD does extensive outreach to encourage customers to choose the CPP rate, and for customers already on the CPP rate, we run individual reports and reach out to customers to help them identify ways they can save money by changing the way they use energy. As noted previously, SMUD plans to review the rate in 2024.

#### 4.2.2.4 C&I Rate Development

In 2019, the SMUD Board authorized restructuring the C&I rates, which re-aligned the time-of-day periods with marginal cost signals, aligned variable rate components to fixed rate components to reflect costs, and simplified pricing structure across rate categories to improve customer experience when moving from one rate to the next. To improve customer experience, we limited bill impacts to no more than 5% for 95% of customers. Stated another way, only 5% of customers could have bill impacts greater than 5% as a result of the rate restructure. To accomplish this while still meeting the goals of the restructure, we implemented the restructure over the course of up to eight years, depending on the rate category. SMUD identified the customers with bill impacts larger than 5% and conducted additional outreach to these customers about the new rates, the associated benefits, and potential impacts. SMUD worked with these customers to identify solutions to manage the impacts, including education and participation in a program to help them reduce costs through energy efficiency upgrades or other means.

SMUD is still implementing steps of the multi-year rate transition. The full rate transition for our smallest commercial customers will be completed in year 2028, which includes the gradual implementation of demand charges to encourage load reduction. Consistent with prior rate transitions, SMUD is currently

working on the rate education and outreach plan for the successful implementation of this component of the rate change which begins in 2024.

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## 4.3 Evaluation of New Dynamic Rates

This section evaluates the cost-effectiveness, equity, technological feasibility, and benefits of dynamic rates for each customer class, consistent with the requirements of the LMS regulations. For purposes of this evaluation, SMUD will assume that these rates would be implemented on the schedule specified in the LMS regulation, which includes applying for approval of dynamic rates by April 1, 2025, and offering voluntary participation in those rates to all customers by April 1, 2026, where such a rate is determined to materially reduce peak load.

SMUD's evaluation detailed below cannot yet conclude that proposing and implementing dynamic rates on this schedule would be cost effective or provide incremental benefits relative to SMUD's existing rates and programs. This is, in large part, due to the significant load shift benefits that SMUD already receives, and uncertainties related to the level of incremental load shift potential, customer response to market price risks, and customer acceptance of a complex new rate design. Based on the results of this evaluation, SMUD plans to defer the proposal and adoption of new dynamic rates at this time. SMUD will reevaluate dynamic rates with the benefit of additional information from our CPP and C&I rate evaluations and our pilot programs in the next update of our Plan.

### 4.3.1 Cost Effectiveness Evaluation

The first evaluation factor specified in the section 1623.1(a)(1)(A) is cost effectiveness. SMUD will qualitatively estimate the costs and benefits to SMUD, and thereby to our customers, that are associated with new dynamic rates for each rate class. This approach is necessary because, as of the time of the preparation of this first Plan, SMUD does not have data to support a full quantitative analysis.

To assess cost effectiveness, it is necessary to consider the costs associated with designing, implementing, and maintaining new rates for each customer class, as well as the ongoing benefits associated with implementation. To demonstrate cost effectiveness, the expected benefits for each rate must exceed the costs of implementation.

Typically, when assessing the cost-effectiveness of a new rate, such as TOD, SMUD would conduct a comprehensive pilot study to test and gather data on different rate options, which would likely require several years and a multimillion-dollar investment. SMUD believes it is necessary to conduct our own pilots, rather than rely on the results other utilities' studies, to accurately estimate costs and benefits because customers respond differently given differences in weather conditions, local economy, local energy policies, and other factors. SMUD has not conducted such a pilot on dynamic rate options and thus does not have supporting data on estimated implementation costs or benefits. Some of SMUD's pilots are testing responses to price signals, which could help inform assessments of potential costs and benefits, but results are not yet available. As a result, SMUD's evaluation of cost effectiveness is based on qualitative assessments. SMUD anticipates exploring opportunities to expand data access and/or refine estimates to inform future updates of our Plan.

#### 4.3.1.1 *Estimated Costs*

Implementing new rates for all customer classes, particularly rates that are far more complex than any other currently available rate, would require significant investment in planning, customer education and marketing, and technology development. SMUD has identified several cost categories associated with implementing dynamic rates:

- *Rate design costs* would include the costs of initial market research, implementing pilots to test rate options, and analyzing the results of those pilots to refine the final design. Once the pilot is complete and analyzed, the final rate recommendation needs to be designed. In the event of a new rate recommendation, a rate action would be needed for it to be approved, adding to the costs.
- *Setup costs* include one-time costs like Information Technology (IT) system updates to enable settlement over new intervals, data integration, updating the bill presentment to reflect these intervals, and developing new or updating existing customer tools. For example, when SMUD implemented our residential TOD rate, we designed tools to allow customers to view their cost and usage history, set high bill alerts, and receive home energy reports in order to help them understand the impacts associated with the rate. Having tools available for customers to self-service and monitor their costs and usage will be important for success with hourly rates, which would be significantly more complex and volatile than TOD rates.
- *Recruitment and retention costs* include marketing and enrollment costs. For example, prior to rolling out our standard residential TOD rate, SMUD spent over two years educating residential customers through an extensive, phased marketing campaign and targeted outreach in a variety of languages. This effort was successful both due to the significant time and funds invested and, crucially, TOD had the benefit of a simple and easy-to-understand message – avoid energy usage from 5 pm to 8 pm. Shifting to complex hourly rates while maintaining a positive customer experience – which is key for adoption and longer-term retention of the rate – will require informing and educating customers to become savvy users that, at minimum, understand and can monitor hourly rate and temperature trends that may significantly impact their bills.

At this time, SMUD anticipates the above costs to make a dynamic rate available are fixed and do not vary by load, electricity usage or enrollment level. While SMUD does not currently have pilot results to inform implementation costs, we estimate needing significant resources to develop, implement, and maintain hourly rates for residential, C&I, agricultural, and traffic signal customers.<sup>2</sup> For example, SMUD estimates that implementing our residential and C&I TOD rates cost a combined \$16 million. Depending on the scope of the costs, implementing complex new rates could necessitate a rate increase to bring in additional revenue.

#### 4.3.1.2 *Estimated Benefits*

This section describes the potential benefits associated with implementing new dynamic rates and the estimated realization of incremental benefits based on design effectiveness, adoption levels, and additional load shift capacity available to be captured.

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<sup>2</sup> SMUD generally categorizes street lighting and traffic signals in the same rate class; however, only street lighting is expressly exempt from the LMS regulation.

#### 4.3.1.2.1 Potential Benefits

SMUD has identified the primary financial benefits of new dynamic rates as:

- Avoided capacity costs resulting from a reduction in the need for new capacity additions or resource adequacy procurement.
- Avoided energy costs resulting from shifting demand from higher-cost periods to lower-cost periods.

Secondary benefits can also flow from the realization of avoided capacity and energy purchase needs. For example, to the extent that load shifting reduces the need for new capacity and wholesale energy purchases during peak periods, these reductions can also contribute to:

- Avoided transmission in the form of reduced need for capacity investments to deliver energy during peak periods.
- Avoided GHG compliance costs associated with a reduction in generating or purchasing energy from fossil fueled resources that may otherwise be tapped to serve load during peak periods.
- Improved air quality, public health, and environmental outcomes associated with a reduction in operations of fossil fueled resources.

While the last category of benefits does not accrue directly to SMUD, they provide value to our community and society more broadly.

#### 4.3.1.2.2 Realization of Benefits

As a vertically integrated utility, SMUD anticipates that the greatest potential direct financial benefits would derive from avoided capacity costs. However, the realization of any of the above-identified benefits from new dynamic rates is highly dependent on several factors:

- The effectiveness of the rate design in shifting customer usage patterns.
- The operational value of the load shift.
- The adoption levels of the new rates.
- The customer experience on the new rate.
- The incremental available load shift potential relative to SMUD's existing time-dependent rates and load flexibility programs.

In addition, with respect to avoided GHG compliance costs and improved air quality, public health, and environmental outcomes, the realization of benefits also depends on the relative utilization of fossil fueled resources to serve peak load versus periods of lower demand.

Following is a discussion of each factor's expected effect on the benefits attributable to developing new dynamic rates.

##### 4.3.1.2.2.1 Estimated Design Effectiveness

Effective rate design is necessary to achieve predictable load shift during the most valuable hours. The risk of not having sufficient generation, which spurs the need for new capacity additions or resource adequacy procurement, is typically concentrated in a small number of hours each year when serving peak load is most challenging. Accordingly, to realize any avoided capacity benefits, it is vitally important that a new rate design can achieve consistent and meaningful load reductions during those hours. Reducing

energy purchases during peak periods relies on consistent shift in demand patterns, although some benefits can still be realized through less dependable load shift.

Time to develop and test the effectiveness of rate design options will be especially important when shifting to a complex new rate structure that could include several price signal changes within a peak period or even within an hour. Part of the reason that SMUD's TOD rates are so successful is because they are simple and easy to understand. If customers do not understand the signals or the time periods during which they are provided, their response may not be predictable, leading to reduced efficacy and potentially adverse bill impacts. In addition, SMUD has not yet studied whether the issuance of multiple real-time price signals to our customers over a peak period would result in material benefits relative to a single signal for the peak period. As described previously, SMUD's typical rate development process includes multiple steps, including market research, testing the effectiveness of different rate options through pilots, analyzing the results, and considering refinements before proposing a rate. Completing these steps can exceed five years but is important to ensure that the rate sends the right signals and understand customers' response.

The LMS regulation directs Large POUs to propose new dynamic rates for every customer class to our Board by April 1, 2025. That timeline does not provide sufficient time for SMUD to design a pilot, test responses to different rate options, and analyze the results for even one rate class. Without the results of a pilot study that tests these options for each customer class, SMUD cannot conclude that a complex new rate design would result in any incremental, dependable load shift or ensure a positive customer experience for any of SMUD's customers.<sup>3</sup>

#### 4.3.1.2.2.2 Estimated Adoption Level

The estimated adoption level of new hourly dynamic rates directly affects the magnitude, and thus value, of load shift benefits. Based on the information currently available, SMUD anticipates that dynamic rates rolled out to customers by April 1, 2026, would likely have low adoption and retention levels. SMUD's assumption is based on several key factors, including the uncertainty in bill impacts from complex new rate structures, the time needed to educate customers to promote a positive experience, and the cost and limited accessibility of enabling behind-the-meter automation technology.

- *Bill impacts.* Bill savings are a significant driver for customer rate adoption. The predictability of bill impacts gives customers the assurance of how they can leverage a rate to see bill savings. SMUD's current rate structures help serve as a hedge against price shock and uncertainty for our customers. SMUD locks in prices for most of our expected energy needs and passes on only the limited remaining market exposure to customers over the course of a year, reducing the impact to customer bills. With dynamic rates, customers take on the full risk of price fluctuations, which may not be sustainable long term.

SMUD has previously offered real-time pricing rates, which had low customer acceptance. For example, in 1995, SMUD implemented an experimental real time pricing rate for commercial customers as part of an economic retention measure. The rate was available for three years and no customers opted in. While the rate offered the customers more control over their bills, the hourly pricing risk outweighed the benefits, so no customers were enrolled on the rate during those three

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<sup>3</sup> SMUD does not expect a new dynamic hourly rate would create any load shift for traffic signal customers, as this load is not sensitive to price signals.

years. Subsequently, SMUD tested another version of real time rates for commercial customers beginning in 1998. The new real time rate had two parts – billing of a baseline usage quantity by time period priced at stable time of use rates, and billing of incremental load above the baseline at real time prices. The new rate better managed the potential risk of real time pricing by applying real time prices to the variances above or below the customer’s baseline. In 1999, SMUD made modifications to the rate and adopted the price for zone NP15 (DAPX MCP NP15) as the real time pricing. However, the rate enrollment was not successful due to the inherent risk from the real time pricing rates. While some customers did opt into the rate, once prices started to rise due to the energy crisis in the early 2000s, customers were not able to avoid significantly higher bills, no longer wanted to participate in the real time pricing rate and switched back to the standard time-dependent rates at that time. Eventually, SMUD stopped offering the real time rate options.

While the landscape has changed significantly since the early 2000s, SMUD anticipates that many customers would still be hesitant to accept the added price risk that can lead to unpredictable and high bills, similar to the experience we observed with our past real time pricing options, and what was observed in Texas in the winter of 2021 when prices spiked due to an extreme winter storm<sup>4</sup>. Based on our prior experience, we also expect that retention would fall fast after price spikes or energy crises.

- *Customer understanding.* One method of mitigating the uncertainty of bill impacts from new dynamic rates is to fully educate and inform customers. SMUD has embraced a culture of delivering the best possible customer experience when transitioning customers from one rate structure to another or when offering optional rates. As part of this, we provide the opportunity for customer input from focus groups and market research so we can increase customer comfort levels as we develop any future rates.

However, limited time to engage and educate customers on new complex hourly rates, and the potential benefits and risks associated with participation, may lead to confusion about bill impacts and low uptake. Our experience with offering real-time rates in the late 1990s and early 2000s taught us that the proper evaluation of rate pilots, testing alternate new programs, and strong education and marketing campaigns are necessary prior to proposing and implementing new rates. Customer experience is a priority for SMUD, and negative experiences may have a deterrence effect both on current and future initiatives, plus unintended negative impacts to our brand.

- *Technology availability.* Realizing the benefits of dynamic rates is dependent on customers’ ability to access and embrace enabling technology. SMUD’s Zero Carbon Plan includes multiple strategies to significantly increase customer adoption of those devices that are able to automate load reductions, especially with equity considerations in mind. However, there are still challenges and uncertainties associated with tapping into those devices for grid services, as further discussed in Section 4.3.3.2. SMUD expects that limited adoption of the needed technology would translate to limited benefits from dynamic rates, and accessibility of customer-owned automated devices that allow for response to hourly or sub-hourly signals is a near-term constraint.

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<https://www.npr.org/sections/live-updates-winter-storms-2021/2021/02/21/969912613/after-days-of-mass-outages-some-texas-residents-now-face-huge-electric-bills>

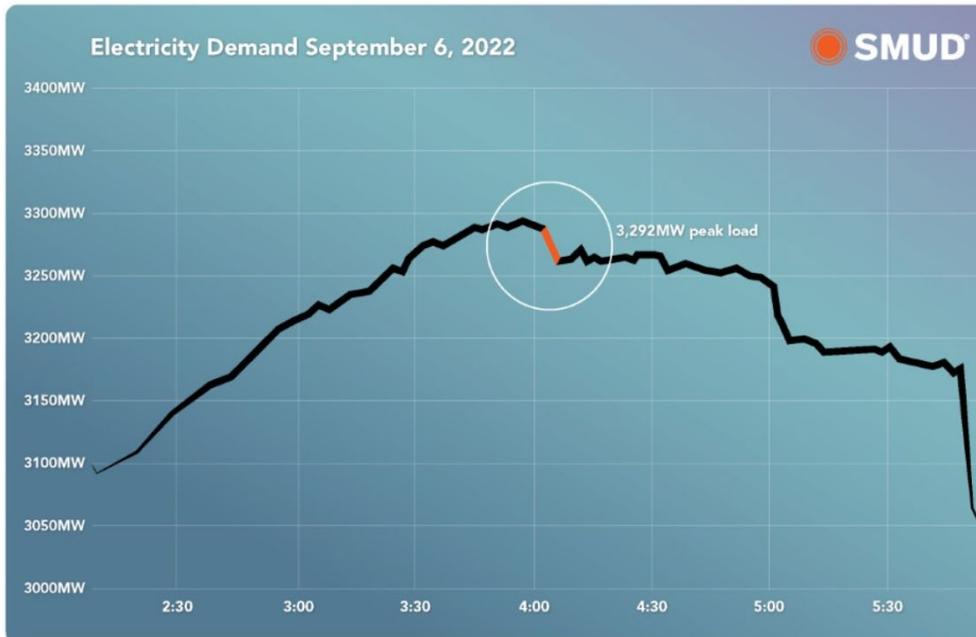
#### 4.3.1.2.2.3 Estimated Incremental Load Shift Capability

As noted previously, the primary potential benefits of dynamic rates are based on reducing the need for new capacity additions and associated avoided wholesale energy costs, which may carry additional benefits associated with reduced transmission costs, reduced GHG compliance costs, and improved air quality, public health, and environmental outcomes. SMUD's existing time-dependent rates and load flexibility programs are likewise designed to capture these same benefits, but on a less granular timeframe and without relying solely on a real-time market price mechanism. They are also designed to create a customer-friendly experience that is simple and easy-to-understand, and have been supported with extensive customer outreach and education. Any incremental benefits associated with implementing dynamic rates rely on achieving incremental load shift relative to SMUD's existing rates and programs. Following summarizes the current load shift capability of SMUD's rates and programs and potential incremental load shift opportunities.

- *Existing load shift capability.* SMUD's residential TOD rate was designed around expected hourly marginal costs and has consistently reduced peak load by 4-8% year after year since implementation, reducing grid stress and resulting in significant financial benefits. Currently, we estimate the combined energy and capacity savings from residential TOD is approximately \$11-\$16 million annually. SMUD also offers a variety of load flexibility and demand response programs that allow customers to respond to signals that incorporate day-ahead marginal prices, weather, and grid conditions. These programs complement our TOD rate structure and provide SMUD additional load shift benefit on a day-ahead basis and, in some cases, on a same-day basis for emergency scenarios. SMUD's programs and pilots are discussed further in Section 5.

To illustrate the current load shift benefits provided by SMUD's time-dependent rates and programs, the chart below shows SMUD's system load on September 6, 2022. The region experienced 10 straight days of extreme heat and Sacramento reached an all-time high temperature of 116°F on that day. There is a clear reduction in load from our demand response programs starting around 4 pm, and load declined as customers were responding to TOD price signals from 5 – 8 pm. The benefits from our existing TOD rates and load flexibility programs is evident. This consistent load reduction on our peak days allows us to reduce our long-term resource adequacy requirements and save on energy costs. The chart shows that significant load reduction was observed on that day due to the combination of demand response, TOD rates, load curtailment agreements, and customer education.

Figure 2 – Load Reduction Observed on September 6, 2022



- *Incremental load shift benefits.* While SMUD is piloting more dynamic price signals to devices to dispatch those devices as part of our programs, SMUD has not yet conducted pilots to evaluate more complex dynamic rate options in which hourly market price risk is passed directly to the customers. However, based on our current time-dependent rates and the trajectory of our load flexibility programs, which can be dispatched on a day-ahead and/or emergency basis, SMUD anticipates that a new dynamic hourly rate would need to result in consistent load shift in response to rapidly changing prices (5- to 10-minute timeframe) in the real-time market to generate any incremental load shift benefits. Without the benefit of pilot results, and given the inherent complexity of new dynamic rates, the risk of adverse bill impacts, and the existence of more customer-friendly rates and programs, SMUD cannot conclude that such rates would be likely to result in incremental load shift benefits.

#### 4.3.1.3 Discussion

Based on the information we currently have available, SMUD’s evaluation cannot conclude that implementing dynamic rates for any customer class on the LMS regulation timeline would be cost effective, especially in light of the benefits SMUD already experiences from our existing time-dependent rates and load flexibility programs and pilots. While dynamic rates have the potential to provide benefits over what we are already receiving from current rates and programs, there are significant uncertainties both in the magnitude of this potential and our ability to realize it based on design efficacy, how customers would react to hourly market risks, and expected adoption levels. SMUD anticipates that developing dynamic rates would result in significant costs and could require a rate increase to bring additional revenue to develop and implement the rates. Without testing a pilot and performing a comprehensive analysis similar to what we did in the Smart Pricing Pilot, SMUD cannot confirm the costs of rate development, the estimated benefits, or whether those benefits would be likely to offset the costs. SMUD also anticipates the cost of setting up a dynamic rate pilot will be nearly as high as

developing a program for passing through dynamic rates. In addition, given our experience with passing hourly price risk to customers in the late 1990's, if after incurring the costs to develop dynamic rates no customers remain on the rate after experiencing bill increases, SMUD's rate development costs will become sunk costs. Given the benefits and success of our current TOD rates and load flexibility programs and pilots, we don't see a need to take this risk at this time.

SMUD will continue to gather information to inform evaluation of future rate and program design. We are taking a measured approach by first testing dynamic rate signals to devices in its load flexibility pilots and compensating customers through programmatic payments, which will help SMUD assess the opportunities without subjecting customers to the volatility of dynamic pricing. As more data becomes available from these pilots, SMUD anticipates exploring additional cost-effectiveness analyses and/or enhancements to the estimates provided here.

#### 4.3.2 Equity

The second criterion by which to evaluate dynamic rates is equity. Since SMUD does not currently have pilot study data to support quantifying load shift and bill impacts for different customer groups, SMUD will qualitatively evaluate the equity impacts of these rates by considering customers' ability to benefit directly and indirectly from the rates.

##### 4.3.2.1 Equitable Access to Direct Benefits

The ability to directly benefit from a dynamic rate depends on several factors, such as access to enabling technology, ability to shift load away from high-cost periods, and ability to benefit from the rate and absorb potential bill shocks.

- *Technology access.* The ability to participate in a dynamic rate hinges upon customers' access to technology with specific characteristics that enables response to hourly or sub-hourly price signals. Currently, the high upfront cost of this technology may pose a limitation, particularly for lower income customers. In addition, customers that rent or lease their home or business may face additional constraints with respect to securing permission for technology installations. To help address these barriers, SMUD offers different incentive programs and has developed strategies within its Community Impact Plan, and is also seeking grant funding to append to SMUD's investment to help further broaden access.
- *Rapid, flexible load shift ability.* The ability to quickly shift load away from high price periods will affect whether participating customers can directly benefit from a dynamic rate. As market signals would be dynamic with potentially very large changes in prices between hours, customers that cannot or do not adopt and/or utilize and embrace enabling technology could see very large bill impacts.
- *Ability to absorb potential bill shocks.* Participating customers in a dynamic rate run the risk of bill shocks if they are unable to shift load away from high price hours. SMUD anticipates that lower income customers and small businesses, who face greater barriers in implementing enabling technology, would be most exposed and least able to absorb potential bill shocks.

By contrast, SMUD's TOD rates provide customers the opportunity to save money without requiring specific technology or exposure to market risks and bill shocks if load is not sufficiently flexible. Similarly, SMUD's programs are designed to ensure that participating customers see predictable, consistent benefits, while ensuring cost-effectiveness relative to the value of the resource.

#### 4.3.2.2 *Equitable Access to Indirect Benefits*

As previously described in Section 4.3.1.2.1, dynamic rates may offer benefits to all of SMUD's customers, to the extent such rates reduce overall capacity costs, contribute to reliability, and reduce reliance on fossil fueled resources. These benefits could serve as a downward pressure on rates and result in improved air quality, public health, and environmental outcomes, and are accessible to all of SMUD's customers. However, as discussed in Section 4.3.1.2.2, SMUD is unable to conclude at this time that dynamic rates implemented on the LMS regulation timeframe would yield incremental benefits, particularly considering that we are already receiving a large share of those benefits from existing TOD rates and programs.

#### 4.3.2.3 *Discussion*

Based on the information currently available, SMUD's evaluation cannot conclude that implementing dynamic rates would result in any incremental equity benefits. At this time, the availability of such rates is likely to disproportionately benefit higher-income customers, early adopters of technology and businesses that own their property, have upfront capital to purchase enabling technology, and can absorb the risk of bill shocks. In addition, while SMUD's entire customer base could potentially benefit from the any incremental avoided system costs and improved air quality, public health, and environmental outcomes, the magnitude and uncertainty of these benefits are uncertain, which is why we are conducting pilots. Currently, 97% of our low-income customers are on TOD rates and some our low-income customers are participating in our new load flexibility pilots and programs. We would not anticipate this level of acceptance and adoption of dynamic, hourly or sub-hourly rates from low-income customers.

### 4.3.3 Technological Feasibility

The third evaluation factor for dynamic rates is technological feasibility. SMUD's evaluation assesses the technological feasibility of implementing dynamic rates for all customers on the schedule specified in the LMS regulations. SMUD's evaluation considers the feasibility of both the internal technology systems needed to support implementation of dynamic rates and to the external customer technology that is needed to enable response to hourly or sub-hourly signals.

#### 4.3.3.1 *SMUD's Technology Systems*

The primary internal technology systems needed to support dynamic rates are advanced metering infrastructure (AMI), SMUD's Customer Relationship Management software, and SMUD's billing system software (SAP ECC). SMUD also relies on internal and external software from third parties to develop customer educational tools and provide functionality to communicate with and control enabling technologies. Following is a feasibility assessment of each technology component:

- *Meters.* SMUD's meters are capable of providing hourly and sub-hourly interval data for all our customers, though some would currently require reprogramming to provide sub-hourly interval data. Additional network infrastructure would also be required. Moving to sub-hourly interval data significantly increases the amount of data transmitted over the AMI network. To avoid disruptions and maintain system performance, an assessment of the AMI network communication infrastructure would be required to identify additional equipment to be installed to support the increased volume.
- *Billing system.* SMUD estimates that our billing system, with implementation of the necessary system configuration, is technologically capable of generating customer bills utilizing hourly or

sub-hourly settlement data. However, SMUD anticipates it will be necessary to develop enhancements to SMUD's online tools and services to help customers understand the rate changes and minimize confusion.

- *Customer educational tools and control.* As noted previously, updating existing customer tools and developing new tools would be key to supporting a positive customer experience when implementing dynamic rates. Some of our existing tools and our current enabling technology controls are managed by external vendors, which SMUD will engage to assess the technological feasibility of and timeframes necessary to modify tools to support dynamic rates.
- *Information Technology Roadmap.* SMUD has developed a roadmap for its next generation AMI Platform, which includes increasing levels of analytic transformation and enablement of use cases to support near real time customer insights and advanced DER functionality and control, leading to distributed intelligence and grid edge controls that will support achievement of our Zero Carbon Plan and is consistent with intended benefits under the LMS regulation. This includes continuing to implement additional functionality for DERMS, deploying new meters with increased granularity of data (5 minute Commercial, 15 minute Residential) as we replace AMI meters that will be reaching the end of their useful life and supporting systems to leverage the increased data. SMUD is also currently in the initial stages of a major software update to our main enterprise application software from SAP. These major technology projects would need to be carefully coordinated with any IT enhancements necessary to communicate, bill, manage, and educate customers on dynamic rates.

In sum, SMUD anticipates that our internal technology systems, with the necessary infrastructure deployments and system configuration implementations, are technologically capable of supporting dynamic rates. SMUD's IT Roadmap includes additional enhancements, upgrades, and additional functionality that will be needed to ensure the optimal benefits realization of dynamic controls and a positive customer experience.

#### 4.3.3.2 *Enabling Customer Technology*

Realizing the potential incremental benefits of dynamic rates depends on customer participation and the widespread availability of devices and technology that can support real time response to hourly or sub-hourly price signals. Currently, technology with this kind of capability is being piloted and evaluated by SMUD through programs to consider customer response and long term commitment to their response under these programs, which will inform us on how we can utilize them for resource adequacy and electric system emergencies and consequently how we should approach scale. Following is a list of common load flexibility technologies in SMUD's service area which SMUD currently includes in our programs, along with their capabilities and constraints. SMUD anticipates these same technologies participating in our current programs would be needed to respond to new dynamic rates.

- *Smart thermostats.* Wi-fi enabled smart thermostats are currently by far the most widely adopted load flexibility technology. These devices are able to receive and respond to dispatch signals within 15-30 minutes; however, doing so could end up sacrificing customer comfort, as market price signals may not allow time for the home to precool. SMUD currently relies on day-ahead and/or more real time marginal costs and system conditions to inform the dispatch of resources in our load flexibility programs.
- *Battery energy storage systems.* Battery energy storage systems are being adopted with increasing frequency by both residential and non-residential customers, particularly as an add-on to solar PV

installations. Batteries have much greater ability to be dispatched on short notice, and SMUD views these as critical to creating load flexibility resources to reach our Zero Carbon Plan. SMUD is proactively seeking to accelerate this adoption and reduce the payback period for solar + storage deployments through financial incentives. SMUD is currently offering initial incentives of up to \$2,500 per premises coupled with ongoing capacity payments to promote storage adoption and allow utility dispatch to leverage the storage resource. However, the current adoption rates are relatively low, and it will likely be years before storage is affordable for a majority of SMUD customers.

- *Two-way air conditioning (AC) switches.* Air conditioning (AC) switches are one of the oldest distributed resource technologies and have been deployed since the 1970s. SMUD currently has upwards of 35,000 customers enrolled in its ACLM program, also known as PeakCorps. SMUD has begun to replace existing AC switches with more advanced two-way AC switches that provide data back to SMUD and have increased functionality through its recently launched PeakConserve Program. SMUD is also increasing accessibility by providing participation options for customers that have barriers such as lack of internet access. While SMUD expects these new switches to open up new functionality relative to the older technologies, this program is still in pilot stage at this time.
- *Electric Vehicles (EVs).* EVs are an emerging source of load flexibility across the SMUD system, and the rate of customer adoption is increasing. There is significant potential for further growth given SMUD and statewide goals for zero emissions vehicles by 2030. SMUD recently launched a pilot to test the efficacy of sending hourly price signals to participating EVs via telematics and compensating the customer through a quarterly payment. Specifically, SMUD simulates the modeled hourly prices based on energy supply and locational capacity we expect to experience once SMUD achieves its zero-carbon goal and large-scale transportation electrification. The learnings from this pilot will inform how SMUD rolls out a full-scale managed charging program later in 2024-2025. SMUD hopes to demonstrate and refine use cases such as to mitigate overload of service transformers, consume excess low-cost renewable energy, and reduce system peak impact.

SMUD's existing programs and new pilot programs will inform our understanding of how we can most effectively engage with customers with behind-the-meter devices, considering different technologies, customer needs and preferences, and other factors. SMUD anticipates these new offerings, along with our existing programs, will help increase the acceptance and adoption levels of enabling technologies as well as testing their response to utility signals and dispatch.

SMUD is piloting and testing a host of new technologies that we anticipate scaling for wider adoption over the next three years. How hourly price signals may play a role in these opt-in new programs and offerings is still being evaluated, the results of which will also inform future consideration of dynamic rates.

#### 4.3.3.3 Discussion

Based on the information currently available, SMUD believes the technology exists to implement some level of dynamic rates on the LMS timeframe. However, the capabilities of enabling behind-the-meter device technology, along with the impacts on customer experience, are still being tested. SMUD believes that reassessing the technological feasibility of dynamic rates after we have results from our pilot

programs would better inform the likelihood of positive customer acceptance and material load shift benefits.

SMUD anticipates that our internal systems, with the necessary infrastructure deployments and system configuration implementations, are technically capable of processing settlements for dynamic hourly rate data, but additional time to enhance the billing experience, develop customer tools, and enhance our DER functionality and control would create a better experience, improve the likelihood of acceptance of the new rates, and support improved realization of both customer and grid benefits in alignment with LMS desired outcomes. In addition, SMUD anticipates that the penetration of enabling device automation technology will increase with time and decreasing device costs, expanding the potential for load shift benefits.

#### 4.3.4 Benefits to the Grid and Customers

The final two criteria for evaluating dynamic rates are benefits to the grid and benefits to customers. SMUD is evaluating these factors together because many grid benefits also have pass-through benefits to customers.

Following is a summary of anticipated grid and customer benefits associated with implementation of new dynamic rates on the timeframe specified in the LMS regulation. SMUD's evaluation of each benefit considers the expected effectiveness of the rate design, the expected adoption rate, and the incremental benefits relative to SMUD's existing time-dependent rates and load flexibility programs. The realization of each benefit depends, in significant part, on whether dynamic rates would result in material load shift relative to SMUD's existing time-dependent rates and programs. However, as discussed in Section 4.3.1.3, SMUD is unable to conclude, based on the information currently available, that implementing dynamic rates at this time would yield incremental load shift benefits.

- *Avoided capacity needs.* Realizing the incremental benefits of avoided capacity costs, in the form of reduced need to construct new generation capacity or procure resource adequacy (RA), depends significantly on an effective rate design that delivers meaningful, dependable load shift in response to hourly or sub-hourly signals. Shifting demand away from peak periods also has the potential to relieve grid strain and contribute to reliability. As further discussed in Section 4.3.1.2.2.3, SMUD is unable to conclude that implementing dynamic rates would result in incremental capacity cost savings, given the uncertainty around design effectiveness, adoption levels, and the magnitude of load shift potential beyond the benefits already provided by SMUD's time-dependent rates and load flexibility programs.
- *Avoided energy purchase costs.* Similarly, realizing the incremental benefits of avoided energy costs relies on a rate design that effectively encourages customers to shift from high-cost (high GHG) periods to lower cost (low GHG) periods. This allows for more efficient use of cheaper solar energy when it is generated and reduces the higher costs of energy associated with serving peak load. However, as further discussed in Section 4.3.1.2.2.3, SMUD cannot conclude that implementing dynamic rates would result in incremental avoided energy costs.
- *Avoided transmission needs.* As many of the DER programs are still in pilot, how they and rate designs impact the need for various transmission services is still uncertain. Because SMUD cannot conclude that dynamic rates would result in incremental avoided capacity costs on the implementation schedule specified in the LMS regulation, it cannot conclude that any

transmission cost savings are likely to materialize.

- *Avoided GHG costs.* To the extent that dynamic rates can shift energy use from time periods in which fossil fueled resources serve load to time periods with greater renewable energy generation, there is the potential for reduced costs to SMUD (and thereby our customers) associated with the cost of GHG emissions. SMUD incurs GHG compliance costs associated with operating our thermal power plants and some out-of-state energy imports. In addition, the cost of carbon is incorporated into the price of any energy that we purchase through CAISO markets. Reducing our own thermal operations and/or limiting market purchases when the grid has a greater carbon intensity can save costs for SMUD and our customers.

However, any incremental GHG cost savings depend on the realization of incremental reductions in capacity needs and/or in energy purchases during high-cost/high-emitting periods. Because SMUD is unable to conclude that implementing dynamic rates would result in material incremental load shift, any GHG cost savings benefits are also uncertain. In addition, as SMUD pursues implementation of our Zero Carbon Plan and removes carbon from our power supply, we anticipate increasingly less difference between the GHG emissions profiles of resources serving our customers during the peak and in periods of lower demand.

- *Improved air quality, public health, and environmental outcome.* As with avoided GHG cost savings, the potential air quality, public health, and environmental benefits associated with dynamic rates depends on such rates reducing the capacity needs or energy purchases during time periods when the grid has a higher carbon intensity. However, as discussed above, SMUD cannot conclude that a material incremental increase in these benefits will accrue on the timeline specified in the LMS regulation. In addition, as noted above, the difference in the emissions profile of resources serving load at times of peak or load demand should decrease as SMUD implements its Zero Carbon Plan.
- *Customer bill impacts.* With dynamic rates, customers have the potential to save money by shifting their usage out of the most expensive hours. However, there are risks to dynamic rates, even if customers can largely rely on device automation to manage their demand. SMUD locks in prices for most of the power we anticipate needing, effectively providing a hedge for customer energy costs, as described previously. With dynamic rates, customers take on the full risk of market price fluctuations, which could have severe impacts on customer bills especially during times of extreme market volatility. There will be times when prices are high for an extended period of time, such as in December 2022. During such times, customers may not be able to rely on their enabling technology or adjust their usage enough to prevent excessively large bills. Residential customers cannot simply stop using electricity, nor can commercial customers stop operating for an extended period of time to avoid a large electric bill driven by spikes in energy prices.

To illustrate this, the table below shows the North Path 15 (NP-15) average monthly market prices during daytime hours (7 a.m. – 10 p.m.) and nighttime hours (10 p.m. – 7 a.m.). A significant price increase can be seen in December, when prices are approximately double summer peak prices and up to five times greater than summer off-peak prices. The impact of these price increases would have been significant for customers on a dynamic hourly rate.

Table 1 – 2022 Average Monthly Market Prices (NP-15)

Month	Avg. Daytime Price (\$/MWh)	Avg. Nighttime Price (\$/MWh)
January	\$ 54.89	\$ 50.17
February	\$ 48.43	\$ 46.58
March	\$ 48.09	\$ 45.24
April	\$ 63.40	\$ 63.44
May	\$ 67.86	\$ 65.06
June	\$ 77.34	\$ 68.66
July	\$ 80.59	\$ 67.34
August	\$ 104.93	\$ 87.21
September	\$ 130.24	\$ 96.46
October	\$ 73.36	\$ 65.75
November	\$ 93.51	\$ 88.70
December	\$ 271.06	\$ 256.14

Source: 2022 Day ahead NP-15 average prices.

- Customer experience.* As described previously, SMUD staff balances multiple SD-2 objectives when designing rates, including “reflect the cost of energy when it is used” with “be as simple and easy to understand as possible.” While dynamic rates would reflect the cost of energy at the time it is used, they would also be very complex and difficult for customers to understand, as customers are not experts in energy market dynamics. The likely result of this complexity is confusion and potential negative bill impacts, particularly if there is also insufficient time for SMUD to fully educate customers on the potential benefits and risks of marginal cost-based rates. This, in turn, adversely impacts acceptance, retention, and benefits associated with the rate, and the erosion of trust can hinder future load shift efforts as well.

#### 4.3.4.1 Discussion

Based on the information currently available, SMUD’s evaluation is unable to conclude that implementing dynamic rates on the timeframe specified in the LMS would yield material incremental benefits to the grid or to SMUD’s customers. Currently, SMUD’s time-dependent rates and load flexibility programs are designed to capture a significant portion of potential peak load shift benefits. Any incremental benefits associated with dynamic rates that enable response on sub-hourly signals are uncertain.

Moreover, relative to SMUD’s current time dependent rates and programs, dynamic rates could adversely affect customer experience and bills. Premature introduction of dynamic rates may cause confusion and shift market price risk from SMUD onto our customers, creating a poor customer experience that may hinder adoption of both the new rate and longer-term load flexibility initiatives. SMUD’s current time-dependent rates offer customers the ability to save money through a simple, easy-to-understand rate structure and do not require specific technology to use. In fact, the success of SMUD’s TOD rates, as previously noted, can be attributed largely to its simple, easy-to-understand message, our careful testing and refinement of both rate options and customer experience, and our significant outreach and education efforts. A rushed implementation of a complex and untested dynamic hourly rate structure is unlikely to result in any positive benefits to SMUD or our customers.

#### 4.3.5 Compliance Approach

Based on the results of this evaluation, SMUD plans to continue offering our time-dependent rates, including reviewing our C&I rates and our residential CPP rate for effectiveness within the next year. SMUD also plans to continue expanding our load flexibility programs and pilots that will help us better understand how best we can engage with behind-the-meter customer devices. From these learnings, SMUD may consider developing a pilot rate offering dynamic pricing to one or more customer classes in the future.

SMUD will defer developing and proposing adoption of new dynamic rates beyond April 1, 2025, and offering voluntary participation in any such rates beyond April 1, 2026. Based on the information currently available, SMUD cannot conclude that proposing and implementing dynamic rates as proposed in the LMS schedule cited above would result in material incremental reductions in peak load; be cost-effective; yield equity benefits; be technologically feasible; or yield any cost savings or emissions-related benefits for SMUD and our customers. Moreover, the risks of premature implementation include adversely impacting participating customers' bills, overall experience, and SMUD's image and reputation.

At this time, SMUD plans to revisit the timeline for proposing and implementing dynamic rates no later than the triennial review of our LMS Plan. At such time, we will also consider updates to our evaluations of cost-effectiveness, equity, technological feasibility, benefits to the grid, and benefits to customers.

# 5 Load Flexibility Programs

The LMS regulation recognizes that load flexibility programs may provide an alternative pathway to achieve the objectives of encouraging off-peak energy usage, controlling peak load to improve reliability and system efficiency, lessening, or delaying the need for new capacity, and reducing fossil fuel consumption.

Section 1623.1(a)(1)(B) requires each Large POU to propose and evaluate programs that enable automated responses to marginal cost-based signals for each customer class, if the Large POU does not propose the development of marginal cost-based rates. The programs must be evaluated based on cost effectiveness, equity, technological feasibility, benefits to the grid, and benefits to customers.

Section 1623.1(b)(3) requires each Large POU to submit a list of cost-effective MIDAS-integrated load flexibility programs to the CEC Executive Director by October 1, 2024. The portfolio of load flexibility programs must provide at least one option to automate response to MIDAS signals (that indicate, for example, hourly marginal cost-based rates, marginal prices, or hourly or sub-hourly GHG emissions) for every customer class where such a program is determined by its rate-approving body to materially reduce peak load.

Finally, each Large POU is required to offer customers, by April 1, 2026, voluntary participation in a dynamic hourly rate, if approved by its rate-approving body, or a cost-effective MIDAS-integrated load flexibility program identified according to with Section 1623.1(b)(3).

This section of SMUD's Plan provides an overview of SMUD's current load flexibility programs and addresses the requirement to evaluate and propose specified programs on the timeframes set forth in the LMS regulation. It also addresses the requirement to submit a list of cost-effective MIDAS-integrated load flexibility programs to the CEC.

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## 5.1 Overview of SMUD Load Flexibility Programs

Load flexibility is a key strategy in helping SMUD achieve our Zero Carbon Plan, particularly in enabling our customers to be part of the solution. As such, we have developed and are piloting a number of leading edge options for our customers.

In recent years, SMUD has focused on expanding our existing programs and piloting new load management offerings because they are simple, effective, flexible, and allow for us to make rapid progress in unlocking peak load reduction potential. We have also worked to innovate with technology and software providers to advance functionality that will allow for broad participation and help us maximize potential resources, optimized for customer and grid needs. When SMUD designs programs, we can tailor the programs to specific customer segments or needs to maximize responsiveness beyond just price alone. We can identify where the need is and how we can design the program to have the greatest potential for mutual benefit, since programs must provide benefits to both the customer and SMUD to be effective. To that end, we are piloting multiple approaches and the learning from these pilots will inform future program designs and the technology needed to scale adoption.

SMUD currently offers a portfolio of load flexibility programs with a diversity of enabling technologies, and different tiers of engagement in order to provide options that best fit with each customer segment's needs. The portfolio includes at least one load flexibility program offering for our residential, C&I, and agricultural customer classes.

Following is a list of current and planned program offerings, including several pilots that are being tested for reliability, load reduction and customer adoption.

### 5.1.1 Residential Programs

#### 5.1.1.1 *My Energy Optimizer (MEO) Partner*

SMUD's MEO Partner program is SMUD's fastest growing load flexibility program. It leverages the high adoption rate of smart thermostats in our territory and provides both upfront and ongoing annual incentives to customers with qualifying smart thermostats who agree to have their thermostat setpoint raised during periods of high demand. Participating customers may also enroll in the CPP rate, discussed in Section 4.2.2.3. In addition to scaling more rapidly than many other utilities, SMUD is currently testing novel approaches to the way these thermostats are dispatched to maximize their contribution to reliability within SMUD territory. Day-ahead marginal prices represent one of several factors that contribute to device dispatch, including forecasted weather and grid conditions.

#### 5.1.1.2 *My Energy Optimizer Partner +*

MEO Partner+ is SMUD's premier residential Virtual Power Plant (VPP) program and the first program of its kind in California. Eligible participants can receive a \$250/kWh upfront incentive, up to \$2,500, for allowing SMUD to control their behind-the-meter battery storage system throughout the entire year using Swell's VPP Control system. Participants also receive ongoing quarterly payments for allowing SMUD to use their battery capacity for myriad grid needs. Batteries are available for dispatch any time except from 10 am – 3 pm, ensuring they are fully charged with solar energy. Batteries may be dispatched a maximum of 30 events per month, or 240 events per year. Just like all of SMUD's load flexibility programs, MEO Partner+ batteries are dispatched by SMUD based on factors that include, but are not limited to, day-ahead marginal prices. This program design provides SMUD's solar + storage customers a meaningful path to value for their investment while creating a maximally flexible resource for SMUD to utilize throughout the year. Developed as a true market transformation program, the incentive decreases gradually over 5 years to align with the expected reduction in battery storage costs over time.

#### 5.1.1.3 *PeakCorps*

PeakCorps is SMUD's legacy air conditioning load management (ACLM) program, originally implemented in the 1970s. Currently there are upwards of 35,000 customers enrolled in program, which utilizes one-way AC switches. This program allows SMUD to maintain reliability during emergency situations by allowing a SMUD installed device to turn off the AC unit when reduction of the overall amount of electricity being used during an emergency is necessary. Resources are dispatched only during critical periods where there is extreme demand on the electricity grid.

The legacy ACLM switches are unable to respond to hourly price signals; however, SMUD is in the process of transitioning this program to PeakConserve (described below) and replacing the switches with those that have more advanced capabilities.

#### 5.1.1.4 *PeakConserve*

PeakConserve is an updated ACLM program that offers customers a \$50 sign-up bonus and an additional post-season annual bonus for agreeing to the installation of a two-way switch to allow for cycling of their air conditioning compressor during summer periods of high demand. The new switches utilize SMUD's mesh meter network to communicate, negating the need for additional communication systems or customer WiFi, which broadens our customer base that can participate in load management programs. Broadening potential participation also improves equity given populations that cannot afford or do not have internet access, and addresses technology barriers for some that cannot or will not use smart thermostats.

During conservation days, when supply of resources is expected to be limited and market prices are very expensive, SMUD sends a signal to cycle off participating air conditioners up to 40 minutes an hour to help flatten demand and keep prices of electricity down. SMUD anticipates a maximum of 15 conservation events each summer, depending on grid conditions. Day-ahead marginal prices are a factor that contribute to the automated dispatch of participating devices.

#### 5.1.1.5 *Managed Electrical Vehicle Charging*

SMUD anticipates that, over the next 3-7 years, EVs will represent the majority of the load flexibility potential in our territory. In order to determine the highest value approach to managing EV load, SMUD is currently piloting a residential EV managed charging program with multiple vendors and manufacturers. This pilot is testing the ability of EVs to respond to simulated day-ahead hourly price signals modeled on projected future system needs as renewables penetration dramatically increases. While the price signals sent to EVs via telematics are dynamic and change on an hourly basis, customers are not financially exposed to these price fluctuations and are instead paid via a traditional incentive framework.

The learnings from this pilot will inform how SMUD rolls out a full-scale managed charging program later in 2024-2025. SMUD hopes to demonstrate and refine use cases such as mitigation of service transformer overloading, consuming excess low-cost renewable energy, and reducing system peak impacts.

### 5.1.2 Nonresidential Programs

#### 5.1.2.1 *PowerDirect*

PowerDirect is a summer-only automated demand response (ADR) program is available to C&I and agricultural customers. The program initiates pre-programmed building controls that are chosen and implemented by the customer, such as thermostat setpoints. In exchange for reducing load, customers are paid a capacity payment based upon their demand commitment. The PowerDirect ADR system has been in effect for approximately 10 years and connects directly to participating customer's energy management, lighting and heating, ventilation and air conditioning (HVAC) systems to automatically scale back energy use. Program response has reduced peak load on days the grid is most stressed and marginal costs are highest.

#### 5.1.2.2 *Commercial Virtual Power Plant (Under development)*

SMUD is in the process of developing a load flexibility program for commercial customers with behind-the-meter batteries. The program will include enrollment and ongoing incentives to customers, based on

enrolled capacity, for allowing SMUD to automate their battery’s response to dispatch signals. SMUD envisions this program operating in a similar fashion to MEO Partner+, described above.

*5.1.2.3 Commercial Vehicle to Grid*

In addition to managed electric vehicle charging, SMUD is conducting a number of activities testing out Vehicle to Grid bi-directional charging (V2X) capabilities. V2X has the opportunity to provide substantial resources in the future given the expected trajectory of vehicle electrification as part of our Zero Carbon Plan and statewide policy. Currently, SMUD is piloting V2X technology on school buses in partnership with a local school district, which is assessing the school bus’s ability to respond to a combination of TOD, CPP, and event-based price signals. Light duty V2X fleet technical testing is also underway at SMUD, and a plan to pilot utility-managed V2X within a commercial fleet and for workplace charging is currently proposed and will expand to residential as CEC listed products become available.

*5.1.2.4 Key Program Metrics*

SMUD's goal is to develop load flexibility programs and pilots that allow us to leverage customer resources to avoid building for example 473 MW power plant by 2030. The following table lists SMUD’s current and planned load flexibility programs and their expected impact in 2030; as these programs demonstrate their ability to serve as more cost-effective investments compared to utility scale resources, contributions could be substantially higher.

Table 2 – List of Current and Planned Load Flexibility Programs

Load Flexibility Program	Segment	Technology	Capacity in MWs (2030)
<b>My Energy Optimizer Partner</b>	Residential	Wi-fi thermostats	60
<b>My Energy Optimizer Partner Plus</b>	Residential	Battery storage	75
<b>Peak Conserve</b>	Residential	2-way AC switches	16
<b>Power Direct</b>	Non-Residential	Building EMS	30
<b>Commercial VPP</b>	Non-Residential	Battery Storage	17
<b>EV Managed Charging</b>	All	Electric Vehicles	135
<b>Vehicle-to-Grid</b>	All	Electric Vehicles	140
<b>Total</b>			473

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## 5.2 Evaluation of Programs

SMUD maintains and continues to develop a robust portfolio of load flexibility programs that strike the right balance between customer needs and grid benefits. As summarized above, this portfolio provides at least one option for our residential, C&I, and agricultural customer classes to automate response to dispatch signals from SMUD. These signals are based on several factors, including day-ahead marginal prices. SMUD is also in the process of building out our DERMS technology platform, which we anticipate will optimize and automate dispatch of DER on our system, as well as investing in next generation metering and technology platforms to enable grid edge intelligence and control.

Our programs are piloting how we could automate customer response to dynamic price signals in addition to other system events, with some pilots utilizing our Price Communication Application (PCA). We developed the PCA in 2018, recognizing the need for a simple API that provides machine readable price schedules for enabling technologies so SMUD could research price-based signals to devices. However, our pilots are not currently ready for full scale implementation, nor do they use MIDAS signals to automate customer response.

This section evaluates the cost-effectiveness, equity, technological feasibility, and benefits to the grid and customers of implementing programs that enable automated response to dispatch signals, including MIDAS signals, year-round, that are available to every customer class by April 1, 2026. SMUD's evaluation does not demonstrate that adding new programs or modifying existing programs to enable automated dispatch based on MIDAS signals is likely to provide material incremental reduction of peak load, or other benefits relative to SMUD's current programs at this time.

### 5.2.1 Cost-Effectiveness

The first evaluation factor is cost-effectiveness. SMUD will assess cost-effectiveness of new programs by comparing the anticipated costs and incremental benefits associated with designing and implementing new load flexibility programs that allow for response to dynamic price signals, including MIDAS signals, year-round for each customer class.<sup>5</sup> To demonstrate cost effectiveness, the expected benefits for each program must exceed the costs of design and implementation.

#### 5.2.1.1 Estimated Costs

The costs associated with implementing a new load flexibility program include program development, implementation, and administration costs.

- *Program development.* This includes the costs associated with program design and setup, including integrating new programs with the CEC's MIDAS database and SMUD's ADMS/DERMS technology platform to the extent feasible.
- *Program administration.* This includes ongoing costs to administer the program, including marketing, customer recruitment, customer education, development and maintenance of customer tools, and any upfront or ongoing incentive payments that are part of the design.

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<sup>5</sup> Note that the determination of whether a given load flexibility program is cost-effective for SMUD is substantially different from the manner in which this is assessed by the Investor-Owned Utilities (IOU) in California. While the IOUs use a CPUC-created cost-effectiveness tool and prescribed inputs, factors, etc., SMUD's programs must directly tap into avoided cost value streams for a given program to be cost-effective and not result in rate increases.

- *Technology and implementation costs.* Each new load flexibility program requires significant investments in new technology platforms. These include external software systems that must be procured in order to communicate with and dispatch devices, as well as internal systems which must be developed and configured to integrate the external software.

SMUD anticipates these cost categories would apply regardless of customer class. Quantifying the magnitude of these costs is challenging, because setting up an automated marginal cost/price stream to dispatch devices could either take the form of a modification to existing programs, or the establishment of an entirely new program.

#### 5.2.1.2 *Estimated Benefits*

This section describes the potential benefits associated with implementing programs that allow for automated response to dynamic price signals, including MIDAS signals, and the estimated realization of such benefits based on the additional load shift capacity available to be captured.

##### 5.2.1.2.1 *Potential Benefits*

Programs that allow for automated response to specific dynamic price signals could enable the following types of incremental load shift potential relative to SMUD’s current and planned programs:

- Greater magnitude of load reduction, to the extent direct exposure to high prices drives greater load flexibility response.
- More granular load shift intervals, to the extent enabling devices are accessible and widely embraced.
- Load shift beyond the seasonal and/or maximum event limits in SMUD’s current programs, to the extent that increased participation does not result in customer fatigue, affect customer comfort, and/or erode dependability of response.

The potential benefits associated with implementing programs that achieve incremental load shift include avoided capacity costs, avoided energy costs, improved reliability during peak periods, avoided GHG compliance costs, and avoided air quality, public health, and environmental costs associated with a reduction in fossil fuel generation, consistent with the benefits discussed in Section 4.3.4.<sup>6</sup> These potential benefits are not unique to programs implemented for any one customer class.

##### 5.2.1.2.2 *Realization of Benefits*

Currently, there are several uncertainties and barriers associated with realizing the above-identified incremental load shift potential, and its associated benefits. SMUD expects these barriers and uncertainties apply across residential, C&I, and agricultural customer classes. These include:

- *Resource availability.* While there has been a rapid increase in the number of devices on the market that are able to automate load reductions, SMUD is not aware of any devices capable of effectively responding to real-time (5- to 10-minute) signals without significantly compromising customers’ daily activities. For example, battery storage devices require advance notice in order to ensure they are adequately charged; thermostats require advanced notice in order to pre-cool

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<sup>6</sup> While some of these cost savings do not accrue financially to SMUD and are typically not included in our program cost-effectiveness assessments, they benefit our customers and community more broadly.

the home before an event; and EVs require advanced notice to ensure they are sufficiently charged to meet customers' transportation needs.

- *Customer experience.* All of SMUD's current load flexibility programs limit the maximum number of program events, and many also limit the participation season. While removing these limits may open up additional load flexibility to SMUD, frequent device dispatch without first understanding the impacts on customer experience runs the risk of eroding participation and satisfaction in the program. SMUD has developed multiple program tiers in order to provide our customers options, and we are utilizing pilots to learn how changes or removal of these thresholds could affect customer participation.
- *Incremental value of dynamic price exposure.* Currently, our load flexibility programs offer customers upfront and/or ongoing incentives in exchange for allowing SMUD to dispatch their participating devices. Some customers may also enroll in our optional CPP rate, which includes prices that are higher but still predictable if a conservation event is called. SMUD anticipates that directly exposing participants to market prices could result in deeper load reductions than are available to our current programs, to the extent that increasing prices drive customers to shift more load away from the peak. However, the magnitude of additional load reduction as a function of price is not yet known. In addition, higher customer risk with dynamic prices is likely to reduce participation and benefits.
- *Incremental benefit of granular load shift intervals.* Our current load flexibility programs dispatch based on factors that include day-ahead prices, forecasted weather, and grid conditions. SMUD anticipates that new programs would have to tap into load shift on 5- to 10- minute intervals to create incremental benefits relative to our programs. However, SMUD has not directly tested customer responses, so it is not yet known whether the issuance of multiple price signals over a peak period, or higher prices over the same period, would result in material incremental benefits.
- *Incremental value of responses to MIDAS signals.* As noted previously, SMUD is in the process of building out our DERMS system to co-optimize dispatch of different technologies and programs to support bulk and distribution system needs. At this time, it is uncertain whether enabling automated dispatch in response to MIDAS signals would result in incremental load shift benefits relative to the DERMS system optimization of DER dispatch.

#### 5.2.1.2.3 Expected Incremental Benefits

Based on the above factors, following is a discussion of expected incremental benefits associated with programs that allow for automated response to dynamic price signals:

- *Avoided capacity costs.* Currently, the primary value stream for SMUD's load flexibility programs is RA avoidance. To the extent a given program can generate MWs that meet the resource characteristics needed to avoid RA capacity purchases, these avoided costs can be credited against the costs associated with implementing the program. While programs that expose customers to dynamic price signals may drive incremental load reductions when prices are highest, it is unknown how much and how reliable that incremental reduction would be. Moreover, the magnitude of the load shift depends on significant adoption and acceptance of enabling technology. Without demonstrating significant, reliable load reduction to dynamic price signals, including MIDAS signals, we are unable to reduce RA requirements.
- *Avoided energy purchase costs.* SMUD's current program pilots are evaluating and determining the right program structure and incentive levels to ensure customers and SMUD benefit from load flexibility. To the extent that new program structures and technology allow for faster load shift in

response to short price spikes or drive greater load shift away from peak periods, SMUD could see reductions in energy purchase costs, but this is currently not yet known. Future program design will seek to maximize the energy savings associated with customer load flexibility, balanced against technological capability, customer acceptance and impact on the overall energy system.

- *Improved reliability, avoided transmission costs, avoided GHG compliance costs, avoided public health, air quality, and environmental costs.* SMUD is unable to determine whether there would be incremental benefits associated with further reducing demand during peak periods from programs with automated response to hourly price signals versus existing programs and pilots, given uncertainties around customer response to dynamic price signals and current penetration of enabling technology.

#### 5.2.1.3 Discussion

Based on the foregoing evaluation, SMUD cannot conclude that the development of new programs that allow for automated responses to dynamic price signals would be cost-effective at this time. Developing new programs or modifying existing programs would require SMUD to incur costs associated with design and implementation, along with new technology costs. While these costs could potentially be offset with capacity, energy, or transmission cost savings, the magnitude of those benefits are uncertain. Moreover, SMUD anticipates that any incremental benefits will be limited in the near-term, while new technology is continuing to grow. However, as SMUD continues to learn from, refine, and propose new pilots, and as the penetration of enabling technology grows, SMUD will continue to assess the expected incremental costs and benefits associated with incorporating more dynamic price signals and/or allowing resources to be dispatched by MIDAS signals.

### 5.2.2 Equity

The second criterion by which to evaluate new programs is equity. SMUD will qualitatively evaluate whether programs that enable automated response to dynamic prices, including MIDAS signals, are likely to lead to more equitable outcomes than SMUD's current programs.

#### 5.2.2.1 Equitable Access to Direct Program Benefits

When designing load flexibility programs, SMUD ensures that all aspects of program design take equity into account. SMUD has articulated its commitment to equity and the specific strategies for addressing it in SMUD's Community Impact Plan (CIP). The CIP seeks to ensure that no community is left behind in the transition to 100% clean energy, and enshrines affordability, equitable access, and community engagement as key pillars for accomplishing this. The CIP also contains specific equity goals and accompanying strategies for electrifying and weatherizing homes in disadvantaged communities, workforce training for members of underprivileged groups, providing access to public EV charging infrastructure in disadvantaged communities, and much more.

To this end, SMUD's new ACLM, PeakConserve, seeks to remove financial and technological barriers to participation in load flexibility by installing AC switches free of charge and providing upfront and ongoing participation incentives. This program was explicitly designed to ensure customers who may not have a wi-fi thermostat and/or broadband internet access are still able to benefit from load flexibility initiatives at SMUD. Similarly, many of SMUD's programs include significant upfront enrollment incentives and/or discounts in SMUD's Energy Store to lower participation barriers.

SMUD anticipates that careful attention to equity would be particularly important when designing programs that allow for response to dynamic signals, given the current access barriers and risk of price exposure that may disproportionately be experienced by lower income customers.

#### *5.2.2.2 Equitable Access to Indirect Program Benefits*

Program design also plays a major role in determining whether a program delivers incremental load shift benefits that carry cost savings and improved air quality, public health, and environmental outcomes that accrue to all of SMUD's customers. However, as SMUD cannot yet conclude that dynamic price signals would result in incremental load shift benefits relative to SMUD's current rates and programs, the realization of any indirect benefits is also uncertain.

#### *5.2.2.3 Discussion*

Based on the foregoing evaluation, SMUD is unable to conclude that implementing new programs that allow for automated response to dynamic price signals, including MIDAS signals, would materially address equity. Programs can be designed to ensure equitable access to participation and benefits whether or not they incorporate sending dynamic signals directly to customers. Furthermore, the risk of price exposure from dynamic rates could potentially exacerbate equitable outcomes

### 5.2.3 Technological Feasibility

The third evaluation factor for programs is technological feasibility. SMUD's evaluation assesses the technological feasibility of implementing programs that allow for automated response to dynamic price signals on the schedule specified in the LMS regulations. SMUD's evaluation considers the feasibility of both the systems needed to dispatch dynamic price signals, including MIDAS signals, and to the external customer technology that is needed to enable response to hourly or sub-hourly signals.

#### *5.2.3.1 Technology Platforms*

As described previously, SMUD launched the initial phase of our DERMS technology platform in 2022, and over the next several years we are building out its capabilities as well as additional advanced functionality towards distributed intelligence and grid edge control. At this time, SMUD anticipates that it will be technologically feasible to incorporate programs that enable automatic response to dynamic price signals, including MIDAS signals, into our DERMS platform.

#### *5.2.3.2 Enabling Customer Devices*

The incremental benefits derived from implementing new programs that allow for response to dynamic price signals hinge on customer participation and the widespread availability and acceptance of devices that can respond to sub-hourly price signals without compromising customer experience. Refer to Section 4.3.3.2 for a detailed description of common load flexibility technologies that SMUD currently includes in our programs, as well as their capabilities and challenges.

#### *5.2.3.3 Discussion*

Based on our evaluation, SMUD believes the technology and platforms needed to enable programs that allow for response to dynamic price signals exist or could be updated on the LMS timeframe. However, we anticipate that re-evaluating the proposal of such programs after we have results from our pilots that test different technology capabilities would better inform our expectations of potential benefits. In

addition, SMUD anticipates that the penetration of enabling device automation technology will increase with time, expanding the potential participation in such programs resulting in greater load shift.

#### 5.2.4 Benefits to the Grid and Customers

The final two criteria for evaluating dynamic rates are benefits to the grid and benefits to customers. SMUD is evaluating these factors together because many grid benefits also have pass-through benefits to customers.

##### 5.2.4.1 *Grid Benefits*

To the extent that new programs enabling responses to dynamic price signals result in consistent, material incremental load reduction, following are potential grid benefits:

- Deferred or reduced need to construct new generation capacity or procure RA resources.
- Deferred or reduced need for wholesale energy purchases to meet peak demand.
- Deferred or reduced need to upgrade transmission capacity to deliver energy to meet peak demand.
- Increased reliability associated with reducing grid strain during periods of peak demand.

These benefits all depend, in significant part, on whether new programs would result in material incremental load shift relative to SMUD's existing programs. However, as discussed in Section 5.2.1, SMUD's current program pilots are still evaluating and determining the right program structure and incentive levels to ensure customers and SMUD, including SMUD's grid, benefit from load flexibility. Mutual benefit is necessary for effective, consistent load shift. Without these analyses, SMUD is unable to conclude that offering new MIDAS-integrated programs would result in material incremental load shift benefits relative to SMUD's current and planned load flexibility programs and pilots. Moreover, automated device dispatch in response to MIDAS signals, rather than the co-optimization of resources through SMUD's ADMS/DERMS platform, could actually have a limiting effect on grid reliability benefits.

##### 5.2.4.2 *Customer Benefits*

Following is a summary of potential customers benefits associated with implementing new programs that allow for automated response to dynamic price signals:

- Pass-through cost savings associated with the realization of a reduced need for generation capacity, transmission upgrades, and higher-price wholesale energy purchases to meet peak load.
- Pass-through cost savings associated with avoided GHG compliance costs, to the extent that the incremental load shift reduces the need to rely on fossil fuel resources to meet peak demand. SMUD anticipates these savings will become less significant as we transition off fossil-fueled resources as part of our Zero Carbon Plan.
- Pass-through increased reliability, to the extent this grid benefit is realized.
- Improved public health, air quality, and environmental outcomes, to the extent that the incremental load shift reduces the need to rely on fossil fuel resources to meet peak demand.
- Cost savings associated with participation, to the extent that devices automatically shift load away from higher price periods.

While customers may benefit from cost savings associated with program participation, it is unclear how those cost savings would compare to the fixed upfront and ongoing participation incentives that customers can currently receive from allowing SMUD to optimize dispatch of their device. In addition, based on the uncertainty in whether the new programs would yield any incremental load reduction benefits, SMUD is unable to conclude that there would be any incremental pass-through cost savings or reliability benefits to customers, based on the uncertainty in realizing incremental grid benefits relative to SMUD's current and planned programs. Similarly, SMUD anticipates that any incremental air quality, public health, and environmental benefits would also be uncertain, as discussed in Section 5.3.1.

#### 5.2.5 Compliance Approach

This section describes how SMUD plans to address the requirements to identify cost-effective programs that allow for automated response to dynamic price signals and offer customers voluntary participation in these programs, based on our evaluation of such programs.

##### *5.2.5.1 Identification of Cost-Effective Load Flexibility Programs*

Consistent with the LMS requirements, SMUD will submit to the CEC, no later than October 1, 2024, a list of cost-effective load flexibility programs that enable automated response to MIDAS signals for each customer class, if any, where such a program is determined by SMUD's Board to materially increase peak load reduction. SMUD plans to include all cost-effective load flexibility programs offered by SMUD, not solely load flexibility programs that allow for automated response to MIDAS signals, within this list.

SMUD is unable to determine, based on the information currently available, that adding new programs or modifying existing programs to allow response to MIDAS signals would materially reduce peak load for any customer class relative to SMUD's existing programs or exceed the costs of implementation. SMUD will continue to evaluate the cost-effectiveness and incremental peak load reduction potential associated with incorporating automated response to MIDAS signals into new pilots and include on our list as appropriate.

##### *5.2.5.2 Voluntary Participation in Cost-Effective Load Flexibility Programs*

Based on the foregoing, SMUD will continue to offer our customers voluntary participation in load flexibility programs, and does not at this time anticipate offering programs that enable automated response to MIDAS signals. SMUD plans to defer offering voluntary participation in load flexibility programs that enable automated response to MIDAS signals because SMUD is currently unable to demonstrate that offering such programs beginning April 1, 2026, would be cost effective or result in material peak load reduction relative to SMUD's existing and planned load flexibility programs. However, as noted above, SMUD will continue to assess the cost-effectiveness and peak load reduction potential of programs that enable automated response to MIDAS signals as we develop and refine load flexibility programs, particularly based upon the pilots which we are conducting to inform our load flexibility approach.

# 6 Public Information Program

Section 1623.1(a)(5) requires each Large POU to conduct a public information program to inform and educate affected customers about dynamic rates or load flexibility programs. Specifically, the information program must explain why such rates or programs, and their automation, are needed, how they will be used, and how they can save the customer money. This section addresses how SMUD will comply with the public information program requirements.

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## 6.1 SMUD's Communications Approach

Providing broad outreach and communication to SMUD's customers and maintaining a high level of customer relations are core values of SMUD. Specifically, SMUD's Strategic Direction on Outreach and Communication (SD-15) requires that:

- SMUD shall provide its customers the information, education and tools they need to best manage their energy use according to their needs.
- SMUD will use an integrated and consistent communication strategy that recognizes the unique customer segments that SMUD serves.
- SMUD's communication and community outreach activities shall reflect the diversity of the communities we serve. SMUD shall use a broad mix of communication channels to reach all customer segments. This communication shall be designed to ensure that all groups are aware of SMUD's major decisions and programs.

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## 6.2 Current Outreach and Marketing

SMUD recognizes the importance of collaboration and public outreach. We know we cannot achieve ambitious climate goals alone and our customers must be part of the solution to decarbonize our region. SMUD communicates in a wide variety of channels and languages throughout the year to help ensure customers are aware of our time-dependent rates and load flexibility programs, and how they can help customers save money.

For example, TOD rates have been the standard rate for residential SMUD customers since 2018. When SMUD rolled out its residential TOD rate, we developed a comprehensive marketing and education campaign that was translated into 13 different languages, took nearly 18 months, and leveraged multiple channels, as shown in the figures below.

Figure 3 – TOD Marketing and Education Campaign Timeline

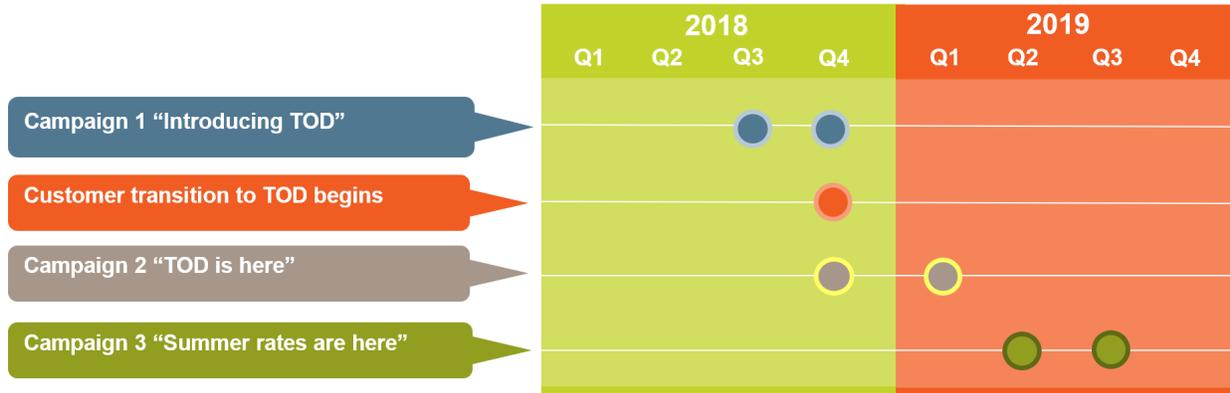


Figure 4 – TOD Awareness and Education Campaigns



SMUD’s public information campaign did not stop after the rollout of TOD implementation. SMUD continues to communicate extensively throughout the year about the significant benefits to customers and the utility to reducing energy usage between 5 and 8 pm. Throughout the summer rate months (June 1 to Sept. 30) SMUD undertakes extensive marketing and communications efforts to encourage customers to reduce energy usage during peak hours, highlighting the bill savings and benefits to the grid and environment from doing so. Key channels include media, social media, billboards, email, bill inserts, digital ads, SMUD’s website and more.

Figure 5 – Example of TOD Messaging

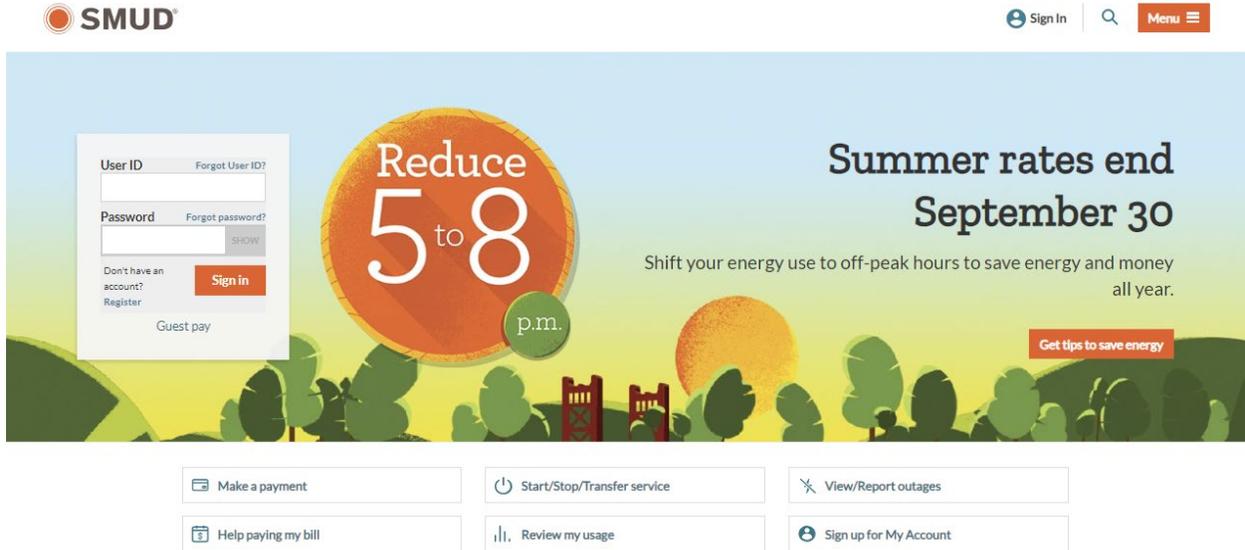


Figure 6 – Information About TOD Available on smud.org



In addition, SMUD has educated our customers on how they can participate in support of SMUD’s Zero Carbon Plan, which includes a range of new load flexibility programs which we market to customers on an ongoing basis. Key messages include a focus on how these programs help customers save energy and money.

In summer 2023, we launched a new multi-channel, multi-language marketing campaign to let customers know about our MEO Partner+ load flexibility program, which includes incentives for battery storage.

Figure 7 – Example of Information on Battery Storage Incentives



Recruitment and marketing for other load flexibility programs, including our new PeakConserve program and thermostat load flexibility program (MEO Partner) are ongoing.

SMUD also recently expanded our EV managed charging pilot to include Tesla, with a range of communications, including media, to support the expansion of the program.

Continuing to educate customers on the benefits of peak load reduction through time-dependent rates and load flexibility programs, how they work and how they can save the customer money, is an important element for achieving decarbonization goals.

SMUD will continue its award-winning communication and outreach efforts to fully maximize carbon reductions, grid savings and customer savings.

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## 6.3 Compliance Approach

SMUD will continue with existing communication practices to maintain its outreach, education and marketing of rates, programs and pilots that support load flexibility and recognize the benefits of reducing our peak load. SMUD will also update our education and marketing to incorporate discussion of new rates, programs and pilots, along with the role of automation as appropriate, as they are developed.

# 7 Delay and Modification of Compliance Requirements

Section 1623.1(a)(2) of the LMS regulation specifies that a Large POU may approve a compliance plan, or material revisions to an approved plan, that delays or modifies compliance with certain LMS regulation requirements. To do so, the compliance plan must demonstrate one of the following factors: that despite good faith efforts to comply, requiring timely compliance would result in extreme hardship; requiring timely compliance would result in reduced system reliability, equity, safety, or efficiency; requiring timely compliance would not be technologically feasible or cost-effective to implement; or despite good faith efforts to implement a compliance plan, it must be modified to provide a more technologically feasible, equitable, safe, or cost-effective way to achieve the LMS requirements or the plan's goals.

This section addresses how SMUD's Plan delays or modifies compliance with certain elements of the LMS regulation.

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## 7.1 Providing RINs to Customers

Section 1623(c)(4) requires each Large POU to provide customers access to their RIN(s) on billing statements and in online accounts by April 1, 2024, using both text and QR code. As detailed in Section 3.1.2 of this Plan, SMUD plans to make the RINs available to customers in the required formats within the designated time. SMUD has already begun engaging with our bill print vendor on the necessary changes and anticipates procuring professional services in the fourth quarter of 2023 to support this effort.

While SMUD does not anticipate needing to modify the RIN access requirement at this time, based on the scope of work and estimated completion timelines, compliance could be delayed if, for example, SMUD's current bill design constrains the inclusion of the RIN in text and/or QR code, and the redesign cannot be timely completed, tested, and implemented by the same deadline, or the cost of completion would create an extreme hardship for SMUD or its customers. In such circumstances, SMUD would need to modify the deadline for providing RINs to customers in both text and QR code because implementing this requirement by April 1, 2024, would not be technologically feasible.

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## 7.2 Statewide RIN Access Tool

### 7.2.1 Development of Statewide Tool

Section 1623(c) requires the Large IOUs, Large POUs, and Large CCAs to develop a single statewide standard tool for authorized rate data access by third parties, along with a single set of terms and conditions for third parties using the tool, for submission to the CEC by October 1, 2024, for approval. As discussed in Section 3.1.3, SMUD plans to collaborate with the other regulated utilities and has committed staff to participate in the working group.

While SMUD anticipates that developing a single statewide tool that can perform the specified requirements and integrate with each regulated utility's system will be a challenging and complex task, at

this time SMUD intends to comply with the requirement. Because the tool development requirement is jointly held by the Large IOUs, Large POU, and Large CCAs, SMUD is optimistic that progress will be made and does not seek to delay or modify this requirement within this Plan. Should the need for an extension arise, SMUD anticipates that the regulated entities would approach the CEC Executive Director collectively in accordance with section 1623(c)(2)(B) of the LMS regulation, which allows the CEC Executive Director to extend the submission deadline upon a showing of good cause.

### 7.2.2 Implementation of Statewide Tool

Section 1623(c)(3) also requires the Large POU and other regulated entities to implement and maintain the tool, upon its approval by the CEC. At this time SMUD does not anticipate needing to modify compliance with this requirement. However, SMUD notes that integration of the approved tool with our internal systems could be delayed if the development and/or CEC approval of the tool are delayed, because integrating the tool before it is finalized and approved would not be technologically feasible, or if the cost of integrating the tool would cause extreme hardship for SMUD or our customers.

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## 7.3 Dynamic Rates

Section 1623.1(b)(2) directs each Large POU to apply for approval from its Board by April 1, 2025, of at least one dynamic rate for the customer class(es) for which the Board determines such rate will materially reduce peak load. Section 1623.1(b)(4) requires POU to offer customers voluntary participation in such a rate or a specified load flexibility program by April 1, 2026. As discussed in Section 4.3, based on its evaluation of dynamic rates, SMUD cannot currently conclude that developing and implementing such rates on the LMS timeframe for any customer class would result in material incremental reductions in peak load relative to SMUD's existing time-dependent rates and programs, or be cost effective. This is, in large part, due to the following:

- SMUD's existing TOD and other time-dependent rate offerings capture a substantial portion of the available load shift benefits. We are also piloting new program approaches to test additional options for reducing peak load.
- At this time, there is a significant market risk to customers on dynamic rates, even with enabling technology that is capable of shifting load.
- Customers understand SMUD's time-dependent rates and programs better than a dynamic, market-based rate that fluctuates hourly.

While dynamic rates have the potential to provide incremental load shift and related benefits, there are significant uncertainties in the magnitude of such benefits relative to SMUD's existing rates, programs, and new pilots that we are testing, as well as the achievability of benefits. Implementation of unfamiliar and complex rate structures without sufficient testing and refinement of new rate designs, as well as thorough education, is likely to cause customer confusion, risking low adoption and limiting any incremental load shift benefits. Realization of incremental load shift benefits is made more uncertain by additional risks customers may bear with dynamic rates, especially if new enabling technology is not widely adopted.

While SMUD is not required to propose dynamic rates where such rates are not determined to materially reduce peak load, SMUD has determined that, for the reasons set forth in this Plan, the LMS requirements

must be modified to provide a more cost-effective and technologically feasible way for SMUD to, in good faith, achieve the LMS requirements and plan's goals.

SMUD's modifications to the dynamic rate requirements of the LMS include deferring the development or proposal of new hourly or sub-hourly rate options. Offering new rates to our customers would be likewise deferred. SMUD believes proposing dynamic rates to our Board by April 1, 2025, to implement by April 1, 2026, is premature, especially given the rollout of our many new load flexibility programs and pilots over the next two years. SMUD will continue offering our suite of TOD rates and load flexibility programs, while testing opportunities through new program pilots. The results of our pilots will help us better understand the effectiveness of our current approach, how customers with different technologies respond to different dispatch signals, and to what extent incremental load shift opportunities exist beyond our time-dependent rates and current and planned programs. As SMUD starts to receive and analyze results from our new pilots, we will be better positioned to evaluate the cost-effectiveness and flexibility of dynamic rates. SMUD will review dynamic rates in our next LMS Plan update.

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## 7.4 Dynamic Response Load Flexibility Programs

### 7.4.1 Identification of Cost-Effective Load Flexibility Programs

Section 1623.1(b)(3) requires each Large POU to submit a list of cost-effective MIDAS-integrated load flexibility programs to the CEC Executive Director by October 1, 2024. The portfolio of load flexibility programs must provide at least one option to automate response to MIDAS signals (that indicate, for example, hourly marginal cost-based rates, marginal prices, or hourly or sub-hourly GHG emissions) for every customer class where such a program would materially reduce peak load.

As discussed in Section 5.3, adding or modifying programs to allow response to MIDAS signals has not yet been determined to result in material incremental reductions in peak load for any customer class relative to our existing time-dependent rates and load flexibility programs, or to be cost effective. This is in part due to the uncertainties in incremental peak load reduction potential and customer acceptance when introducing hourly or sub-hourly price signals and exposure to market price spikes and volatility.

SMUD is required to identify MIDAS-integrated dynamic load flexibility programs for customer classes where such programs are determined to be cost-effective and materially reduce peak load. Because SMUD's evaluation has not concluded that developing and implementing programs or pilots with automated response to MIDAS would be cost-effective or materially reduce peak load, SMUD anticipates submitting a list by October 1, 2024, that includes our current and planned load flexibility programs and pilots that achieve LMS goals without automated response to MIDAS signals. SMUD has determined that modifying this requirement is necessary to provide a more cost-effective and feasible way of achieving the LMS requirements and plan's goals. SMUD will continue to evaluate the cost-effectiveness and incremental peak load reduction potential associated with incorporating automated response to MIDAS signals into new pilots and include on our list as appropriate.

### 7.4.2 Voluntary Participation in Cost-Effective Load Flexibility Programs

Each Large POU is required to offer customers voluntary participation in either a dynamic rate, if approved by our Board, or cost-effective MIDAS-integrated load flexibility program by April 1, 2026, in accordance with Section 1623.1(b)(4).

SMUD is required to offer voluntary participation in cost-effective load flexibility programs that materially reduce peak load. As discussed in Sections 5 and 7.4.1 above, SMUD's evaluation has been unable to conclude that developing and implementing new load flexibility programs or pilots with automated response to MIDAS signals would be cost effective or materially reduce peak load beyond reductions already captured through SMUD's existing rates, programs and pilots. SMUD has determined that, for the reasons set forth in this Plan, the LMS program participation requirements must be modified to provide a more cost-effective and technologically feasible way for SMUD to in good faith achieve the LMS requirements and plan's goals. SMUD modifies this requirement to include voluntary participation in *any* load flexibility program or pilot, not just programs that allow for automated response to MIDAS signals. SMUD will continue to assess the cost-effectiveness and peak load potential of programs that enable automated response to MIDAS signals as we develop and refine load flexibility programs.

# Appendix A

The following are the RINs associated with each of SMUD’s residential and non-residential rates and rate permutations that were uploaded to MIDAS by June 30, 2023.

RIN	Residential Rate Permutation
USCA-SMSM-CS00-0000	CITS-0
USCA-SMSM-CS01-0000	CITS-1
USCA-SMSM-CS02-0000	CITS-2
USCA-SMSM-CS03-0000	CITS-3
USCA-SMSM-CS04-0000	CITS-4
USCA-SMSM-CP02-0000	CITP-2
USCA-SMSM-CP03-0000	CITP-3
USCA-SMSM-CP04-0000	CITP-4
USCA-SMSM-CT03-0000	CITT-3
USCA-SMSM-CT04-0000	CITT-4
USCA-SMSM-AN00-0000	AON
USCA-SMSM-AD00-0000	AOD
USCA-SMSM-R200-0000	RT02
USCA-SMSM-RC00-0000	RTC1 (CPP rate)
USCA-SMSM-RE00-0000	RT02 w/EV
USCA-SMSM-RCE0-0000	RTC1 w/EV (CPP rate)
USCA-SMSM-CS0N-0000	CITS-0 NEM1
USCA-SMSM-CS1N-0000	CITS-1 NEM1
USCA-SMSM-CS2N-0000	CITS-2 NEM1
USCA-SMSM-CS3N-0000	CITS-3 NEM1
USCA-SMSM-CS4N-0000	CITS-4 NEM1
USCA-SMSM-CP2N-0000	CITP-2 NEM1
USCA-SMSM-CP3N-0000	CITP-3 NEM1
USCA-SMSM-CP4N-0000	CITP-4 NEM1
USCA-SMSM-CT3N-0000	CITT-3 NEM1
USCA-SMSM-CT4N-0000	CITT-4 NEM1
USCA-SMSM-R2N0-0000	RT02 w/NEM1
USCA-SMSM-RCN0-0000	RTC1 w/NEM1 (CPP rate)
USCA-SMSM-R2NE-0000	RT02 w/NEM1 &EV
USCA-SMSM-RCNE-0000	RTC1 w/NEM1 &EV (CPP rate)
USCA-SMSM-RCS0-0000	RTC1 w/SSR (CPP rate)
USCA-SMSM-RCSE-0000	RTC1 w/SSR & EV (CPP rate)

<b>RIN</b>	<b>Non residential Rate Permutation</b>
USCA-SMSM-CSE0-0000	CITS-0 w/EAPR 15% discount
USCA-SMSM-CSE1-0000	CITS-1 w/EAPR 15% discount
USCA-SMSM-CSE2-0000	CITS-2 w/EAPR 15% discount
USCA-SMSM-GS00-0000	CITS-0 w/Greenergy 0.005/kWh
USCA-SMSM-GS01-0000	CITS-1 w/Greenergy 0.005/kWh
USCA-SMSM-GS02-0000	CITS-2 w/Greenergy 0.005/kWh
USCA-SMSM-GS03-0000	CITS-3 w/Greenergy 0.005/kWh
USCA-SMSM-GS04-0000	CITS-4 w/Greenergy 0.005/kWh
USCA-SMSM-GP02-0000	CITP-2 w/Greenergy 0.005/kWh
USCA-SMSM-GP03-0000	CITP-3 w/Greenergy 0.005/kWh
USCA-SMSM-GP04-0000	CITP-4 w/Greenergy 0.005/kWh
USCA-SMSM-GT03-0000	CITT-3 w/Greenergy 0.005/kWh
USCA-SMSM-GT04-0000	CITT-4 w/Greenergy 0.005/kWh
USCA-SMSM-S000-0000	CITS-0 w/Greenergy 0.01/kWh
USCA-SMSM-S001-0000	CITS-1 w/Greenergy 0.01/kWh
USCA-SMSM-S002-0000	CITS-2 w/Greenergy 0.01/kWh
USCA-SMSM-S003-0000	CITS-3 w/Greenergy 0.01/kWh
USCA-SMSM-S004-0000	CITS-4 w/Greenergy 0.01/kWh
USCA-SMSM-P002-0000	CITP-2 w/Greenergy 0.01/kWh
USCA-SMSM-P003-0000	CITP-3 w/Greenergy 0.01/kWh
USCA-SMSM-P004-0000	CITP-4 w/Greenergy 0.01/kWh
USCA-SMSM-T003-0000	CITT-3 w/Greenergy 0.01/kWh
USCA-SMSM-T004-0000	CITT-4 w/Greenergy 0.01/kWh
USCA-SMSM-GSN0-0000	CITS-0 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GSN1-0000	CITS-1 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GSN2-0000	CITS-2 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GSN3-0000	CITS-3 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GSN4-0000	CITS-4 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GPN2-0000	CITP-2 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GPN3-0000	CITP-3 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GPN4-0000	CITP-4 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GTN3-0000	CITT-3 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-GTN4-0000	CITT-4 NEM1 & Greenergy 0.005/kWh
USCA-SMSM-SN00-0000	CITS-0 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-SN01-0000	CITS-1 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-SN02-0000	CITS-2 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-SN03-0000	CITS-3 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-SN04-0000	CITS-4 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-PN02-0000	CITP-2 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-PN03-0000	CITP-3 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-PN04-0000	CITP-4 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-TN03-0000	CITT-3 NEM1 & Greenergy 0.01/kWh
USCA-SMSM-TN04-0000	CITT-4 NEM1 & Greenergy 0.01/kWh

**RESOLUTION NO. \_\_\_\_\_**

**WHEREAS**, the **California Energy Commission (CEC)** amended **Load Management Standard (LMS)** regulation became effective in April 2023, establishing new requirements for large utilities, including the two largest publicly owned utilities (POUs); and

**WHEREAS**, the goal of the regulation is to encourage the use of energy at off-peak hours, encourage the control of peak loads to improve system efficiency and reliability, lessen or delay the need for new capacity, and reduce fossil fuel consumption and greenhouse gas emissions; and

**WHEREAS**, to achieve these goals, the **LMS** regulation requires the Large POU's to evaluate the design and implementation of hourly marginal cost-based rates and if, based upon the evaluation, the utilities do not propose dynamic rates, they must evaluate the implementation of programs that allow customers to automatically respond to price signals available in the **CEC's** centralized database; and

**WHEREAS**, the **LMS** regulation requires the utilities to apply to their rate-approving bodies for approval of hourly marginal cost-based rates and/or to offer load flexibility programs allowing customers to automatically respond to prices signals available in the **CEC's** centralized database, if such rates and/or programs are determined to materially reduce peak load; and

**WHEREAS**, the **LMS** regulation contains additional requirements for providing access to price signals and information about the benefits of reducing peak loads; and

**WHEREAS**, POU's may modify or delay the requirements in the **LMS** regulation and adopt a more technologically feasible, equitable, safe or cost-effective way to achieve the

requirements after making findings based on the evaluation, as detailed in their compliance plan; and

**WHEREAS**, in accordance with **LMS** regulations, staff submitted the **2023 SMUD Load Management Standard Compliance Plan (Plan)** to the Board on September 29, 2023; and

**WHEREAS**, the **Plan** describes how SMUD will meet the goals and requirements of the regulation and includes evaluation of dynamic hourly rates and programs; and

**WHEREAS**, the **Plan** was presented at the publicly noticed Board Energy Resources & Customer Services Committee and Special SMUD Board of Directors meeting on October 18, 2023; and

**WHEREAS**, the **Plan** reflects staff's assessment, evaluation, and conclusions; and

**WHEREAS**, if adopted by the Board, the **Plan** must be submitted to the **CEC**;

**NOW, THEREFORE,**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

**Section 1.** This Board adopts the **2023 SMUD Load Management Standard Compliance Plan (Plan)** substantially in the form set forth in **Attachment \_\_\_\_** hereto and made a part hereof.

**Section 2.** This Board cannot at this time determine that new dynamic hourly rates and/or programs would materially reduce peak load for any customer class relative to SMUD's current and planned rates and load flexibility programs and pilots.

**Section 3.** Staff is directed to file the **Plan** with the **California Energy Commission**.

**Section 4.** The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the SMUD **Plan** that, in his prudent judgment: (a) further the primary purpose of the SMUD **Plan**; and (b) are intended to provide a net benefit to SMUD.



SSS No.
RS 23-004

# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

Committee Meeting & Date Finance & Audit 11/14/2023
Board Meeting Date 11/16/2023

TO				TO					
1.	Bryan Swann	6.	Claire Rogers						
2.	Scott Martin	7.							
3.	Jennifer Davidson	8.							
4.	Lora Anguay	9.	<b>Legal</b>						
5.	Jose Bodipo-Memba	10.	<b>CEO &amp; General Manager</b>						
<b>Consent Calendar</b>		<b>Yes</b>	<b>No</b>	<i>If no, schedule a dry run presentation.</i>					
				<b>Budgeted</b>	<b>Yes</b>	<b>X</b>	<b>No</b>	<i>(If no, explain in Cost/Budgeted section.)</i>	
FROM (IPR) Sara Elsevier			DEPARTMENT Resource Strategy			MAIL STOP B205	EXT. 5056	DATE SENT 10/20/2023	

**NARRATIVE:**

**Requested Action:** Accept the monitoring report for Strategic Direction SD-9, Resource Planning.

**Summary:** Annual SD-9 Resource Planning Monitoring Report

**Board Policy:** Meets annual monitoring requirement for SD-9 (Resource Planning) providing SMUD’s progress towards key resource planning objectives including progress towards our greenhouse gas reduction goals, renewable portfolio standard (RPS), energy efficiency (EE), building electrification (EB), transportation electrification (TE), equitable offerings for underserved communities, and support of clean distributed energy resources through programs.  
*(Number & Title)*

**Benefits:** Provide a status report of 2022 achievements to the Board members on meeting our core resource planning objectives contained in Strategic Direction 9 – Resource Planning.

**Cost/Budgeted:** NA

**Alternatives:** Provide update via written report.

**Affected Parties:** Enterprise Strategy, Zero Carbon Energy Solutions, Customer and Community Services, Communication, Marketing and Community Relations, Treasury Operations & Risk Management, Legal, Government Affairs & Reliability Compliance, Energy Delivery and Operations, Sustainable Communities, Customer Experience Delivery

**Coordination:** Resource Strategy

**Presenter:** Bryan Swann, Director of Resource Strategy

**Additional Links:**

SUBJECT Annual SD-9 Resource Planning Monitoring Report	ITEM NO. (FOR LEGAL USE ONLY) <b>7</b>
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

# SACRAMENTO MUNICIPAL UTILITY DISTRICT

## OFFICE MEMORANDUM

**TO:** Board of Directors

**DATE:** August 30, 2023

**FROM:** Claire Rogers *CR 8/30/23*

**SUBJECT: Audit Report No. 28007610  
Board Monitoring Report; SD-9: Resource Planning**

Internal Audit Services (IAS) received the *SD-9 Resource Planning 2022 Annual Board Monitoring Report* and performed the following:

- Selected a sample of statements and assertions in the report for review.
- Interviewed report contributors and verified the methodology used to prepare the statements in our sample.
- Validated the reasonableness of the statements in our sample based on the data or other support provided to us.

During the review, nothing came to IAS' attention that would suggest the items sampled within the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

**CC:**

Paul Lau

# Board Monitoring Report 2022

## SD-9, Resource Planning



### 1. Background

It is a core value of SMUD to provide its customers and community with a sustainable power supply using an integrated resource planning process.

A sustainable power supply is one that reduces SMUD’s greenhouse gas (GHG) emissions to serve retail customer load to zero by 2030. Zero GHG emissions will be achieved through investments in energy efficiency, clean distributed energy resources, renewables portfolio standard (RPS) eligible renewables, energy storage, large hydroelectric generation, clean and emissions free fuels, and new technologies and business models. Additionally, SMUD will continue pursuing GHG savings through vehicle, building and equipment electrification. SMUD shall assure reliability of the system, minimize environmental impacts on land, habitat, water and air quality, and maintain competitive rates relative to other California electricity providers.

To guide SMUD in its resource evaluation and investment, the Board sets the following energy supply goal:

Year	Greenhouse Gas Emissions (metric tons)
2020	2,318,000
2030 - beyond	0

In keeping with this policy, SMUD shall also achieve the following:

- a) Pursue energy efficiency and electrification to reduce carbon emissions by 365,000 metric tons from buildings and 1,000,000 metric tons from transportation in 2030 (the equivalent of 112,000 single family homes and 288,000 passenger vehicles electrified).
- b) Procure renewable resources to meet or exceed the state’s mandate of 33% of SMUD’s retail sales by 2020, 44% by 2024, 52% by 2027, and 60% of its retail sales by 2030 and thereafter, excluding additional renewable energy acquired for certain customer programs.
- c) In meeting GHG reduction goals, SMUD shall:
  - 1. Emphasize local and regional benefits.
  - 2. Improve equity for under-served communities.
- d) Explore, develop, and demonstrate emerging GHG-free technologies and business models.
- e) Promote cost effective, clean distributed generation through SMUD programs.

### 2. Executive Summary

SMUD’s integrated resource planning process informs long-term strategic development of programs and generation resources by the various business units within SMUD and balances reliability, sustainability, environmental, financial, and customer objectives while achieving SD-9 goals. In 2020, SMUD’s Board adopted a Climate Emergency Resolution that calls on the Board to work towards carbon neutrality by 2030. In 2021, the Board revised our SD-9 targets and approved the 2030 Zero Carbon Plan. Our progress towards achieving our SD-9 targets continues to be measured against this plan as we develop new distributed energy resource business models, investigate emerging grid-scale clean technologies, and expand our investments in proven clean technologies.

Our GHG emissions to meet customer electricity needs were approximately 2,082 thousand metric tons (MT) CO<sub>2</sub>e in 2022. Normalized GHG emissions, which represent what our emissions would have been if load, hydro, and wind generation were as expected, were 1,725 thousand MT CO<sub>2</sub>e. We continued working toward achieving RPS obligations for compliance period 4 (2021 – 2024), which

require meeting 44% of our retail sales with eligible renewables by 2024. Development of resources to meet current and future RPS compliance period requirements continued in 2022. As this report demonstrates, **SMUD complied with and continued to work towards the key SD-9 goals in 2022.**

### 3. Additional Supporting Information

The following provides an update on SMUD’s progress related to SD-9 goals. For more detailed project information see Appendix C – Detailed Project Descriptions.

#### A. Implementation of our 2030 Zero Carbon Plan

The 2030 Zero Carbon Plan is our roadmap to eliminating GHGs from our electricity supply by 2030 while maintaining reliable and affordable service and partnering with our customers, communities, and a wide range of stakeholders on this journey. SMUD’s GHG emissions to meet customer electricity needs decreased in 2022 to 2,082 thousand MT CO<sub>2</sub>e. As shown in Table 1, SMUD’s normalized GHG emissions (emissions adjusted for expected weather and hydro conditions) in 2022 were 1,725 thousand MT CO<sub>2</sub>e, which is also a decrease from last year and on trajectory to our 2030 zero carbon goal. SMUD’s main sources of GHG emissions were from SMUD’s thermal power plants and market purchases.

**Table 1: SD-9 GHG Emissions & Near-term Targets**

Source	Net Power (GWh)	GHG Emissions (Thousand MT CO <sub>2</sub> e) <sup>1</sup>
Net Generation and Power Purchases	10,742	2,008
Net Wholesale Purchases	295	74
<b>SMUD Electric Sales, SMUD Usage and System Losses - Non-Normalized Total<sup>2</sup></b>	<b>11,037</b>	<b>2,082</b>
Adjustment for Expected Load		(8)
Adjustment for Expected Wind and Hydro		(212)
REC Banking Adjustment		(137)
<b>SMUD Normalized Total (estimate)</b>		<b>1,725</b>
<b>2030 Target</b>		<b>0</b>

#### Expanding our Sustainable Power Supply

We are reimagining our generation portfolio through replacement or retooling of our natural gas assets, expanding local investments in proven clean technologies, and launching pilot projects and programs for new and emerging clean technologies, while continuing our work to improve equity for our under-resourced communities and the health of ecosystems that support us all.

#### Proven Clean Technologies and Zero Emission Resource Development

Staff continue to add and plan new proven clean technologies, such as wind, geothermal, solar, and energy storage that will reduce our GHG emissions towards zero in 2030. In 2022, we added 100 MW of renewables and 4 MW of storage to our portfolio. We also have nearly 800 MW of new renewable generation and nearly 300 MW of new storage in the pipeline for development by 2030. Additional projects are still needed to achieve our 2030 objectives. In late 2022, SMUD released a request for developer proposals for renewable generation and storage projects within our service territory and regionally.

<sup>1</sup> Based on SMUD’s internal accounting and represents the best estimate available. The thermal power plant emissions, SMUD’s largest source of emissions, have been independently verified. Biogenic emissions are excluded as they are part of the natural carbon cycle.

<sup>2</sup> Emissions by individual thermal asset can be found in the 2022 SD-7 Report.

Although our goals are more ambitious than already aggressive state mandates, we continue to implement a renewable energy strategy that fulfills state RPS requirements. Using existing and new RPS eligible renewable generation, SMUD is on-path to achieving our RPS compliance obligation for the 2021 – 2024 compliance period and the next RPS statutory requirement of 44% RPS in 2024.

We continue to offer our customers voluntary renewable program choices. In 2022, SMUD delivered 838 GWh (7.9% of retail sales) to customers participating in Greenergy and SolarShares. Our Greenergy program served 66,877 residential and commercial accounts equal to 520 GWh. Our Large Commercial SolarShares program delivered 318 GWh of renewable power to participants. Our residential SolarShares program continues to grow, serving 489 participants, equal to 678 MWh. The program was accepted by the CEC as a community solar compliance alternative to meet the requirements of the 2022 California Title-24 Energy Code.

### New Technology and Business Models

To eliminate the last 10% of our emissions by 2030 as part of our 2030 Zero Carbon Plan, we need to explore, develop, and demonstrate new and emerging clean technologies. We are currently on track with our implementation priorities in this area. Highlights of work completed in 2022 are listed below with additional achievements provided in Appendix C.

- Performed information technology system upgrades to enable DERs and VPPs. This work is ongoing with anticipated initial implementation to be completed in 2023.
- Integrated DERs into operations, distribution, and the grid planning process based on our experience with our new load flexibility pilots.
- Launched new load flexibility pilot programs, including the smart thermostat virtual power plant program, and expanded our EV managed charging and vehicle-to-grid demonstrations.
- Conducted a market survey of long duration energy storage (LDES) technologies that can store energy for 10 hours or longer and are expected to be more cost competitive than lithium ion in the future. LDES is expected to play a critical role in balancing extended gaps in renewable energy supply and customer energy demand.
- Planned a pilot deployment of an LDES iron flow battery at the Hedge Power Academy.
- Investigated opportunities and began preparations for hydrogen and carbon capture grant applications.

### ***Improving Equity for Under-Resourced Communities***

Implementation of our 2030 Zero Carbon Plan will deliver wide-reaching benefits to our community, including expanded workforce development, while focusing on equity in our communities. In alignment with the plan, SMUD launched the Community Impact Plan, a stakeholder-informed strategy, which underlines our commitment to making meaningful investments in under-resourced communities to ensure their participation in a clean energy future. The three-year plan will increase energy equity outcomes on SMUD's road to zero carbon. These community-driven outcomes are focused on three areas: affordability, equitable access, and community engagement and education. Programs include capacity building for nonprofit organizations, neighborhood electrification for residential and commercial customers, and regional workforce development programs.

Our 2022 Community Impact Plan accomplishments included:

- The launch of the Residential Neighborhood Electrification Pilot program, installing 114 energy efficiency and electrification measures for 24 income-qualified customers in the Gardenland neighborhood.
- The launch of the Commercial Business District Electrification program and partnership with the Sacramento Hispanic Chamber of Commerce to increase awareness and adoption of clean energy technologies in Gardenland.

- The expanded partnerships of 14 Property Business Improvement Districts to increase our ability to support inclusive economic development efforts in our region.

Additionally, through a collaborative and community-based approach, SMUD identified emerging zero carbon energy and electrification related jobs and skills, and partnered with community organizations and education entities to create training programs that position participants from under-resourced communities to fill the projected need for workers in the clean energy industry and other emerging high wage careers. Workforce development activities in 2022 included:

- SMUD launched Powering Careers, a collaborative pilot effort between People Services & Strategies, Energy Delivery & Operations, and Sustainable Communities. Powering Careers provided under-resourced and under-represented communities with clear career pathways and direct access to clean energy careers at SMUD. Powering Careers partnered with Greater Sacramento Urban League to recruit participants from surrounding neighborhoods to participate in a success prep course, designed to provide 15 hours of workforce readiness training. Participants selected to move on participated in hands-on task-based assessments and one-on-one interviews. 20 participants were selected to participate in SMUD's 6-week hands-on and classroom-based training, where they received 240 hours of instruction & training. Six participants were selected through a competitive interview process for limited-term utility assistant positions at SMUD.
- Through our partnership with Grid Alternatives, 75 people received solar and electrification training, with over 25 participants being placed into jobs by the end of 2022. Expanding on this successful model, SMUD entered into agreements for future trainings with Northern California Construction Training, Inc. and Cosumnes River College to deliver an Electrician Pre-Apprenticeship and Construction Electrification course respectively.
- In total, through our regional workforce partnerships, SMUD provided education and training to over 3,000 people in a variety of skills and helped 446 individuals find higher paying, more secure jobs.

### ***Energy Efficiency and Building and Vehicle Electrification***

Our building energy efficiency portfolio includes rebates and retailer incentives for residential and commercial customers. The building electrification portfolio includes offerings for gas-to-electric conversions of water heating equipment, space heating equipment, and cooktops delivered through residential and commercial new construction and retrofit programs. In 2022, our energy efficiency and building electrification programs collectively reduced GHG emissions by 66,649 MT,<sup>3</sup> equivalent to 10,097 all-electric homes. Our goal is to have these building electrification and energy efficiency programs reduce GHG emissions by 365,000 MT in 2030, the equivalent of electrifying 112,000 single family homes.

SMUD's vehicle electrification portfolio includes residential EV charger incentives, dealership incentives, residential outreach, commercial charger incentives, and commercial vehicle incentives. At the end of 2022, we had 32,396 EVs registered within SMUD's service territory, an increase of 8,820 registered vehicles from the previous year<sup>4</sup> and an estimated annual GHG reduction of about 97,133 MT.<sup>5</sup> Our goal is to have these vehicle electrification programs reduce transportation GHG emissions by 1 MMt in 2030, the equivalent of electrifying 288,000 vehicles.

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<sup>3</sup> The DER Cost Effectiveness Tool evaluates and accounts for DER program effectiveness, calculating gross annual emissions impact. It is reported in each year the "measure" is installed on the grid and within its useful life.

<sup>4</sup> EPRI Vehicles in Operation report.

<sup>5</sup> 1 EV is equivalent to 3 MT of GHG reduction.

## **B. Promote Cost Effective Clean Distributed Generation and Storage**

SD-9 requires that SMUD develop programs to promote cost effective, clean distributed generation. The following describes progress in 2022 and alignment with our 2030 Zero Carbon Plan.

### ***Flexible Demand***

Our flexible demand programs seek to optimize operation of our customer-partner's equipment and distributed energy resources in a way that balances customer-partner and grid needs, and compensates customers for the energy they supply into SMUD's grid for use by other customers. In 2022, we awarded a contract for the My Energy Optimizer Partner+ program for battery storage (a storage virtual power plant program) with program implementation to begin in 2023. The My Energy Optimizer Partner level offering for smart thermostats enrolled over 12,500 devices and 10,250 customers, including 40 on the Critical Peak Pricing rate. Fifteen Peak Events were delivered throughout the 2022 summer season resulting in 10 MW load reduction capability. This resource was added to the summer 2023 Load Management Plan. With our PowerDirect® program, commercial customers were notified eleven times to curtail load, which produced an average load reduction of 5.24 MW to 12.72 MW across the duration of the events.<sup>6</sup> As part of our load flexibility programs, we offer time-of-day rates, which give the majority of our customers more time on the lower priced non-summer seasonal rate.

### ***Clean Distributed Generation and Storage***

2022 saw expansion of customer-sited distributed generation and storage with installation of:

- 33.61 MW of residential customer-sited solar PV (7,009 systems).
- 7.21 MW of commercial customer-sited solar PV (270 systems).
- 3.26 MW of residential customer-sited energy storage projects (509 systems).
- 1.29 MW of commercial customer-sited energy storage projects (1 system).

At the end of 2022, we had over 47,000 total customer-sited PV installations totaling 323 MW in SMUD's service territory and over 1,000 total customer-sited storage installations totaling 8.70 MW.

## **4. Challenges**

Notable challenges to meeting SD-9 goals in 2022 included an extended unplanned outage at Cosumnes Power Plant (CPP), lower than expected generation from several renewable resources, project delays, and extended drought conditions in the West leading to hydro generation losses. The outage at CPP occurred between June and December, following a planned maintenance event, and required a large amount of unplanned market purchases in 2022. This event, combined with the loss of 40% of planned hydro generation due to drought conditions, could have resulted in a measurable increase in GHG emissions in 2022. However, our energy traders reduced the impacts of these two events by focusing on procuring as much low-carbon and carbon free power as practical resulting in lower emissions totals compared to 2021. During the unplanned outage timeframe, approximately 25% of SMUD's market purchases were from low-carbon and carbon free resources which helped replace the lost generation from the CPP outage and from our hydro generation resources.

## **5. Recommendation**

It is recommended that the Board accept the Monitoring Report for SD-9.

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<sup>6</sup> NERC WebDADs report "Realized Demand Reduction (MW)"

## Appendix A – SD-9 History

SD-9 was established by SMUD’s Board in 2004 and provides direction for SMUD’s ongoing environmental leadership and the use of an IRP process to achieve these directives while balancing environmental goals with financial and customer rate impacts and reliability requirements. SMUD’s strategic directions have evolved as markets, policies and laws have changed.

In December 2008, the Board added sustainable power supply as the overall objective of the IRP process and set a GHG emissions target. In 2018 the Board updated our GHG reduction goals to include a 2040 Net Zero GHG goal. In 2020, the Board adopted carbon-based targets for energy efficiency and building electrification. This was the first time a major utility used carbon as its efficiency tracking metric, and aligned our evolving energy supply goals with our energy efficiency and electrification programs. In April 2021, the Board adopted Resolution No. 21-04-04 which updated the SD-9 to align with our goal of zero GHG emissions in our energy supply by 2030, as put forth in our 2030 Zero Carbon Plan. SMUD has embarked on a path to zero carbon by 2030, focusing on zero carbon resource acquisition and new renewable energy contracts, expanding on customer programs for energy efficiency and building and transportation electrification, developing new voluntary customer programs, and investigating emerging clean energy technology. Under SD-9, SMUD’s goal is more aggressive than California’s planned trajectory, which requires that utilities meet electric demand with at least 60% eligible renewable resources by 2030. SMUD’s goal is also more aggressive than California’s planned trajectory to achieve economywide carbon neutrality by 2045.

## Appendix B – Methodology Discussion

### ***Normalization Adjustments***

Normalization adjustments to SMUD’s actual GHG emissions include a *decrease* to account for higher-than-expected energy usage by SMUD customers, a *decrease* to account for lower-than-expected hydro production, an *increase* to account for higher-than-expected wind production and a *decrease* for using banked renewable energy credits (RECs). In previous years, SMUD procured more renewable energy than required and received credits for future use. These credits were saved or banked in accordance with RPS rules, which *increased* our normalized SD-9 emissions in those years to account for these banked RECs. Using these banked RECs lowers SMUD’s normalized emissions because any emissions impacts were realized at an earlier date, but not yet credited to SMUD. SMUD used all remaining banked surplus RECs from previous years in 2022 and will no longer incorporate the REC Banking Adjustment in future SD9 reports.

Continued historic drought conditions well into 2022 reduced hydro generation by 40% from SMUD’s hydro resources. As a result, actual 2022 GHG emissions were higher than expected. Fortunately, while SMUD’s hydro generation was significantly reduced in 2022, we were able to procure short-term low-carbon and carbon free energy from the northwest where there were stronger hydro conditions. In fact, our short-term carbon free purchases from the NW nearly doubled from the previous year. While these short-term purchases are not guaranteed year-to-year, our energy traders actively look for these opportunities to reduce GHG emissions associated with market purchases.

### ***Renewables Portfolio Standard (RPS)***

State RPS law requires that SMUD procure renewable generation for at least 60% of retail sales by 2030 as well as achieve interim targets over several compliance periods.<sup>7</sup> 2022 was a challenging year with the loss of almost 500,000 MWh of expected renewable generation due to project delays, transmission outages, and partial project outages at several of our renewable projects. The State

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<sup>7</sup> Senate Bill 100 (De León, Chapter 312, Statutes of 2018) increased RPS targets to 44% by the end of 2024, 52% by the end of 2027, 60% by the end of 2030 and set a statewide planning goal to meet 100% of retail electricity sales with RPS eligible and zero-carbon resources by 2045.

determines compliance with RPS obligations by compliance period rather than individual year in acknowledgment of the “lumpiness” of new resource additions and to provide some flexibility. We are on track to meet the RPS targets for compliance period 4 (2021 – 2024).

## Appendix C – Detailed Project Descriptions

### ***Sustainable Communities & Income-Eligible Programs***

Implementation of our 2030 Zero Carbon Plan will deliver wide-reaching benefits to our community while focusing on equity and strengthening our communities.

- Transportation Electrification. SMUD is partnering with the community to implement eMobility Hubs throughout our region, which will be strategically located at sites in under-resourced communities. These hubs will include various modes of transportation such as public transit, micro mobility, shared mobility, ride hail, taxi services, community electric vehicles, public EV charging stations, etc. Additionally, EV programs are expanding to provide low cost or free EV charging infrastructure for income eligible customers and expertise on home charging solutions. In 2022, we installed 221 EV circuits to prepare households for the future and additionally installed 135 EVSE for those that participated in the Clean Cars 4 All program. We also offered incentives to expand EV charging infrastructure at public locations, multifamily properties, and affordable housing sites. Additionally, two EV ride & drives were facilitated in under-resourced communities in 2022 to educate those communities on the benefits of EVs, incentives available, and charging programs.
- Load Flexibility. SMUD worked to ensure that all customers can participate in the portfolio of load flexibility pilots launched in 2022. These pilots will help achieve our 2030 zero carbon goal, yet they can sometimes require costly technologies, such as a smart thermostat, electric vehicle, or battery storage system to participate. SMUD continued to explore ways in which our load flexibility pilots can be more inclusive despite this barrier. Possible examples include integrating load flexibility program enrollment into our existing low-income weatherization program, which already provides a no-cost smart thermostat in most cases and/or creating a no-cost technology installation pathway for low-income homeowners or renters to participate in our virtual power plant program with their heating/cooling system.
- Building Electrification and Energy Efficiency. To support SMUD’s equity efforts as part of the 2030 Zero Carbon Plan, SMUD is continuing expansion of its existing efforts to provide no-cost energy retrofit installations to income eligible residential customers for both gas-to-electric conversions and electric-to-electric upgrades. Available project measures include electric heat pump water heaters, electric heat pump HVAC units, seal-and-insulate projects, and panel upgrades. In addition, SMUD continues to provide a low-income incentive for projects within SMUD’s multifamily retrofit program that meet affordable housing criteria. In 2022, SMUD installed 688 building electrification measures for income-eligible households and provided solar for 11 households. We connected with nearly 2,400 households to provide energy efficiency measures and education (details of these measures are provided in Table 3).
- Workforce Development: Through our Sustainable Communities Workforce Development efforts, we partnered with organizations to reach into our community to understand the challenges that residents face in pursuing well-paying careers. At the same time, we renewed our focus on the jobs and skills that will help our community get to zero carbon. As part of that effort, SMUD completed the second year of our Energy Careers Pathways training partnership with Grid Alternatives. The solar workforce program recruited individuals from under-resourced communities and provided them four weeks of paid instruction. Upon graduation, participants were matched with potential employers to demonstrate what they have learned by showcasing conduit bending, wired J-boxes, and more. Students also learned about the installation and importance of battery storage and EV charging infrastructure.

- **Data Tools:** To deploy comprehensive resources for our communities most in need, we continue to align our region’s investments toward the goal of creating and supporting healthy, vibrant, and economically sustainable neighborhoods. We have developed several data collection and visualization tools aimed at matching areas of inequity within the Sacramento region with future investment; we’re working to address potential inequities in the way we do business. These include our Sustainable Communities Resource Priorities Map, which was updated in 2022 to include the Justice 40 Climate and Justice Economic Screening Tool, an update to the CalEnviroScreen 4.0 data, digital inclusion data, and English ability and linguistics isolation information. Additionally, our Sustainable Communities dashboard tracks funding and links partners and projects across six key focus areas – Institutional Support and Outreach, Education, Health Equity, Environmental Leadership, Economic Development, and Transportation and Access. These metrics, coupled with expanded access to an equitable workforce pipeline and business creation, will serve to validate investments across focus areas.

**Proven Clean Technology Projects**

Table 2 details new proven clean technology procurement activities. Beyond the projects listed below, in the near-term, we are exploring options to procure or develop additional zero emission resources, including local solar and storage, to help achieve our 2030 Zero Carbon Plan.

**Table 2: New Procurement and Project Development Status**

Project Name	Type	Projected Online Year	Status	Size (MW)	Equivalent Homes Powered	Emissions Avoided (MT CO <sub>2</sub> /year)
Hedge Battery	Battery	2022	Online	4	800 (peak)	NA
NTUA Drew Solar	Solar PV	2022	Online	100	33,100	117,579
Calpine Geysers	Geothermal	2023	Online	100	97,300	322,850
ESS Battery Pilot	Long-duration Storage	2024	Construction	4	800 (peak)	NA
Solano 4	Wind	2024	Construction	85.5	28,000	118,147
Coyote Creek	Solar PV	2026	Under Development	200	58,500	193,870
	Battery			100	20,000 (peak)	NA
Slough House	Solar PV	2025	Under Development	50	14,600	48,369
Country Acres	Solar PV	2026	Under Development	344	100,400	248,352
	Battery			172	34,400 (peak)	NA
<b>Total</b>	<b>Generation</b>			<b>879.5</b>	<b>387,900</b>	<b>1,049,167</b>
	<b>Storage</b>			<b>280</b>		

## Energy Efficiency and Building Electrification Programs

Table 3 provides a summary of some of our 2022 energy efficiency and building electrification accomplishments, including offerings for our income eligible customers.

**Table 3: Energy Efficiency and Building Electrification Accomplishments**

Measures & Projects	Install Count
Commercial Retrofit Projects Completed	312
New Efficient Commercial Buildings Constructed	14
Multifamily Units Retrofitted	954
Efficient Induction Cooktops (Electric to Electric)	129
Efficient Induction Cooktops (Gas to Electric)	257
Residential Heat Pump Water Heaters Installed (Electric to Electric)	65
Residential Heat Pump Water Heaters Installed (Gas to Electric)	897
Residential HVAC Installations (Electric to Electric)	280
Residential HVAC Installations (Gas to Electric)	2,108
Residential Seal and Insulate Installations	463
All Electric New Homes and Multifamily units Constructed	1,299
Income Eligible Energy Efficiency Bundles and Electrification	Install Count
Energy Efficiency Weatherization	2,386
Heat Pump Space Heating (Gas to Electric)	274
Heat Pump Water Heaters (Gas to Electric)	182
Induction Stoves (Gas to Electric)	34
Induction Hot Plates for Renters	198

## Vehicle Electrification

In 2022, SMUD expanded our transportation electrification programs to accommodate the adoption of electric vehicles in our service territory. The residential Drive Electric program continued to promote the adoption of plug-in electric vehicles through a variety of program offerings, including the residential EV discount rate, SMUD Charge@Home rebates, participation in Ride & Drive educational events, and our engagement and training of local auto dealers. Below are some metrics related to the residential Drive Electric program:

- In 2022, approximately 62% of residential EV households, equivalent to 17,229 customers, participated in the EV rate credit (midnight to 6 AM EV charging discount).<sup>8</sup>
- Six EV Ride & Drive events were held throughout SMUD’s territory and as COVID concerns began to ease we hosted 841 in-car experiences in addition to over 17,000 views of the SMUD EV ride & drive video.
- We provided residential customers with incentives for 941 EV chargers, installations/circuits, or both.

<sup>8</sup> SAP Installation Fact 5090 Rates report, and EPRI Vehicles In Operation report

- SMUD's contribution to the statewide California Clean Fuel Reward program provided SMUD customers 4,804 point of sale rebates on the purchase or lease of a new EV at participating dealers.
- SMUD continued to fund local dealer certification as PlugStar certified dealers. Twenty-three dealers are participating in the program, 75 dealer staff were trained. SMUD additionally implemented our third EV auto dealership competition to encourage and incentivize EV sales and reward dealerships and their staff for increased EV promotion.
- SMUD provided customers expert advice and support with the EV Support Program service for SMUD customers through Plug in America's Electric Vehicle Support Program, which offers live one-on-one support answering questions on all things EV.
- SMUD continued integral support of the Clean Cars for All program in conjunction with SMAQMD. This program provides up to \$9,500 toward a new or used PHEV for income-qualified residents living in areas impacted by higher levels of pollution (disadvantaged communities). Through this partnership, SMUD has provided a free installation of a home EV Charger for customers that participated in Clean Cars for All; we installed 135 in 2022.
- Ensuring no community is left behind, SMUD also installed 221 EV circuits for income eligible customers to prepare the home for the addition of an EV and a charger.

The Commercial EV Program expanded its commercial customer offerings by launching a new eFuel Services offering which included an eFuel Advisor service. eFuel Advisor helps commercial fleet customers build a fleet electrification plan, including site analysis, charger recommendations, and cost estimates. In 2022, 5 advisor reports were completed for local customers. Below are some additional metrics related to serving commercial customers:

- Total commercial EV Program incentives in 2022 included the installation of 349 EV chargers encompassing level II and DC fast chargers, 45 forklifts, and 35 medium/heavy duty vehicles.
- SMUD partnered with the California Energy Commission and the Center for Sustainable Energy on the California Electric Vehicle Infrastructure Project (CALeVIP) in Sacramento County to promote the installation of public level II and DC fast charging stations. The program stopped taking applications for new projects in October 2021, but installations continued into 2022 and 2023. The partnership was the first of its kind in the state and is being used as a model for projects in other areas of California.

### ***Time-of-Day (TOD) Rates***

Our residential customers reduced overall load in the range of 86-126 MW. In addition to avoiding peak energy prices, customers, on average, saved money using more energy in the middle of the day when retail energy prices are cheaper, and renewables are abundant. Participation in the program has remained strong with 97% of customers on TOD rates.

**Table 4: TOD Implementation**

<b>Benefit Metric</b>	<b>Original Pilot Projections</b>	<b>2022 Results</b>
Carbon reduction (metric tons)	3,000-5,000	12,790
Residential peak load reduction	75 MW, or 5.8%	~86–126MW, or 4-6.3%
Financial benefit	\$4M annually	\$15.9M estimated <sup>9</sup>
Percent of customers on TOD rates	96%	97%

***Zero Emission Resources***

We are continuing to fund research and development efforts as well as pursue grants for clean energy and GHG reduction projects in 2022 and beyond as part of our 2030 Zero Carbon Plan. Below are just a few of the projects that we explored in 2022; more information on our research and development work can be found in our annual Strategic Direction 10 (SD-10) Report.

- Carbon Capture and Storage (CCS). Continued to explore CCS technologies such as investigating new grant and partnership opportunities and participating in the EPRI supplemental project researching the Allam Fetsvedt Cycle, a novel approach to carbon capture, which burns fossil fuels with oxygen instead of air to generate electricity without emitting CO<sub>2</sub> or NO<sub>x</sub>.
- Wind Resources in Northern CA. Assessed available wind generation resource potentials in Northern California that may feasibly be delivered to SMUD or the Balancing Authority of Northern California.
- Low-carbon Fuel Standard (LCFS) Electricity Pathways. For Van Warmerdam, New Hope and Van Steyn Dairy Digesters, carbon intensities and annual reports were submitted to CARB. The dairy digesters produce low-carbon electricity. To certify that these resources are low-carbon, SMUD tracks each digester’s carbon intensity and submits this data to the CARB LCFS program on an annual basis.

***Grant Funded Clean Energy Projects***

- Hydrogen Blend Collaborative Research. Completed the literature review and techno-economic analysis requirements for pipeline hydrogen blending collaborative research. This project will address the barriers on pipeline materials compatibility & degradation related to the blending of hydrogen into natural gas pipelines, a concept referred to as HyBlend. SMUD will provide data and will serve as one of the sites or use cases for injection of H<sub>2</sub>. Resulting data will be used for techno-economic analysis to quantify costs and opportunities of H<sub>2</sub> production and blending with natural gas.
- Thermochemical Conversion of Biomass to Hydrogen. This project received a \$500k award from the Department of Conservation Forest Biomass to Carbon-Negative Biofuels Pilot Program in December 2022. The project concept is to use waste biomass from clearing the UARP transmission corridor for thermochemical conversion to hydrogen. This award will focus on site selection, pre-construction project validation and engineering, and begin Front-End Engineering Design for a potential project. This scope is expected to be completed during 2023.
- BestFit Innovative Charging Solutions. SMUD has been working with Ford Pro (who acquired Electriphi, the project lead applicant), in collaboration with other key partners to demonstrate a

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<sup>9</sup> This calculation uses customer load adjusted for impacts of COVID 19.

cost-efficient and grid-friendly pathway for fleet electrification across diverse vehicle types. This project will accelerate V2G, offsetting what would otherwise be a cost to SMUD.

- Blueprint for Medium & Heavy-Duty Zero-Emission Vehicle Infrastructure. This is a grant-funded project by the CEC to create a landmark regional blueprint plan to accelerate adoption of medium and heavy-duty zero emission vehicles in Sacramento and West Sacramento. The plan identified locations for charging and hydrogen refueling stations that optimize existing grid capabilities, reducing implementation and operational costs while accommodating the needs of local communities. The project also assessed workforce development needs to implement the plan's various elements and to ensure broad economic opportunity in the growing EV sector.
- ChargeReady Community Project. In early 2022, SMUD was awarded the CEC's Reliable, Equitable, and Accessible Charging for Multi-family Housing grant (GFO-21-603) to deploy charging infrastructure in multi-family housing units in underserved communities. The main goal of the project is to develop a technical and business model to inform future deployments and disseminate knowledge in the industry. Project partners include Mutual Housing and the SMAQMD. The project team will deploy at least 108 level II charging handles at up to 10 locations in Sacramento, utilizing SMUD's eFuel program for design and construction.

### ***Climate Change and Ecosystem Service Research Projects Undertaken in 2022***

These projects provide technical, economic, and policy expertise on climate change and biodiversity, assisting operations in identifying and addressing climate vulnerabilities, and creating opportunities for SMUD customers and community partners to support climate neutrality and ecologically regenerative projects with a net positive impact. In 2022, SMUD achieved the following:

- Continued executing our multi-year ecosystem service integration research at SMUD's Rancho Seco II Solar project, including soil carbon monitoring, native seeding and hedgerows, and pollinator field studies. Partners include Electric Power Research Institute (EPRI), UC Davis Wild Energy Lab and the Xerces Society. This research will continue until Fall 2025.
- Formalized a proposal for an Agrivoltaic research project at SMUD's proposed Country Acres solar facility with partner UC Davis. This effort will examine the costs and benefits of the integration of crops and solar electricity production.
- Concluded the American Public Power Association Demonstration of Energy and Efficiency Development grant-funded field assessment of two grocery store installations funded by our award-winning Natural Refrigerant Incentive Program. The CO<sub>2</sub> transcritical system delivered significant direct and indirect CO<sub>2</sub>e reduction relative to conventional systems.

### ***Voluntary Renewable Energy Programs***

Greenery and SolarShares are voluntary renewable energy programs that give customers the option to receive renewable electricity generated in and delivered to California by paying a fixed monthly rate. Our Greenery options currently available are as follows: Basic Greenery, \$3/month for 200kWhs; California Renewable Greenery, \$10/month to receive 100% California generation; and Local Renewable Greenery, \$18/month to receive 100% local Sacramento Region generation. When a customer enrolls in Greenery, their usage is tracked according to their enrollment level. SMUD uses the proceeds from this program to invest in renewable generators or purchase renewable energy credits to supply participants from generators located within California. In addition to these products, a customer may also purchase renewables for their neighbors or invest in carbon reducing programs through our Greenery Neighbor, and Greenery Climate Advocate programs. All Greenery renewable purchases are in addition to our RPS requirements. Our Neighborhood SolarShares option is available to builders of new low-rise residential dwellings to achieve the solar mandate from California's Title 24 Energy Code.

### Customer-side Solar and Storage Status

In 2022 completed residential and commercial solar and storage projects accounted for over 45 MW of operational distributed generation. Projects approved for installation prior to March 1, 2022, were installed under net-energy metering compensation. Projects approved on or after March 1, 2022 are given the new Solar and Storage rate compensation. Table 5 summarizes customer solar installations data through 2022 and Table 6 summarizes customer storage installations through 2022.

**Table 5: Installed Customer Solar PV<sup>10</sup>**

	Residential		Commercial		Totals	
	Installed Systems	MW	Installed Systems	MW	Installed Systems	MW
<b>2022</b>	7,009	33.61	270	7.21	7,279	40.82
<b>Totals</b>	46,097	207.83	1,158	115.59	47,255	323.42

**Table 6: Installed Customer Storage**

	Residential		Commercial		Totals	
	Installed Systems	MW	Installed Systems	MW	Installed Systems	MW
<b>2022</b>	509	3.26	1	1.29	510	4.55
<b>Totals</b>	1,091	7.08	7	1.62	1,098	8.70

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<sup>10</sup> This table includes net-energy metering (NEM), Solar Smart, virtual net-energy metering (VNEM), and Solar and Storage Rate installations.

**DRAFT**

RESOLUTION NO. \_\_\_\_\_

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board accepts the monitoring report for **Strategic Direction SD-9, Resource Planning**, substantially in the form set forth in **Attachment \_\_\_\_** hereto and made a part hereof.



SSS No. LEG 2023-0101

# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

Committee Meeting & Date Finance & Audit – 11/14/23
Board Meeting Date November 16, 2023

TO				TO						
1.	Ellias van Ekelenburg	6.	Jose Bodipo-Memba							
2.	Bryan Swann	7.								
3.	Jennifer Davidson	8.								
4.	Lora Anguay	9.	<b>Legal</b>							
5.	Scott Martin	10.	<b>CEO &amp; General Manager</b>							
<b>Consent Calendar</b>	<input checked="" type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>No</b>	<i>If no, schedule a dry run presentation.</i>			<b>Budgeted</b>	<input type="checkbox"/> <b>Yes</b>	<input checked="" type="checkbox"/> <b>No</b>	<i>(If no, explain in Cost/Budgeted section.)</i>	
FROM (IPR) Laura Lewis			DEPARTMENT Executive Office			MAIL STOP B308	EXT. 6123	DATE SENT 10/19/23		

**NARRATIVE:**

**Requested Action:** Approve proposed revisions to **Strategic Direction SD-9, Resource Planning.**

**Summary:** The Board conducted a review of Strategic Direction SD-9, Resource Planning (SD-9) facilitated by Board consultant, Eric Douglas, during its retreat on August 21, 2023, and identified proposed revisions that would ensure SMUD minimizes its environmental impacts on “cultural resources.” Because the term “cultural resources” has not been used in environmental contexts to include Tribal cultural resources, the Policy Committee proposed broadening the language to “Tribal and other cultural impacts.” Staff recommends amending SD-9 to incorporate that phrase into SD-9 to both protect Tribal and other cultural resources, and also maximize inclusion.

**Board Policy:** Governance Process GP-1, Purpose of Board – Subsection a) Identify and define the purpose, values, and vision of SMUD...and communicate them in the form of policy.  
*(Number & Title)*

**Benefits:** Enables Board Members to review the policy with the opportunity to make corrections, additions, or changes if necessary.

**Cost/Budgeted:** N/A

**Alternatives:** Maintain the existing policy.

**Affected Parties:** Board of Directors, SMUD, Community

**Coordination:** Board Office, Executive Office, Legal

**Presenter:** President Sanborn

**Additional Links:**

SUBJECT <b>Proposed Revisions to Strategic Direction SD-9, Resource Planning</b>	ITEM NO. (FOR LEGAL USE ONLY) <b>8</b>
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

# SMUD BOARD POLICY

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**Category:** Strategic Direction  
**Policy No.:** SD-9  
**Title:** Resource Planning

It is a core value of SMUD to provide its customers and community with a sustainable power supply using an integrated resource planning process.

A sustainable power supply is one that reduces SMUD’s greenhouse gas (GHG) emissions to serve retail customer load to Zero by 2030. Zero GHG emissions will be achieved through investments in energy efficiency, clean distributed energy resources, renewables portfolio standard (RPS) eligible renewables, energy storage, large hydroelectric generation, clean and emissions free fuels, and new technologies and business models. Additionally, SMUD will continue pursuing GHG savings through vehicle, building and equipment electrification.

SMUD shall assure reliability of the system, minimize environmental impacts on land, habitat, water and air quality, including Tribal and other cultural impacts, and maintain competitive rates relative to other California electricity providers.

To guide SMUD in its resource evaluation and investment, the Board sets the following energy supply goal:

<b>Year</b>	<b>Greenhouse Gas Emissions (metric tons)</b>
2020	2,318,000
2030 - beyond	0

In keeping with this policy, SMUD shall also achieve the following:

- a) Pursue energy efficiency and electrification to reduce carbon emissions by 365,000 metric tons from buildings and 1,000,000 metric tons from transportation in 2030 (the equivalent of 112,000 single family homes and 288,000 passenger vehicles electrified).
- b) Procure renewable resources to meet or exceed the state’s mandate of 33% of SMUD’s retail sales by 2020, 44% by 2024, 52% by 2027, and 60% of its retail sales by 2030 and thereafter, excluding additional renewable energy acquired for certain customer programs.
- c) In meeting GHG reduction goals, SMUD shall:
  - i) Emphasize local and regional benefits.
  - ii) Improve equity for under-served communities.

- d) Explore, develop, and demonstrate emerging GHG-free technologies and business models.
- e) Promote cost effective, clean distributed generation through SMUD programs.

**Monitoring Method: CEO Report**

**Frequency: Annual**

**Versioning:**

May 6, 2004	Resolution No. 04-05-11	Date of Adoption.
May 6, 2004	Resolution No. 04-05-12	Date of Revision.
September 15, 2004	Resolution No. 04-09-11	Date of Revision.
May 17, 2007	Resolution No. 07-05-10	Date of Revision.
December 18, 2008	Resolution No. 08-12-15	Date of Revision.
December 19, 2009	Resolution No. 09-11-08	Date of Revision.
May 6, 2010	Resolution No. 10-05-03	Date of Revision.
May 19, 2011	Resolution No. 11-05-05	Date of Revision.
December 20, 2012	Resolution No. 12-12-12	Date of Revision.
October 3, 2013	Resolution No. 13-10-09	Date of Revision.
September 17, 2015	Resolution No. 15-09-11	Date of Revision.
October 20, 2016	Resolution No. 16-10-14	Date of Revision.
October 18, 2018	Resolution No. 18-10-11	Date of Revision.
January 16, 2020	Resolution No. 20-01-06	Date of Revision.
April 15, 2021	Resolution No. 21-04-04	Date of Revision.
September 21, 2023	Resolution No. 23-09-02	Date of Revision. <del>[Current Policy]</del>
<u>November 16, 2023</u>	<u>Resolution No. 23-11-##</u>	<u>Date of Revision. [Current Policy]</u>

# SMUD BOARD POLICY

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**Category:** Strategic Direction  
**Policy No.:** SD-9  
**Title:** Resource Planning

It is a core value of SMUD to provide its customers and community with a sustainable power supply using an integrated resource planning process.

A sustainable power supply is one that reduces SMUD’s greenhouse gas (GHG) emissions to serve retail customer load to Zero by 2030. Zero GHG emissions will be achieved through investments in energy efficiency, clean distributed energy resources, renewables portfolio standard (RPS) eligible renewables, energy storage, large hydroelectric generation, clean and emissions free fuels, and new technologies and business models. Additionally, SMUD will continue pursuing GHG savings through vehicle, building and equipment electrification.

SMUD shall assure reliability of the system, minimize environmental impacts on land, habitat, water and air quality, including Tribal and other cultural impacts, and maintain competitive rates relative to other California electricity providers.

To guide SMUD in its resource evaluation and investment, the Board sets the following energy supply goal:

<b>Year</b>	<b>Greenhouse Gas Emissions (metric tons)</b>
2020	2,318,000
2030 - beyond	0

In keeping with this policy, SMUD shall also achieve the following:

- a) Pursue energy efficiency and electrification to reduce carbon emissions by 365,000 metric tons from buildings and 1,000,000 metric tons from transportation in 2030 (the equivalent of 112,000 single family homes and 288,000 passenger vehicles electrified).
- b) Procure renewable resources to meet or exceed the state’s mandate of 33% of SMUD’s retail sales by 2020, 44% by 2024, 52% by 2027, and 60% of its retail sales by 2030 and thereafter, excluding additional renewable energy acquired for certain customer programs.
- c) In meeting GHG reduction goals, SMUD shall:
  - i) Emphasize local and regional benefits.
  - ii) Improve equity for under-served communities.

- d) Explore, develop, and demonstrate emerging GHG-free technologies and business models.
- e) Promote cost effective, clean distributed generation through SMUD programs.

**Monitoring Method: CEO Report**

**Frequency: Annual**

**Versioning:**

May 6, 2004	Resolution No. 04-05-11	Date of Adoption.
May 6, 2004	Resolution No. 04-05-12	Date of Revision.
September 15, 2004	Resolution No. 04-09-11	Date of Revision.
May 17, 2007	Resolution No. 07-05-10	Date of Revision.
December 18, 2008	Resolution No. 08-12-15	Date of Revision.
December 19, 2009	Resolution No. 09-11-08	Date of Revision.
May 6, 2010	Resolution No. 10-05-03	Date of Revision.
May 19, 2011	Resolution No. 11-05-05	Date of Revision.
December 20, 2012	Resolution No. 12-12-12	Date of Revision.
October 3, 2013	Resolution No. 13-10-09	Date of Revision.
September 17, 2015	Resolution No. 15-09-11	Date of Revision.
October 20, 2016	Resolution No. 16-10-14	Date of Revision.
October 18, 2018	Resolution No. 18-10-11	Date of Revision.
January 16, 2020	Resolution No. 20-01-06	Date of Revision.
April 15, 2021	Resolution No. 21-04-04	Date of Revision.
September 21, 2023	Resolution No. 23-09-02	Date of Revision.
November 16, 2023	Resolution No. 23-11-##	Date of Revision. [Current Policy]

**DRAFT**

RESOLUTION NO. \_\_\_\_\_

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board approves the revisions to **Strategic Direction SD-9, Resource Planning**, substantially in the form as set forth in **Attachment \_\_\_\_**.



SSS No. LEG 2023-0123

# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

Committee Meeting & Date Finance & Audit – 11/14/23
Board Meeting Date November 16, 2023

TO				TO			
1.	Ellias van Ekelenburg			6.	Scott Martin		
2.	Bryan Swann			7.	Jose Bodipo-Memba		
3.	Frankie McDermott			8.			
4.	Jennifer Davidson			9.	<b>Legal</b>		
5.	Lora Anguay			10.	<b>CEO &amp; General Manager</b>		
<b>Consent Calendar</b>	<input checked="" type="checkbox"/>	<b>Yes</b>	<input type="checkbox"/>	<b>No</b> <i>If no, schedule a dry run presentation.</i>			
<b>Budgeted</b>	<input type="checkbox"/>	<b>Yes</b>	<input checked="" type="checkbox"/>	<b>No</b> <i>(If no, explain in Cost/Budgeted section.)</i>			
FROM (IPR) Laura Lewis		DEPARTMENT Executive Office			MAIL STOP B308	EXT. 6123	DATE SENT 10/19/23

**NARRATIVE:**

**Requested Action:** Approve proposed revisions to **Strategic Direction SD-7, Environmental Leadership.**

**Summary:** The Board conducted a review of Strategic Direction SD-7, Environmental Leadership (SD-7) facilitated by Board consultant, Eric Douglas, during its retreat on August 21, 2023, and identified proposed revisions that would ensure SMUD minimizes its environmental impacts on “cultural resources.” Because the term “cultural resources” has not been used in environmental contexts to include Tribal cultural resources, the Policy Committee proposed broadening the language to “Tribal and other cultural impacts.” Staff recommends amending SD-7 to incorporate that phrase into SD-7 to both protect Tribal and other cultural resources but also to maximize inclusion.

**Board Policy:** Governance Process GP-1, Purpose of Board – Subsection a) Identify and define the purpose, values, and vision of SMUD...and communicate them in the form of policy.  
*(Number & Title)*

**Benefits:** Enables Board Members to review the policy with the opportunity to make corrections, additions, or changes if necessary.

**Cost/Budgeted:** N/A

**Alternatives:** Maintain the existing policy.

**Affected Parties:** Board of Directors, SMUD, Community

**Coordination:** Board Office, Executive Office, Legal

**Presenter:** President Sanborn

**Additional Links:**

SUBJECT <b>Proposed Revisions to Strategic Direction SD-7, Environmental Leadership</b>	ITEM NO. (FOR LEGAL USE ONLY) <b>9</b>
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

# SMUD BOARD POLICY

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**Category:** Strategic Direction  
**Policy No.:** SD-7  
**Title:** Environmental Leadership

Environmental leadership is a core value of SMUD. In achieving this directive, SMUD will:

- a) Conduct its business affairs and operations in a sustainable manner by continuously improving pollution prevention, minimizing environmental impacts, including Tribal and other cultural impacts, conserving resources, and promoting equity within SMUD’s diverse communities.
- b) Provide leadership and innovation to improve air quality and reduce greenhouse gas emissions.
- c) Promote the efficient use of energy by our customers.
- d) Advance the electrification of vehicles, buildings and equipment.
- e) Attract and build partnerships with customers, communities, policy makers, the private sector and other stakeholders.

**Monitoring Method:** CEO Report

**Frequency:** Annual

**Versioning:**

August 21, 2003	Resolution No. 03-08-13	Date of Adoption.
October 16, 2003	Resolution No. 03-10-14	Date of Revision.
July 21, 2005	Resolution No. 05-07-10	Date of Revision.
December 18, 2008	Resolution No. 08-12-14	Date of Revision.
April 15, 2021	Resolution No. 21-04-04	Date of Revision.
September 21, 2023	Resolution No. 23-09-02	Date of Revision. <del>[Current Policy]</del>
<u>November 16, 2023</u>	<u>Resolution No. 23-11-##</u>	<u>Date of Revision. [Current Policy]</u>

# SMUD BOARD POLICY

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**Category:** Strategic Direction  
**Policy No.:** SD-7  
**Title:** Environmental Leadership

Environmental leadership is a core value of SMUD. In achieving this directive, SMUD will:

- a) Conduct its business affairs and operations in a sustainable manner by continuously improving pollution prevention, minimizing environmental impacts, including Tribal and other cultural impacts, conserving resources, and promoting equity within SMUD’s diverse communities.
- b) Provide leadership and innovation to improve air quality and reduce greenhouse gas emissions.
- c) Promote the efficient use of energy by our customers.
- d) Advance the electrification of vehicles, buildings and equipment.
- e) Attract and build partnerships with customers, communities, policy makers, the private sector and other stakeholders.

**Monitoring Method:** CEO Report

**Frequency:** Annual

**Versioning:**

August 21, 2003	Resolution No. 03-08-13	Date of Adoption.
October 16, 2003	Resolution No. 03-10-14	Date of Revision.
July 21, 2005	Resolution No. 05-07-10	Date of Revision.
December 18, 2008	Resolution No. 08-12-14	Date of Revision.
April 15, 2021	Resolution No. 21-04-04	Date of Revision.
September 21, 2023	Resolution No. 23-09-02	Date of Revision.
November 16, 2023	Resolution No. 23-11-##	Date of Revision. [Current Policy]

**DRAFT**

RESOLUTION NO. \_\_\_\_\_

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board approves the revisions to **Strategic Direction SD-7, Environmental Leadership**, substantially in the form as set forth in **Attachment \_\_\_\_**.



SSS No.  
GM 23-189

# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

Committee Meeting & Date  
Policy, November 15, 2023  
Board Meeting Date  
November 16, 2023

TO	TO
1. Antiwon Jacobs	6. Claire Rogers
2. Jennifer Davidson	7.
3. Suresh Kotha	8.
4. Brandy Bolden	9. <b>Legal</b>
5. Farres Everly	10. <b>CEO &amp; General Manager</b>

<b>Consent Calendar</b>	<input checked="" type="checkbox"/>	<b>Yes</b>		<b>No</b> <i>If no, schedule a dry run presentation.</i>	<b>Budgeted</b>	<input type="checkbox"/>	<b>Yes</b>	<input checked="" type="checkbox"/>	<b>No</b> <i>(If no, explain in Cost/Budgeted section.)</i>
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FROM (IPR) David Bitter	DEPARTMENT Cybersecurity	MAIL STOP K112	EXT. 6901	DATE SENT 10/24/2023
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**NARRATIVE:**

**Requested Action:** Accept the monitoring report for **Strategic Direction SD-16, Information Management and Security.**

**Summary:** Present the 2022-2023 Board Monitoring Report for SD-16, Information Management and Security.

**Board Policy:** SD-16, Information Management and Security.  
*(Number & Title)*

**Benefits:** Provides an update to the Board of Directors on the progress and status of the Information Security, Privacy and Records Management programs.

**Cost/Budgeted:** Costs contained in internal labor budget.

**Alternatives:** Receive information via memo or written report.

**Affected Parties:** All SMUD Departments

**Coordination:** Cybersecurity

**Presenter:** Antiwon Jacobs, Director, Cybersecurity

**Additional Links:**

SUBJECT Strategic Direction SD-16, Information Management and Security	ITEM NO. <i>(FOR LEGAL USE ONLY)</i> <b style="color: blue; font-size: 1.2em;">10</b>
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

# SACRAMENTO MUNICIPAL UTILITY DISTRICT

## OFFICE MEMORANDUM

**TO:** Board of Directors

**DATE:** November 1, 2023

**FROM:** Claire Rogers *CR 11/1/23*

**SUBJECT: Audit Report No. 28007613  
Board Monitoring Report; SD-16: Information Management and Security**

Internal Audit Services (IAS) received the SD-16 *Information Management and Security* 2023 Annual Board Monitoring Report and performed the following:

- Selected a sample of statements and assertions in the report for review.
- Interviewed report contributors and verified the methodology used to prepare the statements in our sample.
- Validated the reasonableness of the statements in our sample based on the data or other support provided to us.

During the review, nothing came to IAS' attention that would suggest the items sampled within the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

**CC:**

Paul Lau

**DRAFT**

# **Board Monitoring Report 2023**

## **SD-16 Information Management and Security**



### **1) Background**

Strategic Direction Information Management and Security policy states that:

Proper management of cyber and physical information, as well as physical security, is a core value. Robust information management and physical security practices are critical to effective risk management and to ensure regulatory compliance, business resiliency and customer satisfaction. SMUD shall take prudent and reasonable measures to accomplish the following:

- a) **Information Security:** SMUD will protect customer, employee and third-party information, and SMUD information systems are protected from unauthorized access, use, disclosure, disruption, modification, or destruction.
- b) **Physical Security:** SMUD will safeguard its employees while at work as well as customers and visitors at SMUD facilities. SMUD will also protect its facilities and functions that support the reliability of the electric system and overall operation of the organization from unauthorized access or disruption of business operations.
- c) **Customer Privacy:** SMUD will annually notify customers about the collection, use and dissemination of sensitive and confidential customer information. Except as provided by law or for a business purpose, SMUD will not disseminate sensitive and confidential customer information to a third party for non-SMUD business purposes unless the customer first consents to the release of the information. Where sensitive and confidential information is disseminated for a business purpose, SMUD will ensure: (i) the third party has robust information practices to protect the sensitive and confidential customer information, and (ii) use of the information by the third party is limited to SMUD's business purpose. SMUD will maintain a process that identifies the business purposes for which SMUD will collect, use and disseminate sensitive and confidential customer information.
- d) **Records Management:** SMUD will maintain the efficient and systematic control of the creation, capture, identification, receipt, maintenance, use, disposition, and destruction of SMUD records, in accordance with legal requirements and Board policies.

### **2) Executive summary**

- a) SMUD's Information Security, Physical Security, Customer Privacy, and Records Management programs and initiatives align directly with the "Safety and Reliability" Core Values of SMUD's 2030 Clean Energy Plan. These programs work towards ensuring

that SMUD continues to be a good steward over customer information, physical security, privacy, and records in accordance with our customers' high expectations.

**b) SMUD is substantially in compliance with SD-16 Information Management and Security Policy.**

c) Summary:

<b>SD Requirement</b>	<b>Program/initiative/policy</b>	<b>Purpose</b>	<b>Outcome</b>	<b>Notes</b>
Information Security: protect systems and information from unauthorized access	Information security program; AP 07.03.01 Information Security Concepts and Roles	Protect systems and information; provide policy supporting the Cybersecurity program	Security controls and processes are in place to protect people, processes, and technology	
Customer Privacy: Annually notify customers about use of information	Annual notice of privacy practices	Notify customers of our privacy practices	Notice sent in the May bill package	Minor changes (around why SMUD collects personal information)
Customer Privacy: Ensure security where data is shared	System Security Plans and SOC 2 audit report requirements	Evaluate the information practices and security controls of third parties	Confidence that vendors have implemented robust cybersecurity programs to protect SMUD information	
Customer Privacy: Maintain a process that identifies purposes for information collection and dissemination	Data Sharing Policy, Data Sharing Request/Approval Process	Track NDAs, the data being shared, and the business justification for sharing	Formal data sharing process is being observed and maintained	
Records Management: Identify and manage records and information	Records Evaluations and Information Migration	Evaluate, classify and migrate records and ensure retrieval, disposal and protection.	Completed the 5-year records evaluation plan and kicked off the first wave of business area information migrations	
Records Management: Ensure all information systems are compliant with	Information System Evaluations	Review of software tools housing SMUD data and information.	Evaluate software tools for information management compliance	IMC has been added to software purchase process

IMC requirements and best practices.				
Physical Security: safeguard employees, customers, and visitors	AP 06.03.01 Increase interoperability with local law enforcement agencies during critical incidents	Protect SMUD employees and those who visit SMUD facilities	Completed operational component of project to facilitate direct radio contact with local law enforcement agencies	Policy and procedures documentation was also updated to accommodate the new radios
Physical Security: protect SMUD facilities	AP 06.03.01 Physical Security Assessment(s) of SMUD physical properties and assets	Protect SMUD campuses and grid facilities through assessment and implementation of security-industry best practices	Security Operations personnel continue to provide security evaluations for SMUD real properties	Third-party Risk, Threat, and Vulnerability Analysis tentatively scheduled to begin Q1 2024

**3) Additional supporting information**

**Information Security**

**SMUD, customer, employee and third-party information and SMUD information systems are protected from unauthorized access, use, disclosure, disruption, modification, or destruction.**

The Chief Information Officer’s (CIO) Cybersecurity group, under the direction of the Chief Information Security Officer, continues adoption of the National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF) to establish prudent and reasonable measures intended to protect SMUD’s operations from a cyber-attack, disruption and other threats to enterprise technologies, processes, and information. The CSF has five core functions (Identify, Protect, Detect, Respond, and Recover) which comprise both administrative and technical controls to effectively manage information and cybersecurity risk. Cybersecurity is actively working to implement the CSF controls through SMUD policies to enhance and govern information management and security risk management practices and processes in support of SD-16. Cybersecurity will highlight the cybersecurity capabilities provided in an update to the board for SD-16 during an upcoming closed session.

**Physical Security**

**SMUD will safeguard its employees while at work as well as customers and visitors at SMUD facilities.**

Security Operations has successfully implemented the full integration of the Sacramento Regional Radio Communications System (SRRCS) into our Security Control Centers as well as with Supervisors and key leadership personnel. This integration will facilitate interoperability directly with local and regional law enforcement agencies during emergencies. Security

Operations has also been working on a Risk, Threat, and Vulnerability Assessment (RTVA) request for proposal, which is complete and out for bid. This project will provide a comprehensive, third-party assessment of nearly all of SMUD's facilities in order for us to identify and mitigate risks to our personnel and assets.

**SMUD will also protect its facilities and functions that support the reliability of the electric system and overall operation of the organization from unauthorized access or disruption of business operations.**

Security Operations has been involved in the effort to replace the enterprise-wide Physical Access Control System (PACS). This project to upgrade and modernize the PACS is well underway and has been progressing successfully. Security Operations is also working on the implementation of additional complementary technologies to increase our ability to detect and assess unauthorized intruders at critical substations. Once the pilot program is complete, it should lead to a wider implementation of the new technologies.

### **Customer Privacy**

**SMUD will annually notify customers about the collection, use and dissemination of sensitive and confidential customer information.**

SMUD sent out our annual privacy notice via email and as a bill insert to customers during the May bill cycle. The language in the notice was updated this year to be more straightforward about why we collect customer information and that it is disposed of when no longer necessary. The notice is otherwise very similar to previous years and continues to include plain language regarding SMUD's collection, use, and release of customer sensitive and confidential information, the business purposes for which customer information is used, as well as a reaffirmation of SMUD's commitment to customer privacy.

**Except as provided by law or for a business purpose, SMUD will not disseminate sensitive and confidential customer information to a third party for non-SMUD business purposes unless the customer first consents to the release of the information.**

No sensitive and confidential customer information has been sent to a third party for non-SMUD business purposes this year.

**Where sensitive and confidential information is disseminated for a business purpose, SMUD will ensure: (i) the third party has robust information practices to protect the sensitive and confidential customer information, and (ii) use of the information by the third party is limited to SMUD's business purpose.**

Cybersecurity and Procurement continue to follow a formalized supply chain risk management process, in compliance with NERC CIP requirements. The process is aligned to the NIST

Cybersecurity Framework (CSF) and is reviewed on at least an annual basis to ensure it is functioning as designed and incorporates lessons learned as new procurements follow the process. The process includes a mandatory procurement requirement for vendors to allow the Cybersecurity team to evaluate the security posture of a proposed vendor solution. The American Institute of CPAs (AICPA) Service Organization Control 2 (SOC 2) Type 2 continues to be our procurement standard as it is an independent assessment focused on a solution's security controls which includes tests of the security controls' efficacy. SOC 2 Type 2 reports provide staff confidence that vendor security controls are robust and sufficient to protect SMUD information. Contract and non-disclosure agreement language is used to provide assurance that SMUD provided sensitive and confidential information will not be used for any unapproved purposes. Additionally, our data sharing policy and process (discussed below) align to this requirement.

**SMUD will maintain a process that identifies the business purposes for which SMUD will collect, use and disseminate sensitive and confidential customer information.**

MP 07.03.01.122 - Data Sharing requires an approved data sharing request prior to sharing information with a third party for SMUD business purposes. The policy and process were audited last year by SMUD's Internal Audit Services (IAS) department. IAS noted no high-risk observations, although they did identify ways to improve both the data sharing policy and the associated process. Responses to all audit observations were completed on schedule and were confirmed by IAS to be closed in November 2022.

### **Records Management**

**The efficient and systematic control of the creation, capture, identification, receipt, maintenance, use, disposition, and destruction of SMUD records, in accordance with legal requirements and Board policies.**

The Information Management and Compliance (IMC) program has achieved our 5-year plan of completing record evaluations for all business areas. We have implemented information management procedures for each completed business area. The completion of these evaluations and procedures gives us a high level of confidence that SMUD records will be managed appropriately.

The IMC Program in collaboration with the Enterprise Content Management (ECM) team launched a mass content migration (Enterprise Shared Drive Migration) project at the beginning of 2023. Using completed IMC records evaluations, this effort has kicked off for 13 of the 33 business areas in scope for this project. The project will identify, organize, and ultimately migrate content for each business area from non-approved records repositories into approved record repositories. This will allow this content to be managed in accordance with SD-16.

The IMC program is continuing to partner with IT to review and support new software integrations to ensure they meet records policies and information management requirements.

This is imperative as new software often produces and stores records outside of official repositories. IMC has been added to the purchase approval process to support this effort.

The IMC Program continues to collaborate with the Enterprise Content Management team, Cybersecurity, the CIP Program, Data Governance, and other business partners to ensure compliance with records policies and information management requirements.

#### 4) **Challenges**

##### **Information Security**

The “Shields Up” declaration from the Department of Homeland Security’s Cybersecurity and Infrastructure Security Agency (CISA) from last year has never been rescinded, reflecting continued geopolitical tension and nation state cyber actors targeting critical infrastructure. Cybersecurity continued to work with numerous IT teams to follow this guidance to help manage the cyber risk. Ongoing internally facing awareness campaigns have been helpful in reminding staff of the risks we’re facing and the role they play in keeping our systems and data protected. In addition to the technical controls put in place, cybersecurity also continued to partner with other departments to ensure our cyber insurance coverage is maintained.

SMUD’s Payment Card Industry (PCI) card payment transaction volume once again increased, although SMUD remains a Level 2 Merchant. SMUD is again compliant with the PCI Data Security Standard (PCI DSS) this year as determined by an independent third-party PCI Qualified Security Assessor. Our required assessment documents were submitted to Chase Paymentech in June. This year we also introduced new processes and controls required by the upcoming PCI DSS version 4. Although our mature cybersecurity practices have prepared us well for the updated standard’s requirements, these minor improvements were necessary and will be complete by the time the new standard takes effect in March of 2024.

The Cybersecurity team continues to work hard to ensure compliance with the NERC Critical Infrastructure Protection (CIP) standards. Additional standards become enforceable in 2024 and subsequent years, which SMUD is currently not adequately staffed to implement. Over the next few years standards related to Bulk Electric System Cyber System Information (BES CSI or BCSI) in the cloud, monitoring vendor remote access, and several standards changes related to supporting virtualization will all become enforceable. Additionally, the Solano Phase 4 project and the upgrade of SMUD’s Energy Management System (EMS) will both require significant resources to ensure compliance.

Ransomware continues to be a threat facing many organizations today, and as a result SMUD Cybersecurity has continued to mature our Cybersecurity Emergency Operations Program (CEOP), performing annual exercises to ensure our teams understand the plan and are prepared to execute it in the event of a security incident. The exercises have highlighted areas of concern and risks that need to be addressed, which we are in the process of doing. Some of these need to be addressed at an enterprise level, which makes them more challenging. Additional risks and challenges will be discussed in the upcoming closed session.

SMUD Cybersecurity continues to execute a multi-year plan to execute a Zero-Trust Strategy and implement its principles to better position SMUD to secure sensitive data, systems, and services. A Zero-Trust architecture will drastically improve SMUD's Cybersecurity risk. Zero-Trust architectures are data-centric and allows the concept of least-privileged access to be applied for every resource access decision. Much progress has already been made in recent years, hastened by the enablement of remote work for our employees, and we will continue to move in this direction aligned to our IT Strategy.

Also in support of the larger IT Strategy, we will continue to enhance our necessary Vulnerability Response and Management capability and technology to ensure Information Technology delivers secure and reliable infrastructure by utilizing automation for patch management, engineering vulnerability mitigations, and maturing the implementation of cybersecurity's vulnerability management plan.

### **Physical Security**

Physical Security is a first line of defense against any unauthorized intrusions at all of our facilities. With our current 'open campus' concept for the Headquarters Campus, and other locations, we are going to continue to regularly discover persons not authorized to be on SMUD property. This may result in increased security risks unless additional resources are deployed to prevent those incursions. This issue is also reflected at our substations as unauthorized intrusions remain a regular occurrence. Reinvesting in additional personnel and technology resources will help mitigate these issues.

As SMUD continues to grow our infrastructure footprint and provide power to an ever-expanding customer base, this necessitates additional investment in Security Operations in order to properly provide the requisite physical security protections called for by both regulatory compliance and industry best-practices. The resource profile for Security Operations has not been changed or evaluated for change since 2014. Since then, both the infrastructure profile and the population it serves have increased significantly. As with the reevaluation that occurred with Cybersecurity that resulted in their organization and staffing changing markedly, the same reevaluation and reinvestment into physical security is necessary to continue to keep pace with the increases in vulnerable assets and customers served.

### **Customer Privacy**

SMUD continues to see requests for SMUD customer data to be used and shared for additional purposes and programs, including customer personally identifiable information (PII). As in years past, requests for such data have come from internal programs, state agencies and vendors. SMUD's Data Sharing Policy and process are in place to provide request tracking and approval to ensure that all sharing of PII is authorized and that transmission is performed using an approved and secure transfer mechanism.

### **Records Management**

The IMC program continues to integrate information management best practices into SMUD's daily operations. Business areas are actively collaborating with IMC in the creation of information management and recordkeeping policies/procedures specific to their day-to-day operational needs. SMUD's continued development of the IMC program further reduces the risk of potential multi-million-dollar fines and reputational damage associated with lack of records management controls.

The Enterprise Shared Drive Migration project which launched at the beginning of 2023 is a large undertaking that will involve the mass organization and migration of content from Enterprise shared drives to approved SMUD information repositories. IMC in collaboration with the ECM team is working diligently to ensure completion of the project tasks by business areas and ease the learning curve that comes with these implemented changes. We have created documentation that helps with the classification of the records as well as training to ease the transition into using a new repository. This project will ensure SMUD stays in line with information management industry best practices, create an environment of purposeful organization and generate information management symmetry across SMUD.

#### **5) Recommendation**

It is recommended that the Board accept the Monitoring Report for SD-16 Information Management Policy Monitoring Report.

## 6) Appendices

### Definitions and acronyms:

NIST – National Institute of Standards and Technology  
CSF – Cybersecurity Framework  
RTVA – Risk, Threat, and Vulnerability Assessment  
SRRCS – Sacramento Regional Radio Communications System  
CISA – Cybersecurity and Infrastructure Security Agency  
PCI – Payment Card Industry  
PCI DSS – Payment Card Industry Data Security Standard  
CIP – Critical Infrastructure Protection  
BES – Bulk Electric System  
BESCSI – Bulk Electric System Cyber System Information  
BCSI – BES Cyber System Information  
CEOP – Cybersecurity Emergency Operations Program  
CIRP – Cybersecurity Incident Response Plan

**DRAFT**

RESOLUTION NO. \_\_\_\_\_

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board accepts the monitoring report for **Strategic Direction SD-16, Information Management and Security**, substantially in the form set forth in **Attachment \_\_\_\_** hereto and made a part hereof.



SSS No.  
  
TR 23-003

# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

Committee Meeting & Date  
Policy Committee  
November 15, 2023  
Board Meeting Date  
November 16, 2023

TO				TO			
1.	Russell Mills	6.	Claire Rogers				
2.	Jennifer Davidson	7.					
3.	Suresh Kotha	8.					
4.	Brandy Bolden	9.	<b>Legal</b>				
5.	Farres Everly	10.	<b>CEO &amp; General Manager</b>				
<b>Consent Calendar</b>	<b>Yes</b>	<b>No</b>	<i>If no, schedule a dry run presentation.</i>	<b>Budgeted</b>	<b>Yes</b>	<b>No</b> <i>(If no, explain in Cost/Budgeted section.)</i>	
FROM (IPR)	DEPARTMENT			MAIL STOP	EXT.	DATE SENT	
Russell Mills	Treasury & Risk Management			B355	6532	10/20/2023	

**NARRATIVE:**

**Requested Action:** Accept the monitoring report for **Strategic Direction SD-17, Enterprise Risk Management.**

**Summary:** The Enterprise Risk Management Report summarizes the activities that have occurred since the November 2022 annual report. The report includes historical risk profiles of top of mind enterprise risks for 2023-2024, mitigation strategies, and a current residual risk exposure status of identified enterprise risks.

**Board Policy:** *(Number & Title)* Strategic Direction SD-17, Enterprise Risk Management. Effectively balancing and managing risk to further SMUD’s policy and business goals is a core value of SMUD. SMUD will implement and maintain an integrated enterprise risk management process that identifies, assesses, prudently manages, and mitigates a variety of risks facing SMUD, including financial, supply, operational, physical and cyber security, climate change, legal, legislative and regulatory, and reputational risk.

**Benefits:** Provides Board members information regarding SMUD’s Enterprise Risk.

**Cost/Budgeted:** Costs contained in internal labor budget.

**Alternatives:** Provide a written report to the Board.

**Affected Parties:** Board of Directors, Customers, Employees, SMUD Operations

**Coordination:** Enterprise Risk Management activities are closely coordinated enterprise-wide throughout SMUD.

**Presenter:** Russell Mills, Director, Treasury & Treasurer, Corporate Financial & Administrative Services

**Additional Links:**

SUBJECT	SD-17, Enterprise Risk Management Board Monitoring Report	ITEM NO. (FOR LEGAL USE ONLY)
		11

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

# SACRAMENTO MUNICIPAL UTILITY DISTRICT

## OFFICE MEMORANDUM

**TO:** Board of Directors

**DATE:** November 1, 2023

**FROM:** Claire Rogers *CR 11/1/23*

**SUBJECT: Audit Report No. 28007614  
Board Monitoring Report; SD-17: Enterprise Risk Management**

Internal Audit Services (IAS) received the SD-17 *Enterprise Risk Management* 2023 Annual Board Monitoring Report and performed the following:

- Selected a sample of statements and assertions in the report for review.
- Interviewed report contributors and verified the methodology used to prepare the statements in our sample.
- Validated the reasonableness of the statements in our sample based on the data or other support provided to us.

During the review, nothing came to IAS' attention that would suggest the items sampled within the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

**CC:**

Paul Lau

**DRAFT**

# Board Monitoring Report 2023 SD-17, Enterprise Risk Management



## 1. Background

Strategic Direction 17 states that:

Effectively balancing and managing risk to further SMUD's policies and business goals is a core value of SMUD.

Therefore:

SMUD will implement and maintain an integrated enterprise risk management process that identifies, assesses, prudently manages, and mitigates a variety of risks facing SMUD, including financial, supply, operational, physical and cyber security, climate change, legal, legislative and regulatory, and reputational risk.

## 2. Executive summary

a) SMUD strategically manages risk to proactively reduce the chance of loss, identify and take advantage of opportunities to create greater financial stability and protect our resources to support SMUD's mission and create value for our customers.

b) **SMUD is in compliance with the Board's Strategic Direction, SD-17 Enterprise Risk Management.**

c) SMUD continues to maintain an integrated Enterprise Risk Management (ERM) Program.

SMUD's ERM program continues to integrate risk management best practices to support decision making in key business processes. This year the risk framework was used to support decision making during the enterprise prioritization, planning and budget process.

Since the 2022 Annual Monitoring Report, staff continues to review SMUD's portfolio of risks. Two risks were consolidated into one risk, one risk title was changed, and three new additional risks were added to the portfolio.

- Consolidated risk: System adequacy and Operational adequacy combined to Grid infrastructure and operational adequacy
- Changed: Electrification of transport sector to Transportation sector electrification/Unmanaged electrification
- New risk: Utility scale technology
- New risk: Renewables projects
- New risk: Severe weather

The Year-on-Year Residual Risk Exposure results are summarized as follows:

			Nov. 2021	Nov. 2022	Nov. 2023
✓	“Red”:	Extremely High Residual Exposure	(0)	(0)	(0)
✓	“Orange”:	High Residual Exposure	(5)	(6)	(5)
✓	“Yellow”:	Medium Residual Exposure	(40)	(39)	(40)
✓	“Green”:	Low Residual Exposure	(38)	(38)	(40)
✓	“Blue”:	Extremely Low Residual Exposure	(0)	(0)	(0)
			<b>(83)</b>	<b>(83)</b>	<b>(85)</b>

Staff continues to implement risk mitigation strategies to balance residual risk exposures. Some risks, while medium or “yellow” are within the risk management goal. There are currently 47 risks, shown in the last two lines of the table, which are within the risk management goal.

Current Residual Risk Exposure	Risk Management Goal	Number of Risks
Orange “high”	Yellow “medium”	5
Yellow “medium”	Green “low”	33
Yellow “medium”	Yellow “medium”	7
Green “low”	Green “low”	40

### Building Resiliency in a Changing Risk Landscape

SMUD’s enterprise-wide risk exposure is medium/high. SMUD’s risk landscape continues to change. Escalating inflation, increasing cyber events, challenges brought by energy transition, rapid changes in technology, ongoing supply chain challenges exacerbated by global unrest, and unprecedented weather events brought about by climate change are a few of the factors causing the changes in our risk environment. In addition, a hardened insurance market with reduced coverage capacity makes it more difficult for SMUD to protect itself from financial losses resulting from a risk event. As a result, SMUD is focusing on leveraging its enterprise risk management framework in building a resilient organization that can monitor uncertainties and trends, adapt to changing operating environments, and recover from significant impacts in a shifting risk landscape. Staff has worked to further enhance risk input into the enterprise prioritization and business planning processes, focused on better understanding risk interdependencies, and have identified the key risks that have the potential to impact SMUD’s performance in the upcoming year. Staff continues identify risks and implement initiatives to mitigate and manage the risks appropriately.

### 3. Additional Supporting information:

#### a) Summary of 2023 activities

In 2023, ERM continued to support the organization by facilitating risk conversations, supporting projects, aligning risk practices, and providing a risk framework for uniformed risk assessments across the organization. The overarching goal is to encourage the integration of risk-based thinking into decision-making at all levels, effectively balancing risks with opportunities.

ERM utilizes five committees to enhance cross-functional discussion and thorough understanding of major risk issues at the executive and operational leadership team level. One of these is an executive level oversight committee, the Enterprise Risk Oversight Committee (EROC) which includes multiple executives. Another is the newly developed

Risk Champion Network (RCN), a director led risk team focused on championing risk practices across SMUD and discussing top risk priorities. The other three are the Trading Operations Risk Committee (TORC), Zero Carbon Plan Implementation Team, and the Three Lines Working Team.

Since the 2022 Board update, SMUD was faced with unprecedented challenges with recurring storms, operational difficulties, and increased commodity costs to name a few. Despite the many challenges, staff continues to leverage the enterprise risk management framework to support enterprise-wide risk management/mitigation activities bringing positive outcomes for SMUD, our customers, and the community. Some samples of these activities include:

#### **Risk Focus Areas for 2023-2024**

In 2023, staff worked with leaders across SMUD to identify the top risk focus areas for 2023-2024. This is a list of the top risk areas that if additional controls/mitigations aren't appropriately allocated, have a high potential to impact the achievement of SMUD's goals and strategic objectives in the upcoming year. Understanding these risks better allows senior leaders to make risk informed decisions on the investments they need to make and the actions that are required to achieve SMUD's goals and strategic objectives. These risks were integrated into our enterprise prioritization process to help align our 2024 resource plan to areas of high risk and strategic value.

Attachment A outlines the risk focus areas for 2023-2024 and the actions that will be taken to address these risks.

#### **Risk Champion Network**

The Risk Champion Network (RCN) is a director level led committee responsible for championing risk practice across SMUD and identifying and discussing risks that have the potential to impact SMUD and its operations. In 2023, the Risk Champion Network worked to identify the interdependencies between the risk focus areas for 2023-2024. This process identifies where risks are shared across SMUD helping to identify opportunities for optimizing risk response activities. This work also lays the foundation to strategically look at the impacts of these risks SMUD-wide instead of in risk silos allowing staff to better manage and communicate risks.

#### **Environmental and Safety Risk Mitigation**

SMUD's Environmental, Health Safety (EH&S) and Real Estate department continues to support risk mitigation efforts throughout the organization. SMUD continues to expand our use of the of the safety management software to improve contractor oversight, risk mitigation compliance, and business partnership. As contractors work through our robust Procurement and Sourcing vendor screening program that assesses and qualifies them to perform future contract work at SMUD, they submit various critical risk mitigation program elements of their EH&S program. After being risk ranked scored, and selected high risk contractors performing work scopes for SMUD complete various pre-task assessments to ensure that key compliance or other project risks are sufficiently mitigated. Once work begins, EH&S staff partner with other SMUD teams to ensure that daily pre-job briefings are conducted and that required project specific risk mitigation measures are routinely performed. SMUD personnel partner with these contractors to ensure that all affected personnel and the public are not negatively impacted by work activities.

#### **Managing Commodity Market Volatility**

SMUD has various Board approved directives that dictate guidelines for commodity procurement, limiting the amount of risk tolerance and variability to commodity costs for supplying our customers. These directives serve as guardrails for reliability and affordability.

Commodities Risk Management (CRM) staff monitors and reports regularly on our risk exposure and performance of commodity procurement operations against budgeted costs within our rate case.

2022 and 2023 proved to be challenging in managing commodity costs affordably. This was primarily because of the outage at Cosumnes Power Plant (CPP), but also because of extraordinary commodity market prices in the later part of 2022 and the beginning of 2023. However, our directives requiring Energy Trading and Contract (ET&C) to respond to an outage by procuring the replacement power and capacity required to satisfy our guidelines and to hedge exposure to gas market risk helped mitigate risk to further cost increases and to any blackouts by having enough power to serve our customers reliably.

The western natural gas markets endured three months of extreme volatility from Dec 2022 through Feb 2023. Prices at northern California's main pricing hub, PG&E Citygate spiked as high as \$57 per MMBtu during this period. Our hedging program and directives ensured we were insulated from most of the cost increase, providing large cost offsets through positive settlement revenues of from these hedges. Having gas in storage also assists with this, by allowing SMUD to pull gas that was purchased at much lower prices from the ground instead of paying expensive market prices during periods of volatility.

The commodity budget was severely impacted during the outage period but was insulated from even higher costs and potential for emergency rate increases due to our risk management practices and directives on hedging.

### **Hazard Mitigation Plan**

In 2023, SMUD received a grant from the Federal Emergency Management Agency (FEMA) to update its Hazard Mitigation Plan (HMP). The HMP is a plan that is updated every 5 years and is a requirement to receive mitigation grant funding from FEMA under Disaster Mitigation Act (DMA) 2000. SMUD's Board adopted its first HMP in 2018 and expires in June 2024. New requirements in this update includes an emphasis on vulnerable communities, climate change, and high hazard dams.

The HMP is a collaborative process which include input from the public, various stakeholders and community groups and internal subject matter experts to identify natural and human-made hazards that could potentially impact SMUD's plan area. SMUD's plan area includes all the counties where SMUD owns, partially owns, or operates its infrastructure in. Staff conducted a risk assessment and identified gaps in mitigation by leverage existing SMUD processes to prioritize any additional mitigation actions for future funding opportunities. Some risks included in the plan includes wildfire, floods, drought, severe weather, cyber threats, physical attacks, and oil spill to name a few. This plan allows SMUD to identify policies and actions that can be implemented over the long term to reduce risk and future losses. Furthermore, by having a Hazard Mitigation Plan, SMUD is eligible to apply for future CalOES and FEMA grants to help offset a portion of mitigation project costs.

**Risk exposure monitoring and continuous updates:** Staff continues to monitor and update any changes to existing and emerging risks and their impacts to residual risk. Staff incorporates audit results and management responses ERM assessment planning and reporting process. The audit plans are linked with the enterprise risk assessments to provide assurance that mitigation measures for critical risks are being implemented effectively and in a timely manner.

- Since the 2022 SD-17 report, 8 audit reports were reviewed by the ERM Office, and none resulted in a change to the risk profile.

- b) **Benchmarking:** Staff reviews available enterprise risk related information and incorporates new risk issues and/or expands existing risk issues where appropriate. North Carolina State University's (NCSU) Enterprise Risk Management Initiative and Protiviti continue to jointly publish benchmark information. The joint study, 2023 & 2032 Executive Perspectives on Top Risks, provides insight for short-term and long-term risks from 1,304 global board members and executives from across several industries. The study states that the level of uncertainty in today's global marketplace and the velocity of change continue to produce a multitude of potential risks that can disrupt an organization's business model and strategy on very short notice. The study found that for 2023, risks are the highest in more than a decade, risk scores for almost all risk domains have increased. People and culture continue to be top of mind for many leaders as it becomes increasingly challenging to attract and retain talent to address needs across organizations. Economic uncertainties as well as massive disruptions in the global supply chain and innovative disruptions continue to impact strategic initiatives for many organizations. Overall, the top ten identified enterprise risk issues across the surveyed organizations and those specific to the Energy and Utility Industry (Utility Industry) and its trend analysis is consistent with SMUD's identified enterprise risks.

An analysis of SMUD's enterprise risks as compared to the top 10 risks identified by the study is outlined in Attachment B.

- c) **Looking forward**  
In 2023, ERM's goal is to build a more risk aware culture by leveraging the Risk Champion Network and frequent risk communications and learning modules. Staff will continue to implement programmatic changes, align risk practices SMUD-wide, and fine tune risk management practices within business processes. The following initiatives have been planned:

- Develop risk appetite statements and risk awareness trainings,
- Enhance risk input into enterprise prioritization and strategy process,
- Finalize SMUD's Hazard Mitigation Plan,
- Continue to support SMUD's wildfire safety program,
- Positively influence state and federal legislative/regulatory issues,
- Identify a strategy to attract workforce for critical roles,
- Provide programs and services which reflect the customer's changing expectations,
- Support SMUD's Environmental and Safety initiatives,
- Continue cyber security and privacy awareness and compliance activities,
- Improve upon current physical security and public safety practices, and
- Test and enhance our operational response plans through tabletop exercises and coordinated meetings.

- 4. Challenges:** The risk environment is changing more rapidly than ever before. With technology innovations increasing, there brings both opportunities and exacerbates existing risks. Supply chain issues, decarbonization trends, a hardened insurance market, workforce capabilities, and reliability and resiliency requirements all add to the challenging risk environment, making it more difficult to manage risks. SMUD's ERM framework allows staff to better manage risks as a portfolio, rather than in silos. The result is increased awareness of SMUD's risks, level-setting of risk tolerance across the enterprise, efficiencies in mitigation efforts as well as potential cost savings.

- 5. Recommendation:** It is recommended that the Board accept the Monitoring Report for SD-17, Enterprise Risk Management.

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
<b>Operational: Process</b>	Business continuity and disaster recovery	●	●	●	➡	●	In 2023, staff worked to implement the Enterprise Continuity Management Software (ECMS) solution to support efficient access to real-time business continuity plan information and requirements during events that pose a threat to SMUD's continuity. In 2024, staff will continue to focus on increasing business continuity capabilities through the continued roll-out of the ECMS solution with training and change management support. Staff will also begin partnering with IT to initiate enhancements to the IT Disaster Recovery Program.
<b>Financial</b>	Commodity costs: energy commodity	●	●	●	⬆	●	Additional directives were put in place to monitor fluctuations in commodity risks. The TORC will continue to monitor changes and report to the EROC as appropriate.
<b>Operational: Process</b>	Control center	●	●	●	➡	●	Staff is currently in the beginning stages of acquiring property to build a new control center that will meet SMUD's current and future needs.
<b>Operational: System</b>	Cybersecurity	●	●	●	➡	●	<p>The cybersecurity program has continued to mature year-after-year and in line with SD-16, cyber has implemented strategies and technical solutions to manage SMUD's cyber, privacy, legal, regulatory and compliance risk. In 2023, Cybersecurity has focused on:</p> <ul style="list-style-type: none"> <li>Encouraging Information Technology (IT) and the business to embrace a Zero-Trust Strategy and Principles to better position SMUD to secure sensitive data, systems, and services. A Zero-Trust architecture will drastically improve SMUD's Cybersecurity risk. Zero-Trust architectures are data-centric and allows the concept of least-</li> </ul>

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							<p>privileged access to be applied for every resource access decision. In 2024, collaborating within IT and the business, cyber will continue to introduce and implement their strategic road map to implement a Zero-Trust architecture.</p> <ul style="list-style-type: none"> <li>Continued to deploy Vulnerability Response and Management Strategy and Plan to support the delivery of secure information technology. In 2024, Cybersecurity will continue to strategically mature this capability by encouraging automation, where technically feasible, for patch management.</li> <li>Continued implementing cybersecurity controls, information management processes, and technical solutions to enforce cybersecurity policies, procedures and standards aligned to the National Institute of Standards and Technology (NIST) Cybersecurity Framework Security and Privacy Control families.</li> <li>Continued building on the momentum and experience from achieving 100% pass rate for consecutive North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) compliance audits. Cybersecurity's CIP Program Manager and team continued to ensure the implementation of new mandatory and enforceable regulatory standards, best practices, and internal controls while collaborating across multiple stakeholders to mature technology and process compliance implementations.</li> </ul>
<b>Operational: System</b>	Data Privacy						SMUD continues to see demand for SMUD customer data to be used and shared for additional purposes and

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							programs, including customer personally identifiable information (PII). Requests for such data have come from internal programs, state agencies and vendors. SMUD’s Data Sharing Policy and Process are in place to provide request tracking and approval to ensure that all sharing of PII is authorized and performed using a secure transfer mechanism.
<b>Operational: Process</b>	Grid infrastructure T&D						<p>Staff continues to implement ongoing T&amp;D asset maintenance and multi-year replacement strategies using a risk-based approach, considering the assets’ impacts to safety, load serving capability, reliability and regulatory compliance requirements.</p> <p>The 2024 Capital Portfolio includes completion of multi-year projects that are in flight and the start of projects to replace or upgrade substation transformers, circuit breakers and switchgear. The portfolio also includes funding for our ongoing pole replacement and cable replacement programs.</p>
<b>Operational: Process</b>	Physical asset security						<p>Security Operations continues its work to develop, update, and modernize security plans, policies, and procedures affecting the entire SMUD enterprise. Security Operations is also continuing to pursue implementation of additional physical security measures throughout our critical asset portfolio, such as installation/implementation of the following: thermal imaging cameras to detect intrusion at substations, ballistic protection for transformers within critical substations, enhancement and hardening of perimeters at both campus and substation locations, and expansion of the video management systems memory to preserve footage for a greater amount of time. In addition,</p>

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							Security Operations is currently working towards providing recommendations for security risk mitigation in the UARP, as well as down selecting a leading security contractor firm in order to develop a comprehensive risk profile of all SMUD locations where personnel are located in order to better protect them.
<b>Operational: Process</b>	Power generation asset reliability						Staff has established processes to manage unexpected disruption to power generation and/or non-performance from power & gas contractual assets that threaten to cause partial or complete cessation of the day-to-day bulk power operations of SMUD. Staff continues to assess the reliability of SMUD's assets and performs standard maintenance and rebuilds where necessary to meet SMUD's current and future needs. In addition, staff continues to identify appropriate renewables resources in support of SMUD's zero carbon goals. See renewables projects for additional information.
<b>External</b>	Regulatory/legislative mandates						Staff continues to monitor and stay apprised of all regulatory/legislative mandates that have the potential to impact SMUD. Staff works through a formalized process to respond to these
<b>Strategic</b>	Renewables projects						In 2024 staff will continue to work to identify appropriate resources to meet SMUD's needs and move SMUD closer towards the achievement of its zero carbon goals. SMUD staff performed significant analysis and outreach, numerous studies, and a competitive solicitation of the market to identify future projects that meet SMUD's needs. Planned diversification of proven clean technologies and new technologies and business model evaluations ensure that the right projects and programs are selected to meet SMUD's goals in a

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							<p>reliable and affordable manner. In addition, SMUD staff participate in industry discussions and studies with regard to the development and implementation of new and updated Reliability Standards to ensure grid reliability and resiliency with the increased penetration of inverter-based resources into the grid.</p> <p>SMUD staff continue to plan and perform Capital and Operations and Management projects and work to ensure the reliability of existing and new generation assets and infrastructure supported by proven procedures, policies, and strategies as a part of SMUD's Asset Management Program.</p>
<b>Operational: Process</b>	Safety: loss of life						<p>Within SMUD Operations, the health &amp; safety of our employees, contractors continue to be a primary focus. Integrated into our work processes are various mitigations that help SMUD reduce both the frequency and severity of incidents. We continue to ensure that we follow the guidance laid out in the Cal-OSHA Injury Illness &amp; Prevention Program (IIPP). Key areas of risk mitigation measures that SMUD performs include safety responsibility awareness, OSHA regulatory compliance, safety communications, hazard assessments, accident/exposure investigations, hazard correction, safety training instruction, and recordkeeping. In addition, SMUD continues to operate an industry leading, behavior-based safety program called SCORCH. In the past year SMUD has continued to further integrate safety software solutions that has improved employee access to critical safety information, enhanced the ability to capture near miss reporting, and employee safety suggestions and concerns. SMUD continues to leverage best practices among the Utility</p>

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							industry to drive down risk and improve operational performance.
<b>External</b>	Severe weather (incl wind, heat, lightning, capacity)						Climate change increases the frequency, intensity, and impacts of extreme weather events. These impacts have a high potential to impact SMUD's goals and operations. SMUD has conducted lessons learned after events and used those lessons to make process changes and plan for future events. Staff continues to conduct tabletop exercises for a number of hazard events such as storms, wildfires, heat waves, and gas pipeline to name a few. Doing so helps SMUD proactively identify gaps and address them, preparing SMUD for future events.
<b>Operational: People</b>	Strategic workforce planning: critical positions						<p>In 2023 SMUD leadership began implementing action plans for each of the 59 roles identified as key through our Strategic Workforce Planning Program. These action plans encompass 110 different strategies that mitigate current and future risks associated with the key positions, as well as outlines steps to create new classifications that will be required to support work in the next 3-5 years. Directors and executives drive the action plans, which often require stakeholder partnerships and significant touchpoints in People Services and Strategies.</p> <p>Staff monitors progress and report status of action plans quarterly; due to the action plans being strategic and long-range in nature, staff will continue execution and tracking through 2024. Staff will also ask senior leaders to identify significant changes that require reassessing key roles. In 2024 staff expects to accomplish several impactful plans, such as creating a Data Scientist classification series and a Field Leader Training</p>

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							<p>Program. While the Data Scientist classification will facilitate getting new and important work done, it also helps attract new talent with diverse experiences and expands career opportunities and helps retain current employees. The Field Leader Training Program is another way SMUD is investing in its employees and maximizes employees chances of being successful in leading a team to accomplish core operational work.</p> <p>As background, staff assess all roles through Strategic Workforce Planning against several criteria: impact on strategy, turnover, cost of turnover, level of effort to backfill, operational impact, customer service impact, and performance variability. Leaders also describe positions that don't yet exist, but that would be needed for new types of work 3-5 years in the future. In 2022 the top 2% (59) of highest scoring roles based on these criteria were designated as "key" and reasons for the challenges or future anticipated challenges were captured. Action plans were created to identify how staff can address challenges, mitigating risk to the organization.</p>
<b>Operational: Process</b>	Supply chain						<p>Supply chain risk management (SCRM) efforts continues to mature in 2023. Staff has continued with weekly integrated business planning to manage supply and demand forecasts for key equipment supporting the new business pipeline, primarily distribution transformers. Internal coordination has continued to include the Chief Operating Officer (COO) and Chief Financial Officer (CFO) for inventory levels and risk of customer or project delays due to supply chain.</p> <p>In 2023, for the third year in a row, staff completed an annual SCRM risk assessment for all categories</p>

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							<p>(materials/equipment, services/technology, and construction), the overall risk score for materials and equipment has gone down by 32%. Staff has reduced risk scores in 2023 by adding secondary suppliers, increasing safety stock values, increasing inventory on-hand, and by managing supplier performance.</p> <p>The new goal for 2023 is to establish more senior leadership involvement in managing critical third-party relationships, estimated to include the top 10 to 20 suppliers that are 60 to 80% of SMUD's spend and provide mission critical material, equipment, services, and technology has begun to develop with a few key relationships being managed at the executive level at least 1x per year including; distribution transformers, large power transformers, fleet vehicles/equipment, meters, and wood poles, this goal will continue in 2024.</p>
<b>Strategic</b>	Transportation sector electrification/Unmanaged electrification						<p>SMUD has been looking at the question of what electrification of buildings and transport will do to our grid for more than a decade. We continually improve our assessment approach as new data, forecasts, and technology change. This assessment process helps us plan for expected growth in a manageable way, to reduce the risk of us delaying connection of new electric loads. In addition, the assessment process enables us to have a clear picture of the potential impacts in an unmanaged and a managed world.</p> <p>Beyond assessment, we are actively piloting different approaches to managing charging to make sure that we can flatten out large new electric loads and accommodate as much of this new load as possible on our existing grid. In 2022 we launched a large-scale pilot of managed charging with three large OEMs and we've</p>

## 2023-2024 Risk Focus Areas

Risk Category	Risk	Year on Year Changes			Risk Trend	Target	Risk Mitigation Activity(ies)
		2021	2022	2023			
							expanded that in 2023 to continue to explore approaches to managing charging of light duty vehicles. We are also testing charge management and vehicle to grid functionality with school bus fleets and expect to expand our efforts in the broader commercial fleet space in 2024. With managed charging we anticipate being able to significantly reduce impacts to our grid, but at the same time recognize that we will need to also expand our grid's capacity to accommodate even a future where managed charging is widespread.
<b>External</b>	Wildfire						In 2023 staff continues to assess wildfire risks to SMUD and completed its triennial update of its Wildfire Mitigation Plan. The 2024 Capital and O&M budget include funds to continue implementation of SMUD's Wildfire Mitigation Plan.

**TOP 10 ENTERPRISE RISKS COMPARED TO SMUD'S ENTERPRISE RISK CATEGORIES  
Specific to Energy and Utilities Industry**

Benchmarking Information indicates that SMUD's risks are consistent with other energy and utilities; one indicator that we are aligned in our understanding of risks facing our industry.

North Carolina State ERM Initiative and Protiviti Top 10 Enterprise Risks		SMUD's Corresponding Risks	SMUD's Current Residual Risk Exposure
Specific to Energy and Utilities Industry			
1	Rising threat associated with natural disasters and weather phenomena	<b>External risk:</b> Climate change Global pandemic Wildfire Severe weather	The current residual risk exposure ranges from medium to high  
2	Uncertainties in supply chain including the viability of key suppliers, scarcity of supplies, volatile shipping and delivery options, or stable prices in the supply chain ecosystem may make it difficult to deliver services	<b>Operational risk:</b> Supply chain	
3	Succession challenges, ability to attract and retain top talent	<b>Operational risk:</b> Strategic workforce agility Competitive workforce total rewards Diversity, equity, inclusion and belonging Change management	

**TOP 10 ENTERPRISE RISKS COMPARED TO SMUD'S ENTERPRISE RISK CATEGORIES**  
**Specific to Energy and Utilities Industry**

North Carolina State ERM Initiative and Protiviti Top 10 Enterprise Risks		SMUD's Corresponding Risks	SMUD's Current Residual Risk Exposure
Specific to Energy and Utilities Industry			
4	Changes in the overall work environment including shifts to hybrid work	<b>Operational risk:</b> Strategic workforce agility Operational excellence Diversity, equity, inclusion and belonging Change management Employee safety	
5	Organization's approach to managing ongoing demands on or expectations of a significant portion of workforce to "work remotely" or increased expectations for a transformed, collaborative hybrid work environment may negatively impact our ability to retain talent as well as the effectiveness and efficiency of how we operate our business.	<b>Operational risk:</b> Strategic workforce agility Operational excellence Diversity, equity, inclusion and belonging Change management Employee safety  <b>Strategic risk:</b> 2030 Zero Carbon Plan Innovation	
6	Resistance to change in our culture may restrict our organization from making necessary adjustments to the business model and core operations	<b>Operational risk:</b> Strategic workforce agility Operational excellence Diversity, equity, inclusion and belonging Change management  <b>Strategic risk:</b> Innovation 2030 Zero Carbon Plan	

**TOP 10 ENTERPRISE RISKS COMPARED TO SMUD'S ENTERPRISE RISK CATEGORIES  
Specific to Energy and Utilities Industry**

North Carolina State ERM Initiative and Protiviti Top 10 Enterprise Risks		SMUD's Corresponding Risks	SMUD's Current Residual Risk Exposure
Specific to Energy and Utilities Industry			
7	Economic conditions (including inflationary pressures) in markets we currently serve may significantly restrict growth opportunities, impact margins, or require new skill sets for our organization	<b>Financial risk:</b> Interest rate Commodity Project execution  <b>Operational risk:</b> Strategic workforce agility  <b>External risk:</b> Legislative and regulatory Economic business agility	●
8	The current interest rate environment may have a significant effect on the organization's capital costs and operations.	<b>Financial risk:</b> Interest rate Energy commodity Capital availability/cashflow Liquidity Wholesale credit default	The current residual risk exposure ranges from medium to high  ● ↔ ●
9	The adoption of digital technologies in the marketplace and in our organization may require new skills that either are in short supply in the market for talent or require significant efforts to upskill and reskill our existing employees.	<b>Operational risk:</b> Strategic workforce agility Operational excellence Diversity, equity, inclusion and belonging Change management  <b>Strategic risk:</b> Innovation	●
10	Anticipated increases in labor costs may affect our opportunity to meet targets	<b>Operational risk:</b> Strategic workforce agility Total rewards Change management  <b>Strategic risk:</b> Innovation	●

**DRAFT**

RESOLUTION NO. \_\_\_\_\_

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board accepts the monitoring report for **Strategic Direction SD-17, Enterprise Risk Management**, substantially in the form set forth in **Attachment \_\_\_\_\_** hereto and made a part hereof.



SSS No.  
E,S RES 23-06

# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

Committee Meeting & Date  
ERCS – 11/14/23  
Board Meeting Date  
November 16, 2023

TO					TO							
1.	Ellias van Ekelenburg				6.	Lora Anguay						
2.	Eric Poff				7.							
3.	Frankie McDermott				8.							
4.	Suresh Kotha				9.	<b>Legal</b>						
5.	Brandy Bolden				10.	<b>CEO &amp; General Manager</b>						
<b>Consent Calendar</b>		<b>Yes</b>	<b>X</b>	<b>No</b> <i>If no, schedule a dry run presentation.</i>		<b>Budgeted</b>		<b>X</b>	<b>Yes</b>	<b>No</b> <i>(If no, explain in Cost/Budgeted section.)</i>		
FROM (IPR) Ellias van Ekelenburg				DEPARTMENT Env, Safety, and Real Estate Services				MAIL STOP B209	EXT. 7475	DATE SENT 10/19/2023		

**NARRATIVE:**

**Requested Action:** Adopt the **California Environmental Quality Act (CEQA) Initial Study and Mitigated Negative Declaration (IS/MND)** for the **El Rio Substation Project (Project)**; adopt the **Mitigation Monitoring and Reporting Program**; and approve the **Project**.

**Summary:** The El Rio Substation Project (Project) consists of building the El Rio Substation to replace the existing Elverta Substation. El Rio Substation will achieve improved reliability and allow for future expansion of the facility for future interconnection to renewable generation. The modernization of Elverta Substation is key to enabling large scale renewables to connect to the bulk and sub-transmission system supporting SMUD's Zero Carbon Plan. The new substation will initially provide interconnection points at Elverta substation for a total of 500 MW of zero carbon generation. Along with a modern enhanced protection system and additional system capacity, this project will allow SMUD to reliably serve existing and future loads, plan for future renewable resource interconnections, and add operational flexibility to the SMUD Bulk electric system. The proposed El Rio Substation would include new transformers and circuit breakers, a control building, paved access, fencing, lighting, stormwater drainage, stormwater detention basin, and utilities. North of the substation, two existing electrical towers carrying 230-kilovolt (kV) transmission lines would be replaced with two or three steel monopoles (also known as steel tubular poles) to tie the substation into the existing grid. Following the energization of the proposed El Rio Substation, the existing Elverta Substation would be decommissioned, and the outdated substation equipment dismantled and removed from the site. Project construction is anticipated to begin during the first quarter of 2025 and would be completed by late 2026, involving active construction for approximately 24 months, and 3 months to decommission the Elverta Substation.

An Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to evaluate the El Rio Substation Project and concludes that the Project would not have a significant effect on the environment after the incorporation of mitigation measures for the following: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Noise, and Tribal Cultural Resources. An environmental justice evaluation was included in the IS/MND in addition to the CEQA requirements to help inform decision makers about whether the Project supports SMUD's goal of helping to advance environmental justice and economic vitality to all communities in SMUD's service area with special attention to historically underserved neighborhoods. The evaluation concluded no existing environmental justice conditions would be worsened as a result of the project. The draft IS/MND was released for a 30-day agency and public comment period that began on September 5, 2023 and ended on October 5, 2023. Copies of the draft IS/MND were distributed to the State Clearinghouse of the Governor's Office of Planning and Research; SMUD's Customer Service Center and East Campus Operations Center; and relevant resource agencies (distributed via State Clearinghouse). The draft IS/MND was also posted on [smud.org/ceqa](http://smud.org/ceqa). A public notice was published in the *Sacramento Bee* and sent to landowners and occupants within 1,000 feet from the Project site. A hybrid in-person and virtual CEQA public meeting was held on September 26, 2023; five members of the public attended.

During the public comment period, SMUD received four comment letters from the Sacramento Metropolitan Air Quality Management District (SMAQMD), Central Valley Regional Water Quality Control Board (CVRWQCB), and two local residents. The comments did not raise environmental issues or concerns regarding the adequacy or completeness of the environmental document. The comment from SMAQMD stated that the proposed Air Quality mitigation measure is commendable, but the IS/MND does not delineate the entirety of their Best Management Practices (BMPs) and requested incorporation of additional SMAQMD BMPs. The letter from the CVRWQCB summarized their regulatory responsibility of protecting the quality of surface water and groundwaters of the state, antidegradation considerations, permitting requirements for discharge into waters, and Construction General Permit requiring a Storm Water Pollution Prevention Plan (SWPPP). The comments from local residents raised concerns over the existing 12kV line along Elverta Road and car pole incidents, new traffic and vehicle impacts on El Rio Avenue, the proposed storm water detention basin and whether it could cause flooding of adjacent property and allow hazardous waste leaching into the groundwater, construction and operating noise and as well as construction hours, light pollution, aesthetics of the chain link fence and the view of the substation, landscaping, and concerns the old substation site may be used for storage of abandoned equipment containing hazardous materials. In response to the comments from SMAQMD, the Air Quality mitigation measure in the Final IS/MND was revised; and additional edits were made to provide additional BMPs. These revisions did not change the Draft IS/MND's conclusion that the Project, as mitigated, will not cause a significant impact. The comments from local residents did not change the Draft IS/MND conclusions; however, we will continue to work with the neighbors to address their concerns. Responses to all comments received are included in the Final IS/MND.

**Board Policy:** *(Number & Title)* The proposed project supports the following Board adopted policies: SD-4 (Reliability), the goals to achieve transmission and distribution system reliability and make necessary electrical system upgrades to maintain load serving capability and increase the electric system capacity to meet expected customer electrical load growth; SD-7 (Environmental Leadership), goals relating to avoiding and reducing adverse environmental impacts; and SD-5 (Customer Relations), proactively engaging customers and other stakeholders.

**Benefits:** This Project will allow continued safe and reliable electric service to existing and proposed development in the north Sacramento County and Natomas areas. Additionally, it will provide greater operational flexibility between circuits and substations in the area, and maximize the use of available SMUD property and resources by using the Elverta Substation site.

**Cost/Budgeted:** Approved multi-year project 2023-2026 for \$91,641,596

**Alternatives:** Adopt the Initial Study and Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program and approve the Project; return to staff for further study; or reject the Initial Study and Mitigated Negative Declaration.

**Affected Parties:** Grid Assets, Grid Planning, Sacramento County, and the general public.

**Coordination:** Environmental Services, Grid Assets, Grid Planning, Community Engagement, Sacramento County, Wilton Rancheria, United Auburn Indian Community of the Auburn Rancheria, Shingle Springs Rancheria and the general public.

**Presenter:** Ellias van Ekelenburg, Director of Environmental, Safety, and Real Estate Services

**Additional Links:** Draft and Final El Rio Substation Project IS/MND – [www.smud.org/ceqa](http://www.smud.org/ceqa)

SUBJECT <b>El Rio Substation Project</b>	ITEM NO. (FOR LEGAL USE ONLY) <b>12</b>
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

# Sacramento Municipal Utility District

## El Rio Substation Project

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Final Initial Study and Proposed Mitigated Negative Declaration •  
State Clearinghouse Number 2023090056 •  
November 2023

Powering forward. Together.



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## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
INTRODUCTION .....	ES-1
PROJECT DESCRIPTION .....	ES-1
FINDINGS .....	ES-1
CUMULATIVE IMPACTS.....	ES-1
GROWTH-INDUCING IMPACTS.....	ES-2
DETERMINATION .....	ES-2
<b>1 INTRODUCTION .....</b>	<b>1</b>
1.1 PROJECT OVERVIEW .....	1
1.2 ENVIRONMENTAL PROCESS SUMMARY .....	1
1.3 MITIGATION MEASURES .....	2
1.4 CEQA DETERMINATION .....	13
<b>2 COMMENTS AND RESPONSES .....</b>	<b>14</b>
2.1 INTRODUCTION .....	14
2.2 RESPONSES TO COMMENTS.....	14
<b>3 CHANGES TO DRAFT IS/MND TEXT .....</b>	<b>32</b>
3.1 CHANGES TO DRAFT IS/MND PROJECT DESCRIPTION.....	32
3.2 CHANGES TO DRAFT IS/MND ENVIRONMENTAL IMPACT EVALUATION .....	34
<b>4 MITIGATION MONITORING AND REPORTING PROGRAM .....</b>	<b>37</b>
4.1 INTRODUCTION .....	37
4.2 MITIGATION IMPLEMENTATION AND MONITORING .....	37
4.3 MITIGATION ENFORCEMENT .....	38
<b>5 LIST OF PREPARERS .....</b>	<b>56</b>
5.1 SACRAMENTO MUNICIPAL UTILITY DISTRICT .....	56
5.2 AREA WEST ENVIRONMENTAL INC. ....	56
<b>APPENDIX A. Draft IS/MND as Revised In the Final IS/MND</b>	

## ACRONYMS AND OTHER ABBREVIATIONS

ACM	asbestos-containing material
APN	Assessor's Parcel Number
CARB	California Air Resources Board
ATSDR	Agency for Toxic Substances and Disease Registry
BMP	best management practice
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNG	compressed natural gas
dB	decibel
dBA	A-weighted decibel
DPM	diesel-exhaust particulate matter
IS/MND	Initial Study/Mitigated Negative Declaration
EMD	Environmental Management Department
HMBP	Hazardous Materials Business Plan
kV	Kilovolt
L <sub>eq</sub>	Energy Equivalent Noise Level
LBP	lead-based paint
LNG	liquefied natural gas
MMRP	mitigation monitoring and reporting program
mph	miles per hour
NAHC	Native American Heritage Commission
NESHAP	National Emission Standard for Hazardous Air Pollutants
NPDES	National Pollution Discharge Elimination System
project	El Rio Substation Project
RLECP	Rio Linda and Elverta Community Plan
SF <sub>6</sub>	Sulfur Hexafluoride
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SWPPP	storm water pollution prevention plan
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WEAT	Worker Environmental Awareness Training

## **Executive Summary**

### **Introduction**

This Initial Study (IS) and Mitigated Negative Declaration (MND) has been prepared to evaluate the potential physical environmental impacts associated with Sacramento Municipal Utility District's (SMUD) El Rio Substation Project (project) in compliance with the California Environmental Quality Act (CEQA). SMUD is the lead agency responsible for complying with the provisions of CEQA.

### **Project Description**

SMUD is proposing to construct and operate a new 230-115-69 kilovolt (kV) substation that would replace the existing Elverta Substation located south of Elverta Road and just west of El Rio Avenue in Elverta, California. Using transformers, substations transfer power from the transmission system to the distribution system that serves a particular area. The substation reduces the voltage from the large transmission lines and moves power into a system that powers residential and commercial customers. The proposed substation would convert or "step down" voltage from 230 kV transmission lines to 115 kV and 69 kV through transformers for local distribution. The project is proposed to be constructed on a portion of the existing Elverta Substation as well as on the 4.4-acre property immediately east of the Elverta Substation. The existing Elverta Substation would be decommissioned and removed from the site as it is nearing the end of its service life. The proposed project components would include the El Rio Substation and the installation of two or three new towers for relocation of existing transmission lines to tie the proposed substation into the existing grid.

### **Findings**

As lead agency for compliance with CEQA requirements, SMUD finds that the project would be implemented without causing a significant adverse impact on the environment. Mitigation measures for potential impacts associated with Air Quality, Biological Resources, Tribal Cultural Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, and Noise would be implemented as part of SMUD's project through adoption of a mitigation monitoring and reporting program (MMRP).

### **Cumulative Impacts**

CEQA requires lead agencies to assess whether a project's incremental effects are significant when viewed in connection with the effects of other past, present, and foreseeable future projects. Based on the analysis presented in the Draft IS/MND, the project would not contribute incrementally to considerable environmental changes when considered in combination with other projects in the area. Therefore, the potential cumulative environmental effects of the project were determined to be less than cumulatively considerable. All identified potentially significant impacts would be mitigated to a less-than-significant level.

## Growth-Inducing Impacts

SMUD exists as a public agency to supply electrical energy to customers in the Sacramento area. It has an obligation to serve all new development approved by the local agencies and Sacramento County. SMUD does not designate where and what new development may occur. The project would replace an existing substation that is near the end of its service life. The project would not have the potential to foster economic or population growth. The project would be consistent with SMUD's established strategic direction, which includes environmental leadership; is consistent with long-range planning documents prepared by Sacramento County, such as the Rio Linda and Elverta Community Plan (RLECP) and the 2030 General Plan; and would support development at levels approved by the County of Sacramento as the governing land use authority.

## Determination

On the basis of this evaluation, SMUD concludes:

- The project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered species, or eliminate important examples of the major periods of California history or prehistory.
- The project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The project would not have impacts that are individually limited, but cumulatively considerable.
- The project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.
- No substantial evidence exists to demonstrate that the project would have a substantive negative effect on the environment.



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Ammon Rice  
Supervisor, Environmental Services

11/03/2023

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Date

# 1 Introduction

## 1.1 Project Overview

The Sacramento Municipal Utility District (SMUD) is proposing the El Rio Substation Project (“project”) to construct and operate a new substation and decommission and remove outdated equipment at the existing Elverta Substation. The proposed El Rio Substation would be located on and adjacent to the existing Elverta Substation, south of Elverta Road and west of El Rio Avenue, in the unincorporated community of Elverta, California. The proposed El Rio Substation would include new transformers and circuit breakers, a substation control building, paved access, fencing, lighting, stormwater drainage and utilities. North of the substation, two existing electrical towers carrying 230-kilovolt (kV) transmission lines would be replaced with two or three steel monopoles (also known as steel tubular poles) on a new alignment to tie the proposed substation into the existing grid. A stormwater retention basin would be constructed on the proposed El Rio Substation property. Following the energization of the proposed El Rio Substation, the existing Elverta Substation would be decommissioned and outdated substation equipment dismantled and removed from the site.

## 1.2 Environmental Process Summary

### 1.2.1 *Review of the Draft IS/MND*

Copies of the Draft IS/MND were made available in hard copy form for public review at SMUD offices (Customer Service Center and East Campus Operations Center), posted on SMUD’s public website, and were distributed to the State Clearinghouse via the Governor’s Office of Planning and Research. A notice of intent was distributed to property owners and occupants of record within 1,000 feet of the project site. The 30-day public review period began on September 5, 2023, and ended on October 5, 2023. SMUD held a public meeting on September 26, 2023. No comments regarding the CEQA document were received during the public meeting. Four comment letters were received from property owners and agencies during the comment period. These comment letters and SMUD’s written responses to each comment received are presented in Section 2.0 of this document. As noted in Section 2.0, the conclusions presented in the Draft IS/MND were not altered in response to comments received.

### 1.2.2 *Preparation of the Final IS/MND*

The comment letters from property owners and agencies received during the comment period were reviewed, and responses were prepared (see Section 2.0). Based on the comments received, there were no new environmental effects identified. The Final Initial Study/Mitigated Negative Declaration (IS/MND) does not incorporate any changes to the project description. However, SMUD has added language to Mitigation Measure 3.3-1 to provide clarity regarding the mitigation requirements from the Sacramento Municipal Air Quality Management District (SMAQMD). These changes are reflected in the final text of the MMRP.

### 1.2.3 CEQA Guidelines

CEQA Guidelines Section 15073.5 provides the conditions for determining if recirculation of a negative declaration is required before adoption. Section 15073.5(a) states:

*A lead agency is required to recirculate a negative declaration when the document must be substantially revised after public notice of its availability has previously been given pursuant to Section 15072, but prior to adoption.*

According to Section 15073.5(b), a substantial revision is defined as:

*(1) A new, avoidable significant effect is identified, and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or*

*(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.*

SMUD has determined that none of the aforementioned conditions were satisfied following public notice; therefore, recirculation of the Draft IS/MND is not required. SMUD, as the lead agency, may proceed to present the Final IS/MND to the SMUD Board for action.

Circumstances under which recirculation is not required include:

(1) Mitigation measures are replaced with equal or more effective measures pursuant to Section 15074.1.

(2) New project revisions are added in response to written or verbal comments on the project's effects identified in the proposed negative declaration which are not new avoidable significant effects.

(3) Measures or conditions of project approval are added after circulation of the negative declaration which are not required by CEQA, which do not create new significant environmental effects and are not necessary to mitigate an avoidable significant effect.

(4) New information is added to the negative declaration which merely clarifies, amplifies, or makes insignificant modifications to the negative declaration. (Section 15073.5[c])

The changes to Mitigation Measure 3.3-1 are made to clarify SMUD's mitigation obligation. These changes do not meet the above criteria for recirculation; therefore, recirculation of the Draft IS/MND is not required.

## 1.3 Mitigation Measures

This section presents the mitigation measures SMUD would implement to address potential impacts on Air Quality, Biological Resources, Tribal Cultural Resources, Cultural

Resources, Geology and Soils, Hazards and Hazardous Materials, and Noise. These measures reflect text revisions as documented in the Final IS/MND.

### 1.3.1 Air Quality

As discussed in Section 3.3 of the Draft IS/MND, project construction activities would result in temporary generation and emissions of criteria air pollutants and precursors. The modeling of anticipated construction-generated emissions revealed that the project, without the application of *Best Management Practices* (BMPs) and *Basic Construction Emission Control Practices*, would generate daily emissions of particulate matter less than 10 microns in diameter and particulate matter less than 2.5 microns in diameter in excess of SMAQMD thresholds. Mitigation Measure 3.3-1 requires SMUD's contractor to implement SMAQMD emission control practices and would reduce project effects to a less-than-significant impact. Mitigation Measure 3.3-1 has been updated since circulation of the Draft IS/MND in response to input from SMAQMD.

#### ***Mitigation Measure 3.3-1: Implement SMAQMD Emissions Controls and BMPs.***

*SMUD or the authorized contractor will adhere to the SMAQMD basic construction emissions control practices, including, but not limited to the measures listed below, and additional measures designed to limit Diesel-exhaust particulate matter (DPM):*

- *Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.*
- *Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.*
- *Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.*
- *Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).*
- *All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.*
- *Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.*
- *Provide current certificate(s) of compliance for the California Air Resources Board's (CARB's) In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].*
- *Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified*

*mechanic and determined to be running in proper condition before it is operated.*

- *Wheel washers shall be installed for all trucks and equipment exiting unpaved areas, or wheels shall be washed to remove accumulated dirt before such vehicles leave the site.*
- *Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from adjacent project areas with a slope greater than 1 percent.*
- *Excavation and grading activities shall be suspended when winds exceed 20 mph.*
- *The extent of areas simultaneously subject to excavation and grading shall be limited, wherever possible, to the minimum area feasible.*
- *Diesel equipment meeting the CARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines shall be used to the extent locally available.*
- *On-road heavy-duty equipment with model year 2010 engines or newer shall be used to the extent locally available.*
- *Diesel powered equipment shall be replaced by electric equipment whenever available.*
- *Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, shall be used on-site where locally available.*
- *Catalytic converters shall be installed on gasoline-powered equipment, if available, and in accordance with manufacturer's recommendations.*

Demolition activities have potential negative air quality impacts, which require the proper handling, demolition, and disposal of asbestos-containing material (ACM). Based on the age of multiple buildings constructed onsite, the potential exists for ACM and lead-based paint (LBP) to be present. Mitigation Measure 3.3-2 would require an ACM and LBP survey prior to demolition activities, and if present, the materials would be remediated prior to any renovation or demolition consistent with applicable state and local regulations. The potential impact on air quality and health would be reduced to a less-than-significant level.

***Mitigation Measure 3.3-2: Survey, Remove, and Dispose of ACM and LBP.***

*The presence or absence of ACM and LBP will be verified by conducting a survey for these materials prior to demolition activities, and if present, they will be remediated prior to any renovation or demolition at the project site that involves the disturbance or potential disturbance of ACM or LBP, in accordance with applicable regulatory requirements, including requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M-Asbestos; NESHAP). These*

*requirements include but are not limited to: 1) notification, within at least 10 business days of activities commencing, to the air quality management district, 2) an asbestos survey conducted by a Certified Asbestos Consultant, and, 3) applicable removal and disposal requirements of identified ACM. The SMAQMD is delegated authority by the USEPA to implement the Federal Asbestos NESHAP.*

### 1.3.2 *Biological Resources*

As discussed in detail in Section 3.4 of the Draft IS/MND, the project may impact sensitive habitats. The project has potential to adversely affect vernal pool fairy shrimp, vernal pool tadpole shrimp, western spadefoot, giant garter snake, burrowing owl, grasshopper sparrow, Swainson's hawk, white-tailed kite, nesting birds, and American badger. SMUD would implement the following mitigation measures to reduce impacts to less-than-significant level.

#### ***Mitigation Measure 3.4-1: Avoid or Minimize Effects on Special-status Aquatic Species and Waters of the U.S. and State***

- *All on-site construction personnel will receive worker environmental awareness training, which instructs workers regarding the presence of listed species and the importance of avoiding impacts to these species and their habitat.*
- *Access, egress, and ground-disturbing activities will be sited to avoid aquatic features to the extent possible. Where present, existing paved and unpaved roads will be used to access the work area.*
- *All work in or near potential aquatic species habitat will be performed in the dry season (approximately April 15 through October 15).*
- *Temporary fencing shall be placed along the boundary of the work areas to avoid and protect environmentally sensitive areas (waters of the U.S. and State, special-status species habitat) during construction activities. Fencing must be installed prior to the initiation of any vegetation removal, equipment staging, construction, or other project activity. Fencing will consist of temporary construction barrier fencing or silt fencing. The fencing will be checked regularly and maintained until all construction is complete.*
- *All temporarily disturbed areas will be returned to pre-project conditions upon completion of construction. Soil stabilization may include, but is not limited to, seeding with a native grass seed mix and/or planting native plants. These areas will be properly protected from washout and erosion using appropriate erosion control devices including coir netting, hydroseeding, and revegetation. The existing grades in temporary impact areas will be recontoured to existing conditions.*
- *Rubber matting, or similar equivalent, will be used where temporary access for heavy equipment is required through vernal pools and seasonal wetlands/swales.*
- *For pole installations in or within 250 feet of wetlands, the upper four inches of topsoil will be stockpiled separately on Visqueen or plastic sheets during*

excavations. The area between the pole and the pole hole will be backfilled with cement, and the upper portion will be backfilled with native soil commensurate with the topography and stratigraphy of the surrounding soil. When this topsoil is replaced, compaction shall be minimized to the extent consistent with utility standards. Areas of disturbed soil will be reseeded with a native seed mix.

- For pole removal, clay (native or bentonite) will be used to fill the pole hole.
- No pesticides or herbicides will be applied within 250 feet of vernal pools.

#### **Mitigation Measure 3.4-2: Compensate for Permanent Impacts to Wetlands and Aquatic Species Habitat**

If the new monopole locations result in permanent impacts on wetland features, the appropriate permits would be obtained and the U.S. Fish and Wildlife Service (USFWS) would be consulted. As part of the consultation process, SMUD would prepare and implement a Compensatory Mitigation Plan for project impacts on wetlands and vernal pool branchiopods. The Compensatory Mitigation Plan may include, but is not limited to, the purchase of mitigation credits for vernal pool fairy shrimp and vernal pool tadpole shrimp from the SMUD Nature Preserve Mitigation Bank or an alternative USFWS-approved mitigation bank in accordance with USFWS guidance on mitigation ratios. This mitigation requirement may be refined or superseded by the USFWS and U.S. Army Corps of Engineers permit terms.

#### **Mitigation Measure 3.4-3: Conduct Pre-construction Survey for Western Spadefoot**

A biologist will conduct a survey no less than 7 days prior to the initiation of any ground disturbing activities within or adjacent to suitable habitat for western spadefoot. This survey will comprise walking transects while conducting visual encounter surveys within areas that will be subject to staging, vegetation clearing, grubbing, grading, cut and fill, or other ground disturbing activities. The survey will include wetlands and adjacent grassland. All potential habitat features in the project site, such as crevices and burrows western spadefoot often use, will be searched to the maximum extent practicable.

If western spadefoot are present within the project work limits (including their egg masses or tadpoles), then the California Department of Fish and Wildlife (CDFW) will be notified and additional avoidance and minimization measures will be implemented. Any special-status species observed will be allowed to voluntarily move outside of the work area on its own volition.

#### **Mitigation Measure 3.4-4: Avoid or Minimize Effects on Giant Garter Snake**

- Avoid construction activities within 200 feet from the banks of giant garter snake aquatic habitat to the greatest extent feasible.
- Construction activity within 200 feet of giant garter snake aquatic habitat should be conducted between May 1 and October 1. This is the active period for giant garter snakes and direct mortality is lessened, because snakes are expected to actively move and avoid danger. If activities occur between October 2 and

*April 30 within 200 feet of giant garter snake habitat, SMUD will contact the USFWS Sacramento Fish and Wildlife Office to determine if additional measures are necessary to minimize and avoid take.*

- *Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided giant garter snake habitat within or adjacent to the project site as Environmentally Sensitive Areas. This area should be avoided by all construction personnel.*
- *Construction personnel shall receive worker environmental awareness training. This training instructs workers to recognize giant garter snakes and their habitat(s).*
- *24 hours prior to construction activities, the project site should be surveyed for giant garter snakes. The survey of the project site should be repeated if a lapse in construction activity of two weeks or more has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake will not be harmed.*
- *Any dewatered habitat should remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.*

***Mitigation Measure 3.4-5: Avoid or Minimize Effects on Nesting Swainson's Hawk, White-Tailed Kite, Grasshopper Sparrow, and Other Nesting Birds***

*The following measures shall be implemented to avoid or minimize loss of active Swainson's hawk, white-tailed kite, grasshopper sparrow, and other raptor nests:*

- *If construction (including vegetation removal) would occur during the nesting season (between February 1 and August 31), an authorized project biologist/biological monitor shall conduct pre-construction nesting bird surveys to determine whether birds are nesting in the work area or within 0.25 mile for Swainson's hawk and 500 feet for all other nesting birds of the project site.*
- *The pre-construction nesting bird surveys will identify on-site bird species and any nest-building behavior. If no nesting Swainson's hawks are found on or within 0.25 mile of the project site or if no nesting birds are found on or within 500 feet of the project site during the pre-construction clearance surveys, construction activities may proceed as scheduled.*
- *If pre-nesting behavior is observed but an active nest of common nesting bird has not yet been established (e.g., courtship displays but no eggs in a constructed nest), a nesting bird deterrence and removal program will be implemented. Such deterrence methods include removal of the previous year's nesting materials and removal of partially completed nests in progress. After a nest is situated and identified with eggs or young, it is considered to be "active," and the nest cannot be removed until the young have fledged.*
- *If active Swainson's hawk nests are found within the survey area, the construction contractor shall avoid impacts on such nests by establishing a no-disturbance buffer around the nest. Monitoring of the nest by a qualified biologist during construction activities shall be required if the activity has the*

*potential to adversely affect the nest. Based on guidance for determining a project's potential for affecting Swainson's hawks (Swainson's Hawk Technical Advisory Committee 2000), projects in urban areas have a low risk of adversely affecting nests greater than 600 feet from project activities. Therefore, 600 feet is anticipated to be the adequate buffer size for protecting nesting Swainson's hawks from disturbances associated with the project. However, the qualified biologist shall consult with CDFW to confirm the adequacy of the no-disturbance buffer and/or whether the buffer may be reduced based on the biologist's professional judgment.*

- *If an active white-tailed kite, grasshopper sparrow, or common bird species nest is found on or within 500 feet of the project site during construction, a "no-construction" buffer zone will be established around the active nest (usually a minimum radius of 50 feet for passerine birds and 500 feet for raptors) to minimize the potential for disturbance of the nesting activity. The project biologist/biological monitor will determine and flag the appropriate buffer size required, based on the species, specific activities being conducted, tolerances of the species, and the nest location. Project activities will resume in the buffer area when the project biologist/biological monitor has determined that the nest(s) is (are) no longer active or the biologist/biological monitor has determined that with implementation of an appropriate buffer, work activities would not disturb the bird's nesting behavior.*

**Mitigation Measure 3.4-6: Avoid or Minimize Effects on Burrowing Owls**

*The following measures shall be implemented to avoid or minimize effects to burrowing owl during construction of the proposed project:*

- *Pre-construction surveys for burrowing owls would be completed before the project begins. A survey to determine presence or absence of burrowing owls may be performed at any time to facilitate passive relocation efforts, which must occur during the nonbreeding season (generally September 1 to January 31). In addition, a pre-construction survey would be conducted no more than 14 days prior to the initiation of any project activities, including vegetation removal, equipment staging, or construction. This survey would be conducted in all areas of potential habitat within the project area plus a 500-foot buffer and would follow the methods described in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) or an updated version of this document.*
- *If the biologist finds an active burrowing owl burrow, the biologist would establish a buffer around the site. The buffer location would be based on the CDFW Staff Report on Burrowing Owl Mitigation (2012) or at the distance which the biologist, in consultation with CDFW, determines that burrowing owls would not be harassed by the proposed project.*

**Mitigation Measure 3.4-7: Conduct an American Badger Pre-construction Survey**

*A qualified biologist would conduct a preconstruction survey for American badger individuals and active dens in the project site and within a 250-foot buffer of the project site.*

- *The preconstruction survey would be conducted no more than 14 days before the initiation of construction activities.*

- *For surveys in inaccessible areas, the biologist would use binoculars to scan any suitable denning substrate for potential individuals or dens.*
- *If no active dens are found during the preconstruction surveys, then no additional mitigation is required.*
- *If an active den is identified within the survey area, a no-disturbance buffer would be established around the nest/den to avoid disturbance of the denning mammal until a qualified biologist determines that the young have dispersed. The extent of these buffers would be determined by the biologist and would depend on the level of noise or construction disturbance, line-of-sight between the den and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers.*
- *If any non-denning individuals are observed in the survey area before or during construction, the species would be allowed to move out of harm's way on its own.*

### 1.3.3 Cultural Resources

Although the study area is considered low sensitivity for the presence of cultural materials, there remains the possibility that previously undiscovered historical or archaeological resources may be found during ground disturbing activities associated with construction of the proposed project. SMUD would implement the following mitigation measure to reduce potential impacts to a less-than-significant level.

#### ***Mitigation Measure 3.5-1: Worker Environmental Awareness and Cultural Respect Training and Procedures for Inadvertent Discovery of Cultural Resources***

*Prior to excavation or other subsurface disturbance activities, individuals conducting the work will be required to participate in Worker Environmental Awareness and Cultural Respect Training. Workers will be advised to watch for cultural resource materials. If workers observe any evidence of pre-contact cultural resources (freshwater shells, beads, bone tool remnants or an assortment of bones, soil changes including subsurface ash lens or soil darker "midden" in color than surrounding soil, lithic materials such as flakes, tools or grinding rocks, etc.), or historic cultural resources (adobe foundations or walls, structures and remains with square nails, refuse deposits or bottle dumps, often associated with wells or old privies), all ground-disturbing activity within 100 feet of the discovery must immediately cease and a qualified archaeologist must be consulted to assess the significance of the cultural materials. SMUD will be notified of the potential find and a qualified archeologist shall be retained to investigate its significance. If the qualified archaeologist determines the archaeological material to be Native American in nature, Mitigation Measure 3.18-1 shall be implemented. If the find is determined to be significant by the archaeologist (i.e., because it is determined to constitute a unique archaeological resource), the archaeologist shall work with SMUD to develop and implement appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.*

There are no known past cemeteries or burials on the project site or immediate area. However, because earthmoving activities associated with project construction would occur, there is potential to encounter buried human remains or unknown cemeteries in areas with little or no previous disturbance. SMUD would implement Mitigation Measure 3.5-2 to reduce potential impacts related to human remains to a less-than-significant level.

***Mitigation Measure 3.5-2: Procedures for Discovery of Human Remains***

*If human remains are discovered, all work within a 100 feet of the find must immediately cease, and the local coroner must be contacted. Procedures for the discovery of human remains will be followed in accordance with provisions of the State Health and Safety Code, Sections 7052 and 7050.5 and the State Public Resources Code Sections 5097.9 to 5097.99. If the Coroner determines that the remains are those of Native American origin, the Coroner shall contact the Native American Heritage Commission (NAHC) and subsequent procedures shall be followed, according to State Public Resources Code Sections 5097.9 to 5097.99, regarding notification of the Native American Most Likely Descendant. Following the coroner's and NAHC's findings, SMUD and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.*

1.3.4 *Tribal Cultural Resources*

Although Tribal consultation revealed no known Tribal cultural resources on the project site as defined in PRC Section 21074 and the Sacred Lands File search conducted by the NAHC reported that the project area is negative for Sacred Lands, the area is potentially sensitive for unknown Tribal cultural resources. Therefore, it is possible that yet-undiscovered Tribal cultural resources could be encountered or damaged during ground-disturbing construction activities. SMUD would implement the following mitigation measures to reduce potential impacts to a less-than-significant level.

***Mitigation Measure 3.18-1: Worker Environmental Awareness and Cultural Respect Training and Procedures for Discovery of Potential Tribal Cultural Resources***

*All construction personnel must receive Tribal Cultural Resources Sensitivity and Awareness Training (Worker Environmental Awareness Program [WEAP]), including field consultants and construction workers. The WEAP shall be developed in coordination with interested Native American Tribes.*

*The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and Tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and Tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or Tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American Tribal values. The training may be done in*

*coordination with the project archaeologist.*

*All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training.*

*During excavation or other substantial subsurface disturbance activities, all construction personnel must follow procedures and the direction of archeologists and Tribal monitors if any cultural resource materials are observed.*

**Mitigation Measure 3.18-2: Spot Check Monitoring for Tribal Cultural Resources**

*SMUD shall invite representatives of Wilton Rancheria and SSBMI to periodically inspect the active areas of the project, including any soil piles, trenches, or other disturbed areas. Wilton Rancheria and SSBMI shall be notified at least 48 hours prior to start of construction.*

**Mitigation Measure 3.18-3: Unanticipated Discovery of Tribal Cultural Resources**

*If any suspected Tribal cultural resources are discovered during ground disturbing construction activities, including midden soil, artifacts, cultural belongings, chipped stone, exotic rock (nonnative), or unusual amounts of baked clay, shell, or bone, all work shall pause within 100 feet of the find. Consulting Tribe(s) shall be immediately notified and shall determine if the find is a Tribal cultural resource (pursuant to PRC section 21074). The Tribal representative will make recommendations for further evaluation and treatment, as necessary. Preservation in place is the preferred alternative, and every effort must be made to preserve the resources in place, including through project redesign. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, and returning objects to a location within the project area where they will not be subject to future impacts. Curation of Tribal cultural resources is not considered appropriate or respectful; materials would not be permanently curated, unless approved by the consulting Tribe. Treatment that preserves or restores the cultural character and integrity of a Tribal cultural resource may include Tribal monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.*

**1.3.5 Geology and Soils**

As discussed in Section 3.8 of the Draft IS/MND, project-related earthmoving activities would occur in the Pleistocene-age Riverbank Formation. Because numerous vertebrate fossils have been recovered from the Riverbank Formation in northern and central California, including localities that are close to the project site, this formation is considered paleontologically sensitive. While there are no known paleontological resources within the project alignment, implementation of Mitigation Measure 3.8-1 would reduce potential effects on previously unknown paleontological resources to a less-than-significant level.

**Mitigation Measure 3.8-1: Worker awareness and response for paleontological resources**

*A Worker Environmental Awareness Training (WEAT) will be presented for all construction workers prior to the start of ground disturbing activities (including vegetation removal, grading, excavation, etc.). The training session shall discuss the*

*recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction/ decommissioning personnel attended the training.*

*SMUD will retain an on-call paleontologist to respond to potential finds during project construction. If potential paleontological resources are uncovered during on-site construction activities, all work must stop immediately within 100 feet of the find and a qualified paleontologist shall evaluate the deposits. The paleontologist will be responsible for assessing any evidence of paleontological resources encountered during construction. If the find is deemed significant, it should be salvaged by the paleontologist following the standards of the Society of Vertebrate Paleontology (2010) and curated with a certified repository. Work in the area may resume after authorization is granted by SMUD's project manager in consultation with the paleontologist.*

### 1.3.6 Hazards and Hazardous Materials

As discussed in Section 3.9 of the Draft IS/MND, construction of the project would involve use, transport, storage, and disposal of hazardous materials. Use of these materials could potentially result in accidental spills that could release hazardous materials into the environment. With compliance with state and federal regulations, accidental releases of hazardous materials during construction of the project would be unlikely to occur. SMUD would implement Mitigation Measure 3.9-1 to reduce potential impacts to a less-than-significant level.

#### **Mitigation Measure 3.9-1: Manage Accidental Discovery of Hazardous Materials**

*If contaminated soils or potentially hazardous items are discovered during earth moving activities, all ground-disturbing activities within 50 feet shall be halted until a qualified SMUD employee or SMUD representative can assess the conditions on the site. SMUD will notify the appropriate agency (e.g., Sacramento County Environmental Management Department [EMD]) to determine if it is appropriate to rebury the potentially hazardous materials. If it is determined that the hazardous material cannot be re-incorporated into the project site, it shall be hauled by a qualified hauler to an appropriate waste disposal facility.*

### 1.3.7 Noise

As discussed in Section 3.13 of the Draft IS/MND, noise levels associated with construction activities would not exceed the threshold. However, activities occurring during the more noise-sensitive evening and nighttime hours are of increased concern. With the implementation of Mitigation Measure 3.13-1, noise impacts during construction would be less than significant.

#### **Mitigation Measure 3.13-1. Limit Construction Noise**

*The following measures shall be implemented to reduce short-term construction noise impacts:*

- *Construction activities shall be limited to between the hours of 6 a.m. and 8 p.m., Monday through Friday, and 7 a.m. to 8 p.m. on Saturdays, where practicable. Construction activities would be prohibited on Sundays and legal*

*holidays. Haul truck operations shall be limited to these same hourly restrictions.*

- *Construction equipment shall be properly maintained and equipped with exhaust mufflers and engine shrouds in accordance with manufacturers' recommendations.*
- *To the extent locally available, electrified, or alternatively powered construction equipment shall be used.*
- *Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses (residences).*
- *Stationary noise sources such as generators, pumps, and pavement crushers, shall be located at the furthest distance possible from noise-sensitive uses.*

## **1.4 CEQA Determination**

SMUD has determined that although the proposed project could have a significant effect on the environment, a significant effect would not occur with implementation of the aforementioned mitigation measures because the proposed mitigation measures would reduce the effects of any impacts to below the established thresholds of significance. Therefore, SMUD's Board of Directors will consider adoption of the MND at a board meeting in November 2023.

## 2 Comments and Responses

### 2.1 Introduction

The Draft IS/MND for the proposed project was circulated for a 30-day public review period (September 5, 2023 to October 5, 2023). During the public comment period, SMUD received four comment letters that pertained to the proposed project (see Table 2-1).

**Table 2-1: List of Commenters**

Letter Number	Name
1	David Field September 25, 2023
2	Gena Powell October 5, 2023
3	Central Valley Regional Water Quality Control Board Peter Minkel, Engineering Geologist October 5, 2023
4	Sacramento Metropolitan Air Quality Management District Molly Wright, Air Quality Planner/Analyst October 9, 2023

### 2.2 Responses to Comments

The comment letters identified above and SMUD's responses to comments are provided on the following pages.



Letter  
1

From: DAVID FIELD [REDACTED]  
To: [Ammon.Rice@smud.org](mailto:Ammon.Rice@smud.org) <[ammon.rice@smud.org](mailto:ammon.rice@smud.org)>  
Sent: Monday, September 25, 2023 at 11:58:38 AM PDT  
Subject: El Rio Sub.

Hi Ammon,

I live on parcel 202-0090-025,

I have several questions,

- 1-1 | The Orange project line on your map, is shown cutting across our parcel. Why?
- 1-2 | The red " footprint " line, is shown west of the existing roadway ( El Rio Ave ). Are they ( SMUD ) moving the existing 12KV tap line also, or leaving it as a sitting duck, to be hit by traffic on the road?
- 1-3 | It's hard to tell what the final configuration is going to be.....Maybe the existing fence stays?
- 1-4 | Why abandon the name " Elverta Sub "?

I look forward to hearing from you.

Dave Field  
[REDACTED] cell

<b>Letter 1</b>	David Field September 25, 2023
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- 1-1 The comment is inquiring about the orange line shown over APN 202-0090-025 on Figure 2-2 on page 9 of the Draft ISMND. The orange line is representing the full extent of the project. This portion of the orange line is showing a potential aerial easement for the Western Area Power Administration (WAPA) overhead 69kV line to tie into the new substation equipment. No ground-disturbing activities would occur on this parcel. No changes are required to the Draft IS/MND in response to this comment.
- 1-2 The comment is inquiring about the red “Proposed Substation Footprint” line shown on Figure 2-2 on page 9 of the Draft ISMND. The footprint line is showing a setback of 31 feet from public street frontages per Sacramento County Zoning Code Section 3.6.6.A Utility and Public Service Facility Uses, 3.6.6.A.1.c.
- The existing 12kV line on El Rio Avenue will stay in place. These poles are set back from the El Rio Avenue edge of pavement by approximately 7 feet. No changes are required to the Draft IS/MND in response to this comment.
- 1-3 The comment is inquiring about the final configuration of the perimeter fence for the proposed substation. The existing fence on the southern portion of the existing substation site will stay in place as it will still be the southern extent of the proposed substation footprint. The proposed new portions of fence on the acquired parcel will align with the current fence on the property line between APN 202-0090-025 and APN 202-0090-024. No changes are required to the Draft IS/MND in response to this comment.
- 1-4 The comment is inquiring about the name change for the proposed substation. The proposed substation will be named El Rio Substation and will replace the existing Elverta Substation, which is planned for decommissioning. The name change is needed to avoid confusion in record keeping. No changes are required to the Draft IS/MND in response to this comment.



Gena Powell  
[redacted] El Rio Avenue  
Elverta, CA 95626  
[redacted]

October 5, 2023

Via Email to  
[Ammon.Rice@smud.org](mailto:Ammon.Rice@smud.org)

Ammon Rice  
SMUD Environmental Services  
P.O. Box 15830 MS B209  
Sacramento, CA 95852-1830

Dear Mr. Rice,

The home my husband and I built in 1984 is located on El Rio Avenue to the East of the proposed El Rio Substation Project (the "Project"). While the Elverta Substation predated our home build, the existing home and related acreage along El Rio Avenue has provided my property with insulation from the substation's aesthetics, light and noise. I have the following comment/concerns regarding the Project's Draft Initial Study/Mitigated Negative Declaration ("Draft IS/MND" and "Report"):

2-1

1. Access on El Rio Avenue – The current Elverta Substation is accessed through a gated driveway on Elverta Road. The Draft IS/MND indicates that another access gate will be created off of Elverta Road and a third gate will be placed on Elverta Road for the Project. El Rio Avenue is a rural road used for local traffic for two residential homes and ABC Ready-Mix ("ABC") (see Report Section 2.3, P. 7). When we built our home, El Rio Road was a dirt road that was later chip sealed. It is not maintained by the County. It is maintained by a Road Agreement between the neighbors and ABC which is recorded with the County. As ABC grew their business and expanded their site they paved the road to accommodate their large concrete trucks and related equipment and employee traffic. The traffic generated by ABC and the contractors that lease space at ABC already heavily impact this short dead-end rural road. Traffic for construction and operation of the Project should not be routed down this rural road. I believe that two access gates off Elverta Road should be sufficient to service the Project. If a gate must be installed on El Rio Avenue for safety reasons it should be an emergency access gate only. There is also a drainage ditch for El Rio Avenue which runs the length of the road that will need to be maintained and a culvert for any access gate will need to be installed for road drainage to prevent flooding of the only access route to the residential properties.

- 2-2 2. Retention Pond – I am concerned that the proposed location of the retention pond to the South of the existing Elverta Substation may cause flooding which may impact the only access I have to my home on El Rio Avenue. This is very close to a flooding area shown on in the FEMA map on page 92. I would like confirmation that this issue has been studied. Also, the homes on El Rio Avenue are on well water. I would like assurance that there will be monitoring of the retention pond for hazardous waste that might leach into our groundwater supply. I request that reports of this monitoring be provided annually to the properties that received notice of the Project from SMUD.
- 2-3 3. Noise – I am especially concerned about the nighttime noise during the construction and demolition related to the Project. Per the Construction Schedule listed in the Report at P. 18 “Crews would normally work Monday through Saturday from 7 a.m. to 6 p.m.” (emphasis added). Under the Lighting Mitigation section of the Report at P. 28 “Construction activities would occur during daylight hours and would not require nighttime lighting apart from occasional deliveries of equipment” (emphasis added). However, the Construction Noise Mitigation section of the Report at P. 106 states “Construction activities shall be limited to between the hours of 6 a.m. and 8 p.m., Monday through Friday, and 7 a.m. to 8 p.m. on Saturdays where practicable. Construction activities would be prohibited on Sundays and legal holidays. Haul truck operations shall be limited to these same hourly restrictions.” (emphasis added). The Report is therefore inconsistent with regard to the construction hours and needs to be clarified. I believe the construction hours should be limited to 6 p.m. Monday through Saturday in order to lessen the noise pollution which will be suffered by nearby residences during construction. Additionally, I propose that the County require that noise measurements be taken randomly by the County to ensure compliance with noise limits stated in the Report of 80 dBA Leq during construction and 48 dBA Leq/L50 during operation of the El Rio Substation. Finally, I propose that the residents be provided with a contact person at the County to field any complaints/concerns regarding noise especially during construction.
- 2-4 4. Lighting – While I appreciate the proposed downlighting for the El Rio Substation Project, I feel there will be a substantial glow emanating from the Project which is now much closer to nearby residents. Shade mesh or slats could be added to the proposed chain link fencing which might cut down on the light pollution.
- 2-5 5. Fencing and Landscaping – I propose the addition of shade mesh or slats to the chain link fence along El Rio to help conceal the development, decrease light pollution and cut down dust from the Project. It would also be more aesthetically pleasing since this 9 foot tall fence is also topped by razor wire. Also, the proposed landscaping treatment of Agavaceae plants (Report P. 27) between the fenceline and El Rio Avenue seems insufficient. The addition of trees or tall shrubs would provide a better light, sound and aesthetic barrier between the project and residents.
- 2-6 6. Future use of Elverta Substation Site – I couldn’t locate any information in the Draft IS/MND regarding the proposed future use of the existing Elverta Substation site following it’s decommissioning. I am concerned that it may become a storage yard for abandoned equipment containing potentially hazardous materials.

Thank you for considering my concerns. Please call me at [REDACTED] if you have any questions or comments regarding same.

Very truly yours,

*Gena Powell*  
Gena Powell

<b>Letter 2</b>	Gena Powell October 5, 2023
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- 2-1 The comment is inquiring about the use of and need for the proposed access gate on El Rio Avenue, which is not a county-maintained road.

Use of the proposed El Rio Avenue gate would be primarily during construction. The access gate along El Rio Avenue is needed for delivery and installation of large substation components including transformers. The gate location on El Rio Avenue has been updated from the location shown in the Draft IS/MND; the gate has been moved slightly south (see revised Figure 2-4 below). Operational use of access gates will be limited. Operation and maintenance of the proposed substation would be similar to the existing operation and maintenance of the Elverta Substation. During normal operations, the substation would be operated remotely and continuously. Substation maintenance would occur on a regular basis, estimated as two to four times per month for internal inspections and four times per year for perimeter maintenance. It is expected that the Elverta Road gate would continue to be used as the primary entrance to the substation.

Construction of the new access from El Rio Avenue would include an appropriately sized culvert under the access driveway to maintain flow in the drainage ditch.

The comment references an existing Road Agreement between the neighbors on El Rio Avenue and the ABC Ready Mix concrete batch plant, which is located south of the proposed substation. It is SMUD policy to evaluate pre- and post-construction conditions on roads used for equipment access. SMUD will repair damage caused by the construction activities on any road not maintained by the County and coordinate with the County to repair any damage attributable to SMUD's use of County roads.

The location of the El Rio Avenue access gate has been updated on Figure 2-4; see Section 3 *Changes to Draft IS/MND Text* below.

- 2-2 The comment requests more information regarding impacts from the proposed retention basin for the project. Additionally, the commenter requests monitoring of the retention pond for hazardous waste.

Studies have been completed to determine the size requirements of the stormwater detention basin proposed at the El Rio Substation. Additional studies will be completed as the design of the substation progresses to ensure that the detention basin is of adequate size to retain stormwater on site. It is SMUD policy to size the detention basins to accommodate the runoff associated with a 100-year storm. Additionally, the bioretention basin would be vegetated to help capture pollutants.

The project would be required to comply with existing laws and regulations regarding the transportation, use, and disposal of hazardous materials. These regulations are specifically designed to protect the public health and the

environment and must be adhered to during project construction and operation. Similar to the existing substation, the El Rio Substation would utilize a highly refined mineral oil within transformers and other components. Each transformer would have a secondary containment system made of concrete and sufficiently sized to collect and hold any oil leaks from the transformer. Monitor pumps will be installed on equipment to monitor potential leaks. Transformers are required to be inspected regularly and any leaks are addressed promptly to maintain reliability.

Due to the battery system which would be located inside the control building or in an enclosure in the substation and amount of SF<sub>6</sub> that would be onsite, a Hazardous Materials Business Plan (HMBP) is required. While there are exceptions, a HMBP is generally required if operation of the project includes the handling or storage of hazardous materials equal to or greater than the minimum reportable quantities. These quantities are 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases (CalEPA 2023). The HMBP includes emergency response plans and procedures to prevent or minimize harm to the public and the environment if a release of a hazardous material were to occur.

As described in Section 3.10 Hydrology and Water Quality, the project would be required to obtain coverage under the Construction General Permit, which requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include good site housekeeping measures for proper storage and management of hazardous materials, as well as spill prevention, control, and countermeasures. Implementation of the SWPPP would greatly reduce the potential for construction activities to result in accidental releases of hazardous materials.

The description of the retention basin and optional locations for stormwater retention and treatment have been updated for clarity. See Section 3 *Changes to Draft IS/MND Text* below for the updated text and revised Figure 2-4.

2-3 The comment requests additional information on construction-related noise.

While the Sacramento County noise standard limits construction activities between the hours of 6 a.m. and 8 p.m., Monday through Friday, and 7 a.m. to 8 p.m. on Saturdays (Sacramento County Code 6.68.090[e]), SMUD will primarily work Monday through Saturday from 7 a.m. to 6 p.m. as stated on page 18 of the Draft IS/MND. Exceptions to these hours will occur for specific equipment installation, including oil filtering for transformer installation which requires the use of a generator for 3 days at 24-hours/day, and equipment deliveries which may occur outside the daytime hours. The El Rio Substation Project Noise Impact Assessment determined for residential land uses, noise levels associated with construction activities would not exceed the 80 dBA Leq threshold. Mitigation Measure 3.13-1 will be implemented to reduce short-term construction noise impacts include work hour restrictions. The proper maintenance of construction equipment and use of manufacturer-recommended mufflers and engine shrouds would reduce equipment noise levels by approximately 10 dB. The installation of temporary noise barriers, where required, would decrease noise levels by approximately 5 to 10 dB.

With mitigation, this impact would be considered less than significant. Based on

the predicted noise levels noted in the El Rio Substation Project Noise Impact Assessment and assuming that all noise sources were to operate simultaneously, predicted exterior noise levels at the nearest residential outdoor activity area would be approximately 48 dBA Leq/L50. Assuming an average exterior-to-interior noise reduction of 20 dBA, predicted interior noise levels at the nearest residence would be 28 dBA Leq/L50. Predicted noise levels would not exceed the County's exterior daytime/nighttime noise standards of 55/50 dBA Leq/L50 or the County's interior noise standard of 35 dBA Leq/L50. As a result, this impact would be considered less than significant.

When notifying neighbors of the start of construction, SMUD will provide neighbors with contact information for the SMUD Construction Manager responsible for contractor oversight. Noise complaints can be made to this SMUD employee. Minor changes have been made to the discussion of construction-related noise; see Section 3 *Changes to Draft IS/MND Text* below for the updated text.

- 2-4 The comment is inquiring about the lighting associated with the proposed project.

Most substation lighting would be off during standard operating conditions, except for footpath and security lighting, which incorporates fixtures with photocell on/off and motion high/low with low light output at 30% or less, and on rare occasions when nighttime access is required for urgent repairs or inspections. All substation lighting would be oriented downward toward major equipment and shields may be used on fixtures to help prevent light trespass and minimize glare onto surrounding properties, as long as SMUD security standards are still met. The substation lighting standards would be approximately 30 feet above ground level and at least 31 feet from adjacent roadways per Sacramento County setback requirements. Hence, impacts from new lighting are less than significant.

No changes are required to the Draft IS/MND in response to this comment.

- 2-5 The comment states concern regarding the proposed fencing and landscaping and suggests the addition of shade fabric or slats to the fence and changes to the proposed landscaping.

SMUD specifications for fencing do not include fence fabric or slats. SMUD uses a higher security 1-inch-mesh chain link fence, and readily available fence slats are not made for this smaller mesh size. Privacy fence fabric is also not recommended due to maintenance cost and effort. Once constructed, the substation would not generate dust and, as explained in response to comment 2-4, use of lighting at the substation would be limited and light standards have been designed to minimize glare and light trespass. As discussed in Section 3.1 of the Draft IS/MND, the project would have a less-than-significant impact on aesthetics.

Landscaping is subject to final design determination. SMUD strives to implement perimeter landscaping that requires low water use and minimal maintenance while being visually appealing. SMUD appreciates the commentor's concern for the visibility of the site and the request for additional trees and shrubs will be added to the record. The comments will be considered in the final landscape plan. No changes are required to the Draft IS/MND in response to this comment.

- 2-6 The comment is inquiring about the future use of the Elverta Substation site.

As shown on Figure 2-4, some of the existing equipment will remain following the decommissioning of the Elverta Substation. The site may be used for short-term storage of parts or materials, which could include steel structures or spare equipment that is in good working condition. This site would not be used to store abandoned equipment containing hazardous materials. No changes are required to the Draft IS/MND in response to this comment.



GAVIN NEWSOM  
GOVERNOR



YANA GARCIA  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

Letter  
3

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## Central Valley Regional Water Quality Control Board

5 October 2023

Ammon Rice  
Sacramento Municipal Utility District (SMUD)  
6201 S Street, MS B209  
Sacramento, CA 95817-1899  
[ammon.rice@smud.org](mailto:ammon.rice@smud.org)

### **COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, EL RIO SUBSTATION PROJECT, SCH#2023090056, SACRAMENTO COUNTY**

Pursuant to the State Clearinghouse's 5 September 2023 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the El Rio Substation Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore, our comments will address concerns surrounding those issues.

#### **I. Regulatory Setting**

##### **Basin Plan**

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of

3-1

3-1  
cont.

Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/)

**Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:

[https://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/sacsjr\\_2018\\_05.pdf](https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_2018_05.pdf)

In part it states:

3-2

*Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*

*This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

**II. Permitting Requirements**

**Construction Storm Water General Permit**

3-3

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/constpermits.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml)

3-3  
cont.**Clean Water Act Section 404 Permit**

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

**Clean Water Act Section 401 Permit – Water Quality Certification**

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at:  
[https://www.waterboards.ca.gov/centralvalley/water\\_issues/water\\_quality\\_certification/](https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/)

**Waste Discharge Requirements – Discharges to Waters of the State**

If USACE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:  
[https://www.waterboards.ca.gov/centralvalley/water\\_issues/waste\\_to\\_surface\\_water/](https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/)

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:

[https://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2004/wqo2004-0004.pdf](https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo2004-0004.pdf)

**Dewatering Permit**

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2003/wqo/wqo2003-0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf)

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:

[https://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/waivers/r5-2018-0085.pdf](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf)

**Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

[https://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2016-0076-01.pdf](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf)

**NPDES Permit**

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: <https://www.waterboards.ca.gov/centralvalley/help/permit/>

3-3  
cont.



El Rio Substation Project  
November 2023

El Rio Substation Project  
Sacramento County

- 5 -

5 October 2023

Letter 3
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If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

*Peter Minkel*

Peter Minkel  
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research,  
Sacramento

<b>Letter 3</b>	Central Valley Regional Water Quality Control Board Peter Minkel, Engineering Geologist October 5, 2023
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- 3-1 The comment provides background information about the Basin Plan and the process for amending the Basin Plan. It is understood that the standards of the Basin Plan may be amended over time. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.
- 3-2 The comment states that all wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

The Basin Plan is discussed on page 87 of the Draft IS/MND. Furthermore, as discussed on page 90 of the Draft IS/MND, the project would obtain coverage under the National Pollution Discharge Elimination System (NPDES) General Construction Permit. The permit would require preparation and implementation of a stormwater pollution prevention plan (SWPPP) that would specify storm water best management practices (BMPs). No changes are required to the Draft IS/MND in response to this comment.

- 3-3 The comment provides information about the permitting requirements that may be applicable to the project. Section 2.5 beginning on page 20 of the Draft IS/MND discusses the potential permits that may be required and includes permits issued by the Central Valley Regional Water Quality Control Board. Additionally, the impact discussion on page 90 of the Draft IS/MND discusses the applicable permits and requirements related to water quality. No changes are required to the Draft IS/MND in response to this comment.

**From:** Molly Wright <MWright@airquality.org>  
**Sent:** Monday, October 9, 2023 3:32 PM  
**To:** Ammon Rice <Ammon.Rice@smud.org>  
**Cc:** Paul Philley <PPhilley@airquality.org>  
**Subject:** [EXTERNAL] Sacramento Metropolitan Air Quality Management District comments on the El Rio Substation MND

Letter  
4

**CAUTION:** This email originated from outside of SMUD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Ammon Rice:

Thank you for providing the Sacramento Metropolitan Air Quality Management District (SMAQMD) with notice of the draft Mitigated Negative Declaration (MND) for the El Rio Substation Project. Our comment on the MND pertains to use of our [Basic Construction Emission Control Practices](#) (BMPs).

The MND correctly indicates that “The project’s projected maximum construction emissions do not exceed SMAQMD’s daily or annual construction emission standards. However, SMAQMD predicates the particulate matter standard on adherence to their Basic Construction Emission Control Practices and Best Management Practices. Without the application of the SMAQMD’s BMPs, this impact would be potentially significant.” It further indicates that “Mitigation Measure 3.3-1 would require that the project implement the SMAQMD’s BMPs.”

4-1

Mitigation Measure 3.3-1 is commendable, however, it does not include the entirety of our BMPs. Our BMPs, proper predications for their use, and other CEQA guidance is available in our *Guide to Air*

*Quality Assessment in Sacramento County*, available online here:

<https://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>

- SMAQMD recommends that all measures from our Basic Construction Emission Control Practices be included in Mitigation Measure 3.3-1, so that the MND can correctly use [our non-zero thresholds of significance](#) for particulate matter. The other elements of Mitigation Measure 3.3-1 could still be included therein.

Thank you for your consideration. Please let me know if you have any questions at all.

Best Regards,

**Molly Wright**

Air Quality Planner/Analyst

Desk: (279) 207-1157

[mwright@airquality.org](mailto:mwright@airquality.org)

[www.AirQuality.org](http://www.AirQuality.org)



<b>Letter 4</b>	Sacramento Metropolitan Air Quality Management District Molly Wright, Air Quality Planner/Analyst October 9, 2023
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4-1 In response to the comment, Mitigation Measure 3.3-1 has been revised to include the entirety of the SMAQMD BMPs. The updates to the mitigation measure requested by the commenter are reflected in the final text of the MMRP to be implemented by SMUD, and do not change the conclusion of the IS/MND. See Section 3 *Changes to Draft IS/MND Text* below for the updated mitigation measure text.

### 3 Changes to Draft IS/MND Text

This section presents specific text changes made to the Draft IS/MND since its publication and public review. The changes are presented in the order in which they appear in the original document and are identified by the Draft IS/MND page number. Text deletions are shown in strikethrough (~~strikethrough~~), and text additions are shown in underline (underline).

It should be noted that the following revisions do not change the intent or content of the analysis or effectiveness of mitigation measures presented in the Draft IS/MND and do not necessitate recirculation of the Draft IS/MND or preparation of an Environmental Impact Report.

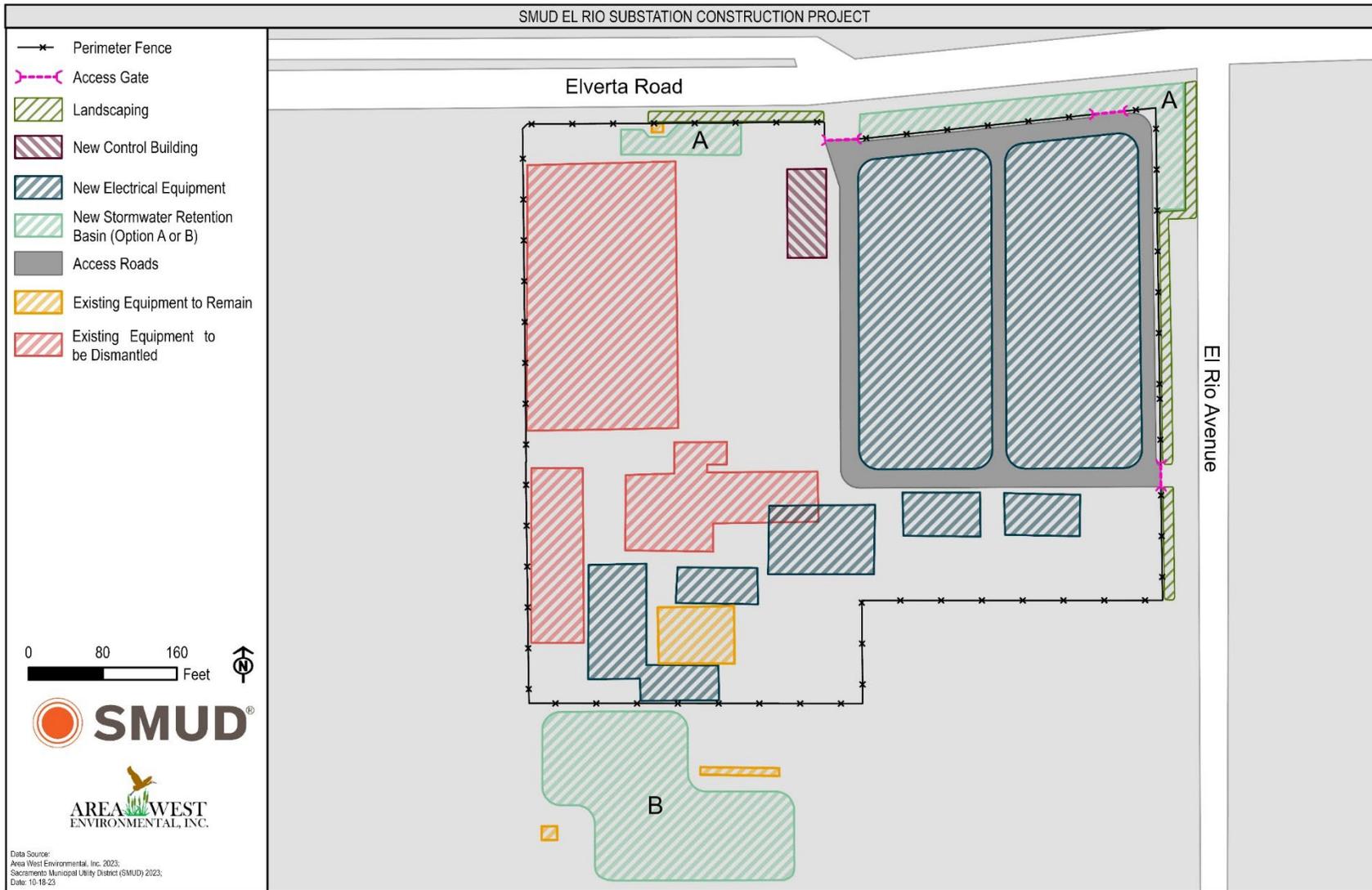
#### 3.1 Changes to Draft IS/MND Project Description

Figure 2-4 Conceptual Substation Plan on page 13 of the Draft IS/MND has been updated to show options for stormwater drainage and revision to the El Rio Avenue gate. The revised figure is provided below.

The text on page 14 of the Draft IS/MND describing the stormwater drainage has been revised as follows.

##### Stormwater Drainage

The substation would be designed such that on-site runoff would be collected into an underground storm drain pipe system and a stormwater retention basin. The stormwater retention basin would be constructed south of the existing Elverta Substation or within the El Rio Substation footprint after the Elverta Substation is dismantled and in accordance with site drainage design requirements. Figure 2-4 shows optional locations for the retention basin or bioretention basin south of the existing substation (Option B) or along the north side of the new and existing substation (Option A). In order to minimize drainage impacts from the increased amount of non-permeable surfaces (estimated to be 60,000 square feet), the proposed on-site retention basin would collect stormwater in the basin, allowing pollutants to be captured by vegetation and the water to percolate into the soil. If constructed within the substation property, the bioretention basin or retention basin would collect stormwater and allow pollutants to be captured by vegetation before entering the existing roadside stormwater collection system. If the stormwater retention basin were constructed outside of SMUD's current easement area on the WAPA-owned parcel, SMUD would modify the existing easement with WAPA to include the basin area.



**Figure 2-1. Conceptual Substation Plan**

### 3.2 Changes to Draft IS/MND Environmental Impact Evaluation

The text of Mitigation Measure 3.3-1 beginning on page 39 of the Draft IS/MND is revised as follows.

#### **Mitigation Measure 3.3-1: Implement SMAQMD Emissions Controls and BMPs.**

*SMUD or the authorized contractor will adhere to the SMAQMD basic construction emissions control practices, including, but not limited to the measures listed below, and additional measures designed to limit DPM:*

- *Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.*
- *Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.*
- *Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.*
- *Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).*
- *All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.*
- *Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.*
- *Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].*
- *Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.*
- ~~*All disturbed areas, including storage piles that are not being actively used for construction purposes, shall be effectively stabilized of dust emissions using water, a chemical stabilizer or suppressant, or vegetative ground cover. Soil shall be kept moist at all times.*~~
- ~~*All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized of dust emissions using water or a chemical stabilizer or*~~

*suppressant.*

- ~~When materials are transported offsite, all material shall be covered, effectively wetted to limit visible dust emissions, or maintained with at least 2 feet of freeboard space from the top of the container.~~
- ~~All operations shall limit or expeditiously remove the accumulation of project-generated mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.~~
- ~~After materials are added to or removed from the surfaces of outdoor storage piles, the storage piles shall be effectively stabilized of fugitive dust emissions using sufficient water or a chemical stabilizer/suppressant.~~
- ~~Onsite vehicle speeds on unpaved roads shall be limited to 15 mph~~
- *Wheel washers shall be installed for all trucks and equipment exiting unpaved areas, or wheels shall be washed to remove accumulated dirt before such vehicles leave the site.*
- *Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from adjacent project areas with a slope greater than 1%.*
- *Excavation and grading activities shall be suspended when winds exceed 20 mph.*
- *The extent of areas simultaneously subject to excavation and grading shall be limited, wherever possible, to the minimum area feasible.*
- ~~All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.~~
- ~~Maintain all construction equipment in proper working condition according to manufacturer's specifications. Equipment will be checked by a certified mechanic and determined to be running in proper condition before it is operated.~~
- ~~All on and off-road diesel equipment shall not idle when not in use. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit.~~
- ~~Provide current certificate(s) of compliance for ARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].~~
- *Diesel equipment meeting the ARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines shall be used to the extent locally available.*

- *On-road heavy-duty equipment with model year 2010 engines or newer shall be used to the extent locally available.*
- *Diesel powered equipment shall be replaced by electric equipment whenever available.*
- *Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, shall be used on-site where locally available.*
- *Catalytic converters shall be installed on gasoline-powered equipment, if available, and in accordance with manufacturer's recommendations.*

The text under Construction-Related Noise beginning on page 104 of the Draft IS/MND is revised as follows.

With regard to residential land uses, noise levels associated with construction activities would not exceed the 80 dBA Leq threshold commonly recommended by federal agencies (FTA 2018). However, activities occurring during the more noise-sensitive evening and nighttime hours (i.e., 8:00 p.m. to 6:00 a.m.) are of increased concern. Because exterior ambient noise levels typically decrease during the evening and nighttime hours, as community activities (e.g., commercial activities, vehicle traffic) decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of nearby residential dwellings. Nighttime construction activities would be infrequent; equipment deliveries may be made at night or early morning and oil filtering for transformer installation would require a generator for three days (24 hours a day). For these reasons, noise-generating construction activities would be considered to have a **potentially significant** impact.

## **4 Mitigation Monitoring and Reporting Program**

### **4.1 Introduction**

This mitigation monitoring and reporting program summarizes identified mitigation measures, implementation schedule, and responsible parties for the SMUD El Rio Substation Project (project). SMUD will use this mitigation monitoring and reporting program to ensure that identified mitigation measures, adopted as conditions of project approval, are implemented appropriately. This monitoring program meets the requirements of CEQA Guidelines Section 15074(d), which mandates preparation of monitoring provisions for the implementation of mitigation assigned as part of project approval or adoption.

### **4.2 Mitigation Implementation and Monitoring**

SMUD will be responsible for monitoring the implementation of mitigation measures designed to minimize impacts associated with the project. While SMUD has ultimate responsibility for ensuring implementation, others may be assigned the responsibility of implementing the mitigation. SMUD will retain the primary responsibility for ensuring that the project meets the requirements of this mitigation plan and other permit conditions imposed by participating regulatory agencies.

SMUD will designate specific personnel who will be responsible for monitoring implementation of the mitigation that will occur during project construction. The designated personnel will be responsible for submitting documentation and reports to SMUD on a schedule consistent with the mitigation measure and in a manner necessary for demonstrating compliance with mitigation requirements. SMUD will ensure that the designated personnel have authority to require implementation of mitigation requirements and will be capable of terminating project construction activities found to be inconsistent with mitigation objectives or project approval conditions.

SMUD and its appointed contractor will also be responsible for confirming that its construction personnel understand their responsibilities for adhering to the performance requirements of the mitigation plan and other contractual requirements related to the implementation of mitigation as part of project construction. In addition to the prescribed mitigation measures, Table 3-1 (Mitigation Monitoring and Reporting Program) lists each identified environmental resource being affected, the corresponding monitoring and reporting requirement, and the party responsible for ensuring implementation of the mitigation measure and monitoring effort.

### **4.3 Mitigation Enforcement**

SMUD will be responsible for enforcing mitigation measures. If alternative measures are identified that would be equally effective in mitigating the identified impacts, implementation of these alternative measures will not occur until agreed upon by SMUD.

**Table 4-1: Mitigation Monitoring and Reporting Program**

**Air Quality**

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.3-1. Implement SMAQMD Emissions Controls and BMPs.</u></b></p> <p><i>SMUD or the authorized contractor will adhere to the Sacramento Metropolitan Air Quality Management District (SMAQMD) basic construction emissions control practices, including, but not limited to the measures listed below, and additional measures designed to limit DPM:</i></p> <ul style="list-style-type: none"> <li>• <i>Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.</i></li> <li>• <i>Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.</i></li> <li>• <i>Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.</i></li> <li>• <i>Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).</i></li> <li>• <i>All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.</i></li> </ul>	<p>Before Construction</p> <p>During Construction</p> <p>After construction</p>	<p>Authorized Construction Contractor</p>	<p>SMUD</p>	<p>Site Inspection</p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<ul style="list-style-type: none"> <li>• <i>Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.</i></li> <li>• <i>Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].</i></li> <li>• <i>Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.</i></li> <li>• <i>Wheel washers shall be installed for all trucks and equipment exiting unpaved areas, or wheels shall be washed to remove accumulated dirt before such vehicles leave the site.</i></li> <li>• <i>Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from adjacent project areas with a slope greater than 1%.</i></li> <li>• <i>Excavation and grading activities shall be suspended when winds exceed 20 mph.</i></li> <li>• <i>The extent of areas simultaneously subject to excavation and grading shall be limited, wherever possible, to the minimum area feasible.</i></li> <li>• <i>Diesel equipment meeting the ARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines shall be used to the extent locally available.</i></li> </ul>						

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<ul style="list-style-type: none"> <li>• On-road heavy-duty equipment with model year 2010 engines or newer shall be used to the extent locally available.</li> <li>• Diesel powered equipment shall be replaced by electric equipment whenever available.</li> <li>• Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, shall be used on-site where locally available.</li> <li>• Catalytic converters shall be installed on gasoline-powered equipment, if available, and in accordance with manufacturer's recommendations.</li> </ul>						
<p><b><u>Mitigation Measure 3.3-2. Survey, Remove, and Dispose of ACM and LBP</u></b></p> <p><i>The presence or absence of asbestos-containing material (ACM) and lead-based paint (LBP) will be verified by conducting a survey for these materials prior to demolition activities, and if present, they will be remediated prior to any renovation or demolition at the project site that involves the disturbance or potential disturbance of ACM or LBP, in accordance with applicable regulatory requirements, including requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M-Asbestos; NESHAP). These requirements include but are not limited to: 1) notification, within at least 10 business days of activities commencing, to the air quality management district, 2) an asbestos survey conducted by a Certified Asbestos Consultant, and, 3) applicable removal and disposal requirements of identified ACM. The SMAQMD is delegated authority by the United States Environmental Protection Agency (USEPA) to implement the Federal Asbestos NESHAP.</i></p>	Before Construction	Authorized Construction Contractor	SMUD	Construction Contractor will provide results of ACM and LBP testing.  &  Site Inspection		

**Biological Resources**

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.4-1: Avoid or Minimize Effects on Special-status Aquatic Species and Waters of the U.S. and State</u></b></p> <ul style="list-style-type: none"> <li>• All on-site construction personnel will receive worker environmental awareness training, which instructs workers regarding the presence of listed species and the importance of avoiding impacts to these species and their habitat.</li> <li>• Access, egress, and ground-disturbing activities will be sited to avoid aquatic features to the extent possible. Where present, existing paved and unpaved roads will be used to access the work area.</li> <li>• All work in or near potential aquatic species habitat will be performed in the dry season (approximately April 15 through October 15).</li> <li>• Temporary fencing shall be placed along the boundary of the work areas to avoid and protect environmentally sensitive areas (waters of the U.S. and State, special-status species habitat) during construction activities. Fencing must be installed prior to the initiation of any vegetation removal, equipment staging, construction, or other project activity. Fencing will consist of temporary construction barrier fencing or silt fencing. The fencing will be checked regularly and maintained until all construction is complete.</li> </ul>	<p>Before Construction (training, ESA fence installation)</p> <p>During Construction (work windows and soil salvage)</p> <p>After Construction (restoration of disturbed area)</p>	<p>Authorized Construction Contractor</p>	<p>SMUD</p>	<p>Construction Contractor will advise SMUD in writing that the environmental training has been completed.</p> <p>&amp;</p> <p>Site Inspection</p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<ul style="list-style-type: none"> <li>• All temporarily disturbed areas will be returned to pre-project conditions upon completion of construction. Soil stabilization may include, but is not limited to, seeding with a native grass seed mix and/or planting native plants. These areas will be properly protected from washout and erosion using appropriate erosion control devices including coir netting, hydroseeding, and/or revegetation. The existing grades in temporary impact areas will be recontoured to existing conditions.</li> <li>• Rubber matting, or similar equivalent, will be used where temporary access for heavy equipment is required through vernal pools and seasonal wetlands/swales.</li> <li>• For pole installations in or within 250 feet of wetlands, the upper four inches of topsoil will be stockpiled separately on Visqueen or plastic sheets during excavations. The area between the pole and the pole hole will be backfilled with cement, and the upper portion will be backfilled with native soil commensurate with the topography and stratigraphy of the surrounding soil. When this topsoil is replaced, compaction shall be minimized to the extent consistent with utility standards. Areas of disturbed soil will be reseeded with a native seed mix.</li> <li>• For pole removal, clay (native or bentonite) will be used to fill the pole hole.</li> <li>• No pesticides or herbicides will be applied within 250 feet of vernal pools.</li> </ul>						
<p><b><u>Mitigation Measure 3.4-2. Compensate for Permanent Impacts to Wetlands and Aquatic Species Habitat</u></b></p> <p><i>If the new monopole locations result in permanent impacts on wetland features, the appropriate permits would be obtained and the USFWS would be consulted. As part of the consultation process, SMUD would</i></p>	Before Construction	SMUD	SMUD	Completion of Compensatory Mitigation Plan and receipt of 404 permit, if applicable		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><i>prepare and implement a Compensatory Mitigation Plan for project impacts on wetlands and vernal pool branchiopods. The Compensatory Mitigation Plan may include, but is not limited to, the purchase of mitigation credits for vernal pool fairy shrimp and vernal pool tadpole shrimp from the SMUD Nature Preserve Mitigation Bank or an alternative USFWS-approved mitigation bank in accordance with USFWS guidance on mitigation ratios. This mitigation requirement may be refined or superseded by the USFWS and U.S. Army Corps of Engineers permit terms.</i></p>						
<p><b><u>Mitigation Measure 3.4-3: Conduct Pre-Construction Survey for Western Spadefoot</u></b></p> <p><i>A biologist will conduct a survey no less than 7 days prior to the initiation of any ground disturbing activities within or adjacent to suitable habitat for western spadefoot. This survey will comprise walking transects while conducting visual encounter surveys within areas that will be subject to staging, vegetation clearing, grubbing, grading, cut and fill, or other ground disturbing activities. The survey will include wetlands and adjacent grassland. All potential habitat features in the project site, such as crevices and burrows western spadefoot often use, will be searched to the maximum extent practicable.</i></p> <p><i>If western spadefoot are present within the project work limits (including their egg masses or tadpoles), then CDFW will be notified and additional avoidance and minimization measures will be implemented. Any special-status species observed will be allowed to voluntarily move outside of the work area on its own volition.</i></p>	<p>Before Construction</p>	<p>SMUD Biologist</p>	<p>SMUD</p>	<p>The project biologist will submit a summary of the pre-construction survey results to SMUD and CDFW, as appropriate.</p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.4-4: Avoid or Minimize Effects on Giant Garter Snake</u></b></p> <ul style="list-style-type: none"> <li><i>Avoid construction activities within 200 feet from the banks of giant garter snake aquatic habitat to the greatest extent feasible.</i></li> <li><i>Construction activity within 200 feet of giant garter snake aquatic habitat should be conducted between May 1 and October 1. This is the active period for giant garter snakes and direct mortality is lessened, because snakes are expected to actively move and avoid danger. If activities occur between October 2 and April 30 within 200 feet of giant garter snake habitat, SMUD will contact the USFWS Sacramento Fish and Wildlife Office to determine if additional measures are necessary to minimize and avoid take.</i></li> <li><i>Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided giant garter snake habitat within or adjacent to the project site as Environmentally Sensitive Areas. This area should be avoided by all construction personnel.</i></li> <li><i>Construction personnel shall receive worker environmental awareness training. This training instructs workers to recognize giant garter snakes and their habitat(s).</i></li> <li><i>24 hours prior to construction activities, the project site should be surveyed for giant garter snakes. The survey of the project site should be repeated if a lapse in construction activity of two weeks or more has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake will not be harmed.</i></li> </ul>	<p>Before Construction</p> <p><i>(habitat flagging, training, pre-construction surveys)</i></p> <p>During Construction</p> <p><i>(work windows and agency contact)</i></p>	<p>Authorized Construction Contractor</p> <p>&amp;</p> <p>SMUD Biologist</p>	<p>SMUD</p>	<p>The project biologist will submit a summary of environmental training and pre-construction survey results to SMUD.</p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<ul style="list-style-type: none"> <li>Any dewatered habitat should remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.</li> </ul>						
<p><b><u>Mitigation Measure 3.4-5: Avoid or Minimize Effects on Nesting Swainson’s Hawk, White-Tailed Kite, Grasshopper Sparrow, and Other Nesting Birds</u></b></p> <ul style="list-style-type: none"> <li>The following measures shall be implemented to avoid or minimize loss of active Swainson’s hawk, white-tailed kite, grasshopper sparrow, and other raptor nests:</li> <li>If construction (including vegetation removal) would occur during the nesting season (between February 1 and August 31), a SMUD project biologist/biological monitor shall conduct pre-construction nesting bird surveys to determine whether birds are nesting in the work area or within 0.25 mile for Swainson’s hawk and 500 feet for all other nesting birds of the project site.</li> <li>The pre-construction nesting bird surveys will identify on-site bird species and any nest-building behavior. If no nesting Swainson’s hawks are found on or within 0.25 mile of the project site or if no nesting birds are found on or within 500 feet of the project site during the pre-construction clearance surveys, construction activities may proceed as scheduled.</li> <li>If pre-nesting behavior is observed but an active nest of common nesting bird has not yet been established (e.g., courtship displays but no eggs in a constructed nest), a nesting bird deterrence and removal program will be implemented. Such deterrence methods include removal of the previous year’s nesting materials and removal of partially completed nests in progress. After a nest is situated and identified with eggs or young, it is considered to be “active,” and the nest cannot be removed until the young have fledged.</li> </ul>	<p>If construction is planned between February 1 and August 31:</p> <p>Before Construction</p>	SMUD Biologist	SMUD	The project biologist will submit a summary of the pre-construction survey results to SMUD.		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<ul style="list-style-type: none"> <li><i>If active Swainson's hawk nests are found within the survey area, the construction contractor shall avoid impacts on such nests by establishing a no-disturbance buffer around the nest. Monitoring of the nest by a qualified biologist during construction activities shall be required if the activity has the potential to adversely affect the nest. Based on guidance for determining a project's potential for affecting Swainson's hawks (Swainson's Hawk Technical Advisory Committee 2000), projects in urban areas have a low risk of adversely affecting nests greater than 600 feet from project activities. Therefore, 600 feet is anticipated to be the adequate buffer size for protecting nesting Swainson's hawks from disturbances associated with the project. However, the qualified biologist shall consult with CDFW to confirm the adequacy of the no-disturbance buffer and/or whether the buffer may be reduced based on the biologist's professional judgment.</i></li> <li><i>If an active white-tailed kite, grasshopper sparrow, or common bird species nest is found on or within 500 feet of the project site during construction, a "no-construction" buffer zone will be established around the active nest (usually a minimum radius of 50 feet for passerine birds and 500 feet for raptors) to minimize the potential for disturbance of the nesting activity. The project biologist/biological monitor will determine and flag the appropriate buffer size required, based on the species, specific activities being conducted, tolerances of the species, and the nest location. Project activities will resume in the buffer area when the project biologist/biological monitor has determined that the nest(s) is (are) no longer active or the biologist/biological monitor has determined that with implementation of an appropriate buffer, work activities would not disturb the bird's nesting behavior.</i></li> </ul>						
<p><b><u>Mitigation Measure 3.4-6: Avoid or Minimize Effects on Burrowing Owls</u></b></p>	<p>Before Construction</p>	<p>SMUD Biologist</p>	<p>SMUD</p>	<p>The project biologist will submit a summary of</p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><i>The following measures shall be implemented to avoid or minimize effects to burrowing owl during construction of the proposed project:</i></p> <ul style="list-style-type: none"> <li><i>Pre-construction surveys for burrowing owls would be completed before the project begins. A survey to determine presence or absence of burrowing owls may be performed at any time to facilitate passive relocation efforts, which must occur during the nonbreeding season (generally September 1 to January 31). In addition, a pre-construction survey would be conducted no more than 14 days prior to the initiation of any project activities, including vegetation removal, equipment staging, or construction. This survey would be conducted in all areas of potential habitat within the project area plus a 500-foot buffer and would follow the methods described in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) or an updated version of this document.</i></li> <li><i>If the biologist finds an active burrowing owl burrow, the biologist would establish a buffer around the site. The buffer location would be based on the CDFW Staff Report on Burrowing Owl Mitigation (2012) or at the distance which the biologist, in consultation with CDFW, determines that burrowing owls would not be harassed by the proposed project.</i></li> </ul>				the pre-construction survey results to SMUD.		
<p><b><u>Mitigation Measure 3.4-7: Conduct an American Badger Pre-construction Survey</u></b>  <i>A qualified biologist would conduct a preconstruction survey for American badger individuals and active dens in the project site and within a 250-foot buffer of the project site.</i></p> <ul style="list-style-type: none"> <li><i>The preconstruction survey would be conducted no more than 14 days before the initiation of construction activities.</i></li> </ul>	Before Construction	SMUD Biologist	SMUD	The project biologist will submit a summary of the pre-construction survey results to SMUD.		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<ul style="list-style-type: none"> <li>For surveys in inaccessible areas, the biologist would use binoculars to scan any suitable denning substrate for potential individuals or dens.</li> <li>If no active dens are found during the preconstruction surveys, then no additional mitigation is required.</li> <li>If an active den is identified within the survey area, a no-disturbance buffer would be established around the nest/den to avoid disturbance of the denning mammal until a qualified biologist determines that the young have dispersed. The extent of these buffers would be determined by the biologist and would depend on the level of noise or construction disturbance, line-of-sight between the den and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers.</li> <li>If any non-denning individuals are observed in the survey area before or during construction, the species would be allowed to move out of harm's way on its own.</li> </ul>						

**Cultural Resources**

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.5-1: Worker Environmental Awareness and Cultural Respect Training and Procedures for Inadvertent Discovery of Cultural Resources</u></b></p> <p><i>Prior to excavation or other subsurface disturbance activities, individuals conducting the work will be required to participate in Worker Environmental Awareness and Cultural Respect Training. Workers will be advised to watch for cultural resource materials. If workers observe any evidence of pre-contact cultural resources</i></p>	<p>Before Construction (training)</p> <p>During Construction (discovery)</p>	Authorized Construction Contractor	SMUD	Construction Contractor will advise SMUD in writing that the environmental training has been completed.		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><i>(freshwater shells, beads, bone tool remnants or an assortment of bones, soil changes including subsurface ash lens or soil darker "midden" in color than surrounding soil, lithic materials such as flakes, tools or grinding rocks, etc.), or historic cultural resources (adobe foundations or walls, structures and remains with square nails, refuse deposits or bottle dumps, often associated with wells or old privies), all ground-disturbing activity within 100 feet of the discovery must immediately cease and a qualified archaeologist must be consulted to assess the significance of the cultural materials. SMUD will be notified of the potential find and a qualified archeologist shall be retained to investigate its significance. If the qualified archaeologist determines the archaeological material to be Native American in nature, Mitigation Measure 3.18-1 shall be implemented. If the find is determined to be significant by the archaeologist (i.e., because it is determined to constitute a unique archaeological resource), the archaeologist shall work with SMUD to develop and implement appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.</i></p>				<p>Construction Contractor will advise SMUD ASAP by phone of any discovery.</p>		
<p><b><u>Mitigation Measure 3.5-2: Procedures for Discovery of Human Remains</u></b></p> <p><i>If human remains are discovered, all work within a 100 feet of the find must immediately cease, and the local coroner must be contacted. Procedures for the discovery of human remains will be followed in accordance with provisions of the State Health and Safety Code, Sections 7052 and 7050.5 and the State Public Resources Code Sections 5097.9 to 5097.99. If the Coroner determines that the remains are those of Native American origin, the Coroner shall contact the Native American Heritage Commission (NAHC) and subsequent procedures shall be followed, according to</i></p>	<p>During Construction (discovery)</p>	<p>Authorized Construction Contractor</p>	<p>SMUD</p>	<p>Construction Contractor will advise SMUD ASAP by phone of any discovery.</p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><i>State Public Resources Code Sections 5097.9 to 5097.99, regarding notification of the Native American Most Likely Descendant. Following the coroner's and NAHC's findings, SMUD and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.</i></p>						

**Geology and Soils (Paleontology)**

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.7-1: Worker Environmental Awareness Training and Procedures for Inadvertant Discovery of Paleontological Resources</u></b></p> <p><i>A Worker Environmental Awareness Training (WEAT) will be presented for all construction workers prior to the start of ground disturbing activities (including vegetation removal, grading, excavation, etc.). The training session shall discuss the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction/ decommissioning personnel attended the training.</i></p> <p><i>SMUD will retain an on-call paleontologist to respond to potential finds during project construction. If potential paleontological resources are uncovered during on-site construction activities, all work must stop immediately within 100 feet of the find and a qualified paleontologist shall evaluate the deposits. The paleontologist will be responsible for assessing any evidence of paleontological resources encountered during construction. If the find is deemed significant, it should be salvaged by the paleontologist following the standards of the SVP (2010) and curated with a certified repository. Work in the area may resume after</i></p>	<p><i>Before Construction (training)</i></p> <p><i>During Construction (discovery)</i></p>	<p><i>Authorized Construction Contractor</i></p>	<p><i>SMUD</i></p>	<p><i>Construction Contractor will advise SMUD in writing that the training has been completed. Construction Contractor will advise SMUD ASAP by phone of any discovery.</i></p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<i>authorization is granted by SMUD's project manager in consultation with the paleontologist.</i>						

### Hazards and Hazardous Materials

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.9-1: Manage Accidental Discovery of Hazardous Materials</u></b></p> <p><i>If contaminated soils or potentially hazardous items are discovered during earth moving activities, all ground-disturbing activities within 50 feet shall be halted until a qualified SMUD employee or SMUD representative can assess the conditions on the site. SMUD will notify the appropriate agency (e.g., Sacramento County EMD) to determine if it is appropriate to rebury the potentially hazardous materials. If it is determined that the hazardous material cannot be re-incorporated into the project site, it shall be hauled by a qualified hauler to an appropriate waste disposal facility.</i></p>	<i>During Construction (discovery)</i>	<i>Authorized Construction Contractor</i>	<i>SMUD</i>	<i>Construction Contractor will advise SMUD ASAP by phone of any discovery.</i>		

### Noise

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.13-1. Limit Construction Noise</u></b></p> <p><i>The following measures shall be implemented to reduce short-term construction noise impacts:</i></p> <ul style="list-style-type: none"> <li><i>Construction activities shall be limited to between the hours of 6 a.m. and 8 p.m., Monday through Friday, and 7 a.m. to 8 p.m. on Saturdays, where practicable. Construction activities would be prohibited on Sundays</i></li> </ul>	<i>During Construction</i>	<i>Authorized Construction Contractor</i>	<i>SMUD</i>	<i>Site Inspection</i>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><i>and legal holidays. Haul truck operations shall be limited to these same hourly restrictions.</i></p> <ul style="list-style-type: none"> <li><i>Construction equipment shall be properly maintained and equipped with exhaust mufflers and engine shrouds in accordance with manufacturers' recommendations.</i></li> <li><i>To the extent locally available, electrified, or alternatively powered construction equipment shall be used.</i></li> <li><i>Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses (residences).</i></li> <li><i>Stationary noise sources such as generators, pumps, and pavement crushers, shall be located at the furthest distance possible from noise-sensitive uses.</i></li> </ul>						

**Tribal Cultural Resources**

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><b><u>Mitigation Measure 3.18-1: Worker Environmental Awareness and Cultural Respect Training and Procedures for Discovery of Potential Tribal Cultural Resources</u></b></p> <p><i>All construction personnel must receive Tribal Cultural Resources Sensitivity and Awareness Training (Worker Environmental Awareness Program [WEAP]), including field consultants and construction workers. The WEAP shall be developed in coordination with interested Native American Tribes.</i></p> <p><i>The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and Tribal cultural resources,</i></p>	<p>Before Construction (<i>training</i>)</p> <p>During Construction (<i>discovery</i>)</p>	<p>Authorized Construction Contractor</p>	<p>SMUD</p>	<p>Construction Contractor will advise SMUD in writing that the training has been completed.</p> <p>Construction Contractor will advise SMUD ASAP by phone of any discovery.</p>		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><i>including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and Tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or Tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American Tribal values. The training may be done in coordination with the project archaeologist.</i></p> <p><i>All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training.</i></p> <p><i>During excavation or other substantial subsurface disturbance activities, all construction personnel must follow procedures and the direction of archeologists and Tribal monitors if any cultural resource materials are observed.</i></p>						
<p><b><u>Mitigation Measure 3.18-2: Spot Check Monitoring for Tribal Cultural Resources</u></b></p> <p><i>SMUD shall invite representatives of Wilton Rancheria and Shingle Springs Band of Miwok Indians (SSBMI) to periodically inspect the active areas of the project, including any soil piles, trenches, or other disturbed areas. Wilton Rancheria and SSBMI shall be notified at least 48 hours prior to start of construction.</i></p>	During Construction	SMUD	SMUD	Site Inspection		
<p><b><u>Mitigation Measure 3.18-3: Unanticipated Discovery of Tribal Cultural Resources</u></b></p> <p><i>If any suspected Tribal cultural resources are discovered during ground disturbing construction activities, including midden soil, artifacts, cultural belongings, chipped stone, exotic rock (nonnative), or unusual amounts of baked clay, shell, or bone, all work shall pause within 100 feet of the find. Consulting Tribe(s) shall be immediately</i></p>	During Construction (discovery)	Authorized Construction Contractor	SMUD	Construction Contractor will advise SMUD ASAP by phone of any discovery		

Mitigation Measure	Timing	Responsible for Implementation	Responsible for Verification	Form of Verification	Verified	Remarks
<p><i>notified and shall determine if the find is a Tribal cultural resource (pursuant to PRC section 21074). The Tribal representative will make recommendations for further evaluation and treatment, as necessary. Preservation in place is the preferred alternative, and every effort must be made to preserve the resources in place, including through project redesign. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, and returning objects to a location within the project area where they will not be subject to future impacts. Curation of Tribal cultural resources is not considered appropriate or respectful; materials would not be permanently curated, unless approved by the consulting Tribe. Treatment that preserves or restores the cultural character and integrity of a Tribal cultural resource may include Tribal monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.</i></p>						

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# Sacramento Municipal Utility District

## El Rio Substation Project

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Draft Initial Study and Mitigated Negative Declaration •  
September 2023

***Reflects Revisions Made in the Final IS/MND on November 3, 2023***

Powering forward. Together.



# Sacramento Municipal Utility District

## El Rio Substation Project

Draft Initial Study and Mitigated Negative Declaration • September 2023  
***Reflects Revisions Made in the Final IS/MND on November 3, 2023***

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**TABLE OF CONTENTS**

<b>1.0</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Project Overview .....	1
1.2	Purpose of Document.....	1
1.3	Public Review Process .....	2
1.4	SMUD Board Approval Process .....	2
1.5	Document Organization.....	3
1.6	Environmental Factors Potentially Affected.....	4
1.7	Determination .....	5
<b>2.0</b>	<b>Project Description.....</b>	<b>6</b>
2.1	Project Location.....	6
2.2	Project Objectives .....	6
2.3	Background Information .....	7
2.4	Proposed Project.....	10
2.5	Potential Permits and Approvals Required.....	21
<b>3.0</b>	<b>Environmental Impact Evaluation .....</b>	<b>22</b>
3.0	Evaluation of Environmental Impacts .....	22
3.1	Aesthetics.....	24
3.2	Agriculture and Forestry Resources .....	29
3.3	Air Quality.....	34
3.4	Biological Resources .....	43
3.5	Cultural Resources .....	60
3.6	Energy .....	64
3.7	Geology and Soils .....	66
3.8	Greenhouse Gas Emissions.....	75
3.9	Hazards and Hazardous Materials .....	78

3.10	Hydrology and Water Quality.....	86
3.11	Land Use and Planning .....	95
3.12	Mineral Resources .....	99
3.13	Noise .....	100
3.14	Population and Housing .....	108
3.15	Public Services.....	110
3.16	Recreation .....	113
3.17	Transportation .....	114
3.18	Tribal Cultural Resources.....	118
3.19	Utilities and Service Systems .....	122
3.20	Wildfire .....	126
3.21	Mandatory Findings of Significance .....	128
<b>4.0</b>	<b>Environmental Justice Evaluation .....</b>	<b>130</b>
4.1	Introduction.....	130
4.2	Regulatory Context.....	131
4.3	Sensitivity of Project Location .....	133
4.4	Evaluation of the Project's Contribution to a Community's Sensitivity.....	136
4.5	Summary of Environmental Justice Assessment .....	138
<b>5.0</b>	<b>List of Preparers .....</b>	<b>140</b>
<b>6.0</b>	<b>References .....</b>	<b>141</b>

**APPENDICES**

- A Mitigation Monitoring and Reporting Program
- B Biological Resources Information

**FIGURES**

Figure 2-1. Project Vicinity .....	8
Figure 2-2. Project Site.....	9
Figure 2-3. Proposed Project Elements.....	12
Figure 2-4. Conceptual Substation Plan.....	13
Figure 3-1. Farmland.....	31
Figure 3-2. Vegetation Communities .....	46
Figure 3-3. Topography.....	68
Figure 3-4. Soils .....	69
Figure 3-5. National Wetland Inventory Features .....	88
Figure 3-6. FEMA Flood Hazard Zones.....	91
Figure 3-7. Potential Haul Routes for Construction Access.....	115

**TABLES**

Table 2-1. Project Phase Timeline .....	18
Table 2-2. Summary of Anticipated Equipment for Each Project Phase.....	19
Table 3-1. Daily Construction Emissions without Mitigation .....	38
Table 3-2. Construction-related Greenhouse Gas Emissions .....	76
Table 3-3. Sacramento County General Plan Energy Facility Polices.....	96
Table 3-4. Caltrans Recommendations Regarding Levels of Vibration Exposure .....	103
Table 3-5. Short-Term Noise Measurement Data .....	104

**LIST OF ABBREVIATIONS**

AB	Assembly Bill
ACM	asbestos-containing material
APN	Assessor's Parcel Number
ARB	California Air Resources Board
ATSDR	Agency for Toxic Substances and Disease Registry
BACT	Best Available Control Technology
BMP	best management practice
CAAQS	California ambient air quality standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CalEnviroScreen	California Communities Environmental Health Screening Tool
Caltrans	California Department of Transportation
CBC	California Building Code
CCVT	capacitor-coupled voltage transformers
CCR	California Code of Regulations
CDC	Centers for Disease Control and Prevention
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGP	Construction General Permit
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	compressed natural gas
CNPS	California Native Plant Society
CO <sub>2</sub>	carbon dioxide
CRHR	California Register of Historical Resources
CT	current transformer
CUPA	Certified Unified Program Agency
DAC	disadvantaged community
dB	Decibel

dBA	A-Weighted Decibel
DDT	Dichlorodiphenyltrichloroethane
DOC	California Department of Conservation
DPM	Diesel-exhaust particulate matter
Draft IS/MND	draft initial study/mitigated negative declaration
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EJ	Environmental Justice
EMD	Environmental Management Department
ESA	federal Endangered Species Act
ESA Phase I	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Authority
GGRF	Greenhouse Gas Reduction Fund
GHG	Greenhouse gas
HMBP	Hazardous Materials Business Plan
HRSA	Health Resources & Services Administration
I-80	Interstate 80
in/sec	inch per second
kV	Kilovolt
L <sub>eq</sub>	Energy Equivalent Noise Level
L <sub>max</sub>	Maximum Noise Level
L <sub>min</sub>	Minimum Noise Level
L <sub>dn</sub> or DNL	Day-Night Average Noise Level
LBP	lead-based paint
lbs/day	pounds per day
LED	light emitting diode
LNG	liquefied natural gas
LUSTs	leaking underground storage tanks
MMRP	mitigation monitoring and reporting program
MTCO <sub>2e</sub>	metric tons per year of CO <sub>2</sub> equivalent
MVA	megavolt amperes
MVAR	megavolt amperes reactive
NAAQS	national ambient air quality standards

NAHC	Native American Heritage Commission
NASb	North American Subbasin
NCIC	North Central Information Center
NESHAP	National Emission Standard for Hazardous Air Pollutants
NMFS	National Marine Fisheries Service
NOA	naturally occurring asbestos
NOI	notice of intent
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OEHHA	Office of Environmental Health Hazards Assessment
OHWM	ordinary high water mark
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCBs	polychlorinated biphenyls
PF	Public Facility
PT	potential transformers
PM	particulate matter
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
project	El Rio Substation Project
RLECP	Rio Linda and Elverta Community Plan
RLECWD	Rio Linda Elverta Community Water District
ROG	reactive organic gases
RWQCB	Regional Water Quality and Control Board
SB	Senate Bill
SF <sub>6</sub>	Sulfur Hexafluoride
SGMA	Sustainable Groundwater Management Act
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SPCC	Spill Prevention Control and Countermeasure
SSBMI	Shingle Springs Band of Miwok Indians
SSC	species of special concern

SVAB	Sacramento Valley Air Basin
SVI	Social Vulnerability Index
SVP	Society of Vertebrate Paleontology
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
THRIS	Tribal Historic Information System
TMDL	Total Maximum Daily Load
TPH	total petroleum hydrocarbons
UAIC	United Auburn Indian Community
UCMP	University of California Museum of Paleontology
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VMT	vehicle miles traveled
WAPA	Western Area Power & Administration
WEAP	Worker Environmental Awareness Program
WEAT	Worker Environmental Awareness Training
WDR	waste discharge requirement

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## 1.0 INTRODUCTION

### 1.1 Project Overview

The Sacramento Municipal Utility District (SMUD) is proposing the El Rio Substation Project (“project”) to construct and operate a new substation and decommission and remove outdated equipment at the existing Elverta Substation. The proposed El Rio Substation would be located on and adjacent to the Elverta Substation, south of Elverta Road and west of El Rio Avenue, in the unincorporated community of Elverta, California. The proposed El Rio Substation would include new transformers and circuit breakers, a substation control building, paved access, fencing, lighting, stormwater drainage and utilities. North of the substation, two existing electrical towers carrying 230-kilovolt (kV) transmission lines would be replaced with two or three steel monopoles (also known as steel tubular poles) on a new alignment to tie the proposed substation into the existing grid. A stormwater retention basin would be constructed within or south of the proposed El Rio Substation. Following the energization of the proposed El Rio Substation, the existing Elverta Substation would be decommissioned and outdated substation equipment dismantled and removed from the site.

### 1.2 Purpose of Document

This draft initial study/mitigated negative declaration (Draft IS/MND) has been prepared by SMUD to evaluate potential environmental effects resulting from the El Rio Substation Project (project). Chapter 2, “Project Description,” presents the detailed project information.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.). Under CEQA, an IS can be prepared by a lead agency to determine if a project may have a significant effect on the environment (CEQA Guidelines Section 15063[a]), and thus to determine the appropriate environmental document. For this project, the lead agency has prepared the following analysis that identifies potential physical environmental impacts and mitigation measures that would reduce impacts to a less-than-significant level. SMUD is the lead agency responsible for complying with CEQA.

In accordance with CEQA, SMUD is distributing a notice of intent (NOI) to adopt a MND to solicit comments on the analysis and mitigation measures presented in this Draft IS/MND. The NOI will be distributed to property owners within a minimum of 1,000 feet of the project, as well as to the State Clearinghouse/Governor’s Office of Planning and Research and each responsible and trustee agency. This Draft IS/MND will be available for review and comment from September 5 to October 5, 2023.

Written comments (including those submitted via e-mail) must be received by close of business on October 5, 2023. Letters should be addressed to:

SMUD–Environmental Services  
P.O. Box 15830 MS B209  
Sacramento, CA 95852-1830  
Attn: Ammon Rice

E-mail comments should be addressed to **Ammon.Rice@smud.org**. Anyone with questions regarding the NOI or Draft IS/MND may call Ammon Rice at 916.732.7466.

Digital copies of the NOI and Draft IS/MND are available: <https://www.smud.org/CEQA>. Hard copies of the NOI and Draft IS/MND are available for public review at the following locations:

Sacramento Municipal Utility District  
Customer Service Center  
6301 S Street  
Sacramento, CA 95817

Sacramento Municipal Utility District  
East Campus Operations Center  
4401 Bradshaw Road  
Sacramento, CA 95827

### **1.3 Public Review Process**

This Draft IS/MND is being circulated for a 30-day public comment period and is available at the locations identified above. Following the 30-day public review period, a final IS/MND will be prepared, presenting written responses to comments received on significant environmental issues. Before SMUD’s Board of Directors makes a decision on the project, the final IS/MND will be provided to all parties commenting on the Draft IS/MND.

### **1.4 SMUD Board Approval Process**

The SMUD Board of Directors must adopt the IS/MND and approve the mitigation monitoring and reporting program (MMRP; Appendix A) before it can approve the project. The project and relevant environmental documentation will be formally presented at a SMUD Environmental Resources and Customer Service Committee meeting for information and discussion. The SMUD Board of Directors will then consider adopting the final IS/MND and MMRP at its next regular Board meeting. Meetings of the SMUD Board of Directors are generally held on the third Thursday of each month.

## 1.5 Document Organization

This Draft IS/MND is organized as follows:

**Chapter 1, “Introduction”:** This chapter provides an introduction to the environmental review process and describes the purpose and organization of this document.

**Chapter 2, “Project Description”:** This chapter provides a detailed description of the project.

**Chapter 3, “Environmental Checklist”:** This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist and determines whether the project would result in no impact, a less-than-significant impact, or a less-than-significant impact with mitigation incorporated. Where needed to reduce impacts to a less-than-significant level, mitigation measures are presented.

**Chapter 4, “Environmental Justice Analysis”:** Although not required by CEQA, SMUD has elected to prepare an evaluation of potential environmental justice issues related to the project.

**Chapter 5, “List of Preparers”:** This chapter lists the organizations and people who prepared the document.

**Chapter 6, “References”:** This chapter lists the references used in preparation of this Draft IS/MND.

## 1.6 Environmental Factors Potentially Affected

Impacts on the environmental factors below are evaluated using the checklist included in Chapter 3. SMUD determined that the environmental factors checked below would be less than significant with implementation of mitigation measures. It was determined that the unchecked factors would have a less-than-significant impact or no impact.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality                        |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources      | <input type="checkbox"/> Energy  |
| <input checked="" type="checkbox"/> Geology / Soils      | <input type="checkbox"/> Greenhouse Gas Emissions           | <input checked="" type="checkbox"/> Hazards & Hazardous Materials      |
| <input type="checkbox"/> Hydrology / Water Quality       | <input type="checkbox"/> Land Use / Planning                | <input type="checkbox"/> Mineral Resources                             |
| <input checked="" type="checkbox"/> Noise                | <input type="checkbox"/> Population / Housing               | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Recreation                      | <input type="checkbox"/> Transportation / Traffic           | <input checked="" type="checkbox"/> Tribal Cultural Resources          |
| <input type="checkbox"/> Utilities / Service Systems     | <input type="checkbox"/> Wildfire                           | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

## 1.7 Determination

On the basis of this initial evaluation:

- I find that the proposed project could not have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project COULD have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ammon Rice  
Printed Name

\_\_\_\_\_  
Supervisor, Environmental Services  
Title

\_\_\_\_\_  
Sacramento Municipal Utility District  
Agency

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## 2.0 PROJECT DESCRIPTION

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SMUD is proposing to construct and operate a new 230-115-69 kV substation that would replace the existing Elverta Substation located south of Elverta Road and just west of El Rio Avenue in Elverta, California. Using transformers, substations transfer power from the transmission system to the distribution system that serves a particular area. The substation reduces the voltage from the large transmission lines and moves power into a system that powers residential and commercial customers. The proposed substation would convert or “step down” voltage from 230 kV transmission lines to 115 kV and 69 kV through transformers for local distribution. The El Rio Substation Project (hereafter referred to as “project”) is proposed to be constructed on a portion of the existing Elverta Substation as well as on the 4.4-acre property immediately east of the Elverta Substation. The existing Elverta Substation would be decommissioned and removed from the site as it is nearing the end of its service life. The proposed project components would include the El Rio Substation and the installation of two or three new towers for relocation of existing transmission lines to tie the proposed substation into the existing grid.

### 2.1 Project Location

The project is located in a rural area of Sacramento County on the southwest corner of Elverta Road and El Rio Avenue in the census-designated place of Elverta, California (Figure 2-1). The project site consists of the 5.5-acre existing Elverta Substation as well as the 4.4-acre property to the east and a transmission easement to the north that encompasses the two existing transmission towers to be removed and the planned layout line on which the two or three new transmission towers will be installed (hereafter the “project site”) (Figure 2-2). Elevation at the project site ranges from 36 to 49 feet above mean sea level.

The project site can be accessed from the south via Interstate 80 (I-80) and from the west via State Route 99. The project site is located approximately 3.25 miles east of State Route 99/Elverta Road interchange and approximately 7 miles north of the I-80/Raley Boulevard interchange. Current access to the project site is obtained through a gated driveway on Elverta Road.

### 2.2 Project Objectives

The objectives of the project are to:

- contribute to SMUD’s goals for ensuring electrical service reliability;
- provide safe and reliable electrical service to existing and proposed development in the northern Sacramento County and Natomas areas;
- provide greater operational flexibility between circuits and substations in the area;
- maximize the use of available SMUD property and resources; and
- minimize impacts to nearby sensitive receptors and sensitive natural communities.

## 2.3 Background Information

The existing substation, constructed in 1954, is located on 5.5 acres, which are under easement to SMUD from the Western Area Power & Administration (WAPA). The 58.5-acre parcel owned by WAPA, Assessor Parcel Number (APN) 202-0090-001-000, is zoned “IR – Interim Agricultural Reserve,” has a Sacramento County General Plan land use designation of “INT IND – Intensive Industrial,” and contains a WAPA substation to the west of the SMUD Elverta station.

The existing SMUD Elverta Substation consists of an outdoor switchyard including:

- three 230kV transmission lines;
- five 230kV circuit breakers;
- one 230/115kV 150 megavolt amperes (MVA) transformer;
- one 230/69kV 224MVA transformer;
- five 69kV transmission lines;
- nine 69kV circuit breakers; and
- two 69kV, 25 mega volt ampere reactive (MVAR) capacitor banks.

To construct the new substation, SMUD is proposing to acquire the parcel immediately east of the existing substation. The property at 604 West Elverta Road is a 4.4-acre parcel, APN 202-0090-024-000, is currently zoned “AR-5: Agricultural – Residential 5 acres” with a County General Plan land use designation as “AG-RES: Agricultural – Residential” (Sacramento County 2023). The residential property contains a house and livestock operations onsite.

Surrounding land uses include agricultural, industrial, and scattered residential residences. Rural residences are located east and south of the project site along El Rio Avenue. The ABC Ready-Mix concrete batch plant is also located on El Rio Avenue, approximately 400 feet south of the project site. Directly to the west of the project site is a WAPA-owned substation. Elverta Road is a two-lane rural road that connects the census-designated places of Elverta and Antelope to State Route 99. El Rio Avenue is a two-lane rural road used for local traffic for residents and the ABC Ready-Mix concrete batch plant.

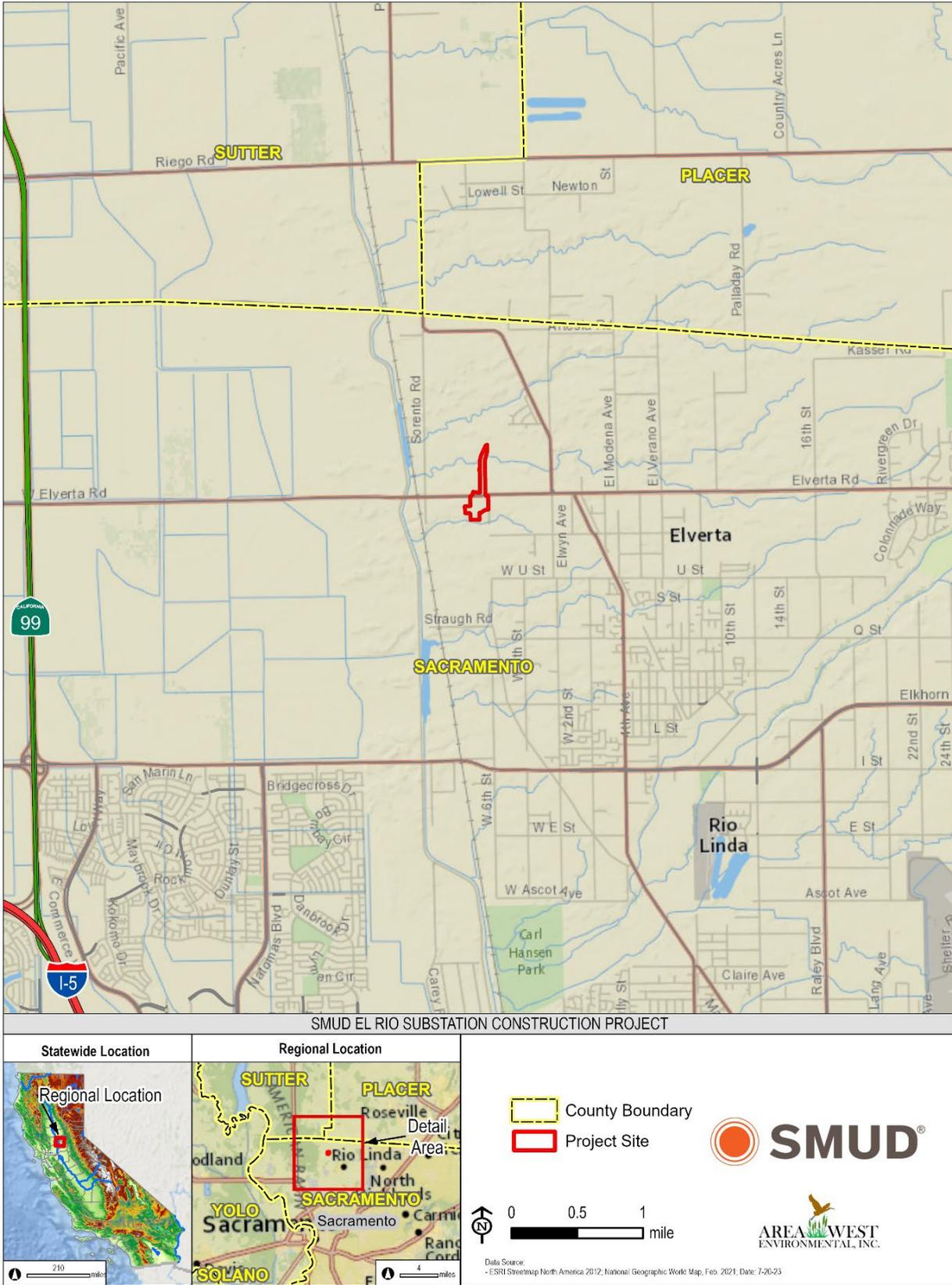


Figure 2-1. Project Vicinity

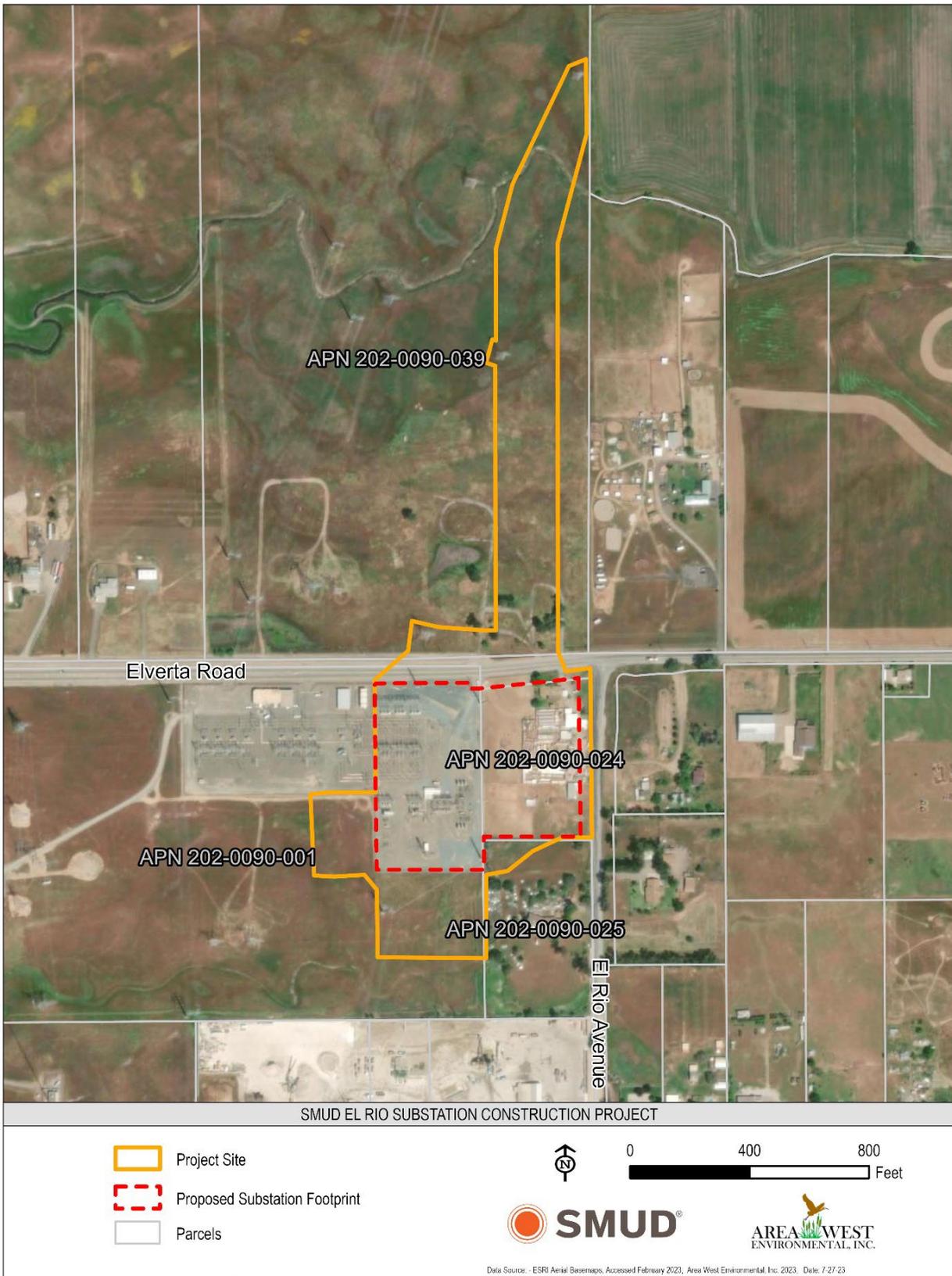


Figure 2-2. Project Site

## 2.4 Proposed Project

The project consists of constructing and operating a new 230-115-69kV substation that would replace the existing Elverta Substation. The substation would receive 230kV and step it down to 69kV. The El Rio Substation would be constructed on a portion of the existing Elverta Substation property, as well as on the parcel located immediately east of the existing Elverta Substation. The new substation would include new electrical equipment, a control building, driveway access, site fencing, lighting, stormwater drainage, and utilities.

### 2.4.1 Project Components

The proposed project consists of three primary components: constructing the proposed El Rio Substation, replacing transmission lines and towers, and decommissioning the Elverta Substation. The components of the proposed substation are depicted in Figure 2-3. The following sections provide detailed information about the proposed project components.

#### *Proposed El Rio Substation*

The proposed 9.9-acre El Rio Substation would be graded and covered in crushed gravel except where permanent concrete foundations for the control building, transformers, circuit breakers, disconnect switches, bus structures, and other equipment, and paved access roads would be built (Figure 2-4). The substation would be energized by interconnecting to the existing 230-115-69kV lines located to the north and south of the substation.

#### Electrical equipment

Electrical substations are an assemblage of electrical components. The main component of a substation is the switchyard, power transformers, circuit breakers, and control building.

The proposed El Rio Substation would include 230kV, 115kV and 69kV transmission lines, and require the construction of new infrastructure including:

- two 230/69kV 224MVA transformers,
- one 230/115kV 250MVA transformer,
- ten 230kV circuit breakers,
- one 115kV circuit breaker,
- eight 69kV circuit breakers,
- two 69kV capacitor banks,

- twenty-seven 230kV disconnect switches,
- two 115kV disconnect switches,
- twenty-four 69kV disconnect switches,
- seven sets of 230kV capacitor-coupled voltage transformers (CCVT),
- one set of 115kV CCVT,
- two sets of 69kV potential transformers (PT),
- one current transformer (CT)/PT Combo unit,
- Seven circuit switchers.

As employed in the existing substation, SMUD would use limited amounts of Sulfur Hexafluoride (SF<sub>6</sub>), a common insulating gas for high-voltage electrical systems, at the project site. Use of the proposed switchgear equipment would comply with recordkeeping, reporting, and leakage emission limit requirements in California Air Resources Board (ARB) regulations for reduction of SF<sub>6</sub> emissions. As part of substation operations and maintenance activities, SMUD would monitor existing substation equipment to accurately and immediately identify any SF<sub>6</sub> leaks and immediately repair leaks that are discovered. SMUD is also an active member of the SF<sub>6</sub> Emission Reduction Partnership, which focuses on reducing emissions of SF<sub>6</sub> from transmission and distribution sources.

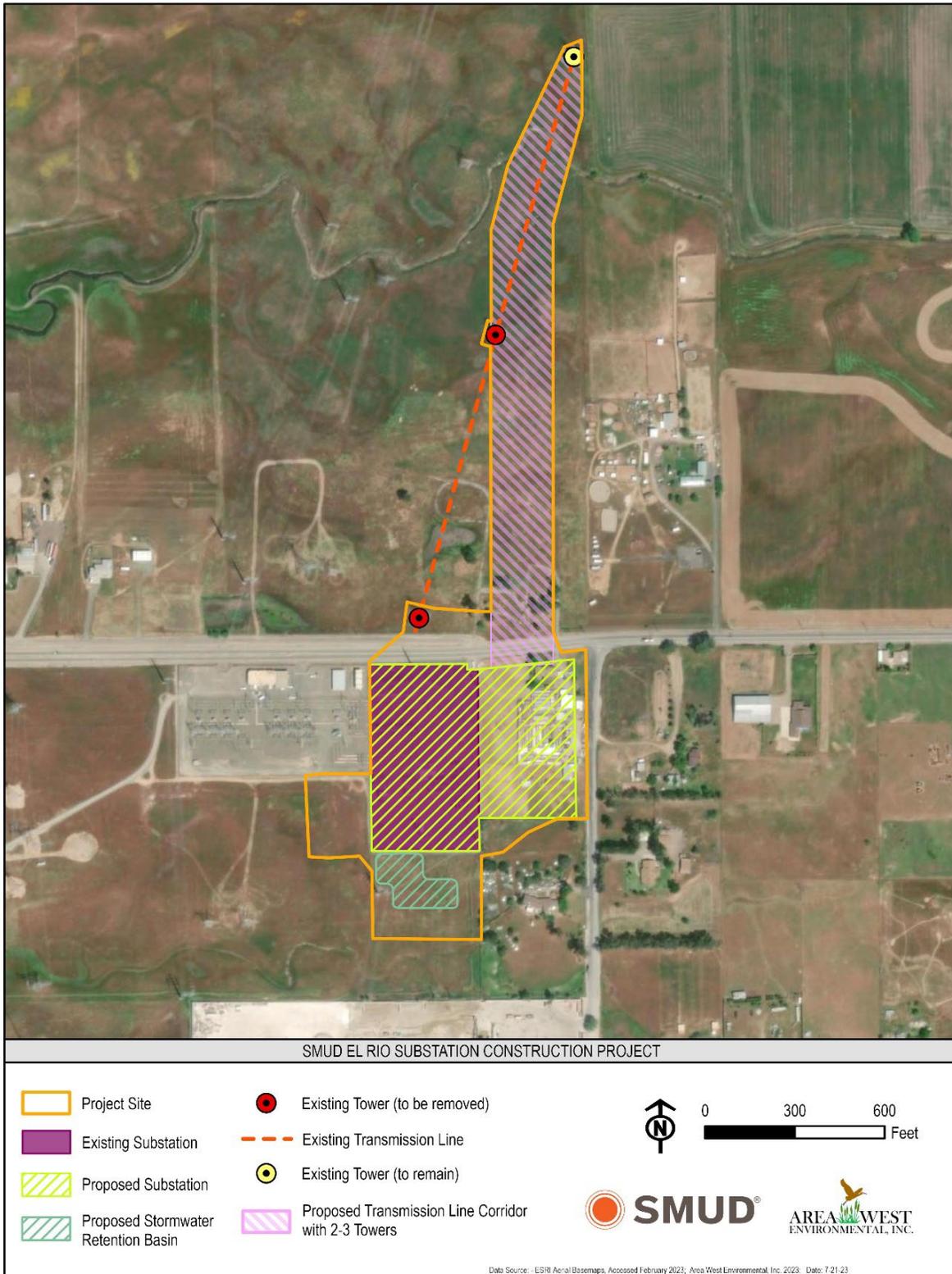
#### Control building

The proposed El Rio Substation would include a control building measuring approximately 95 feet by 42 feet with a height of 25 feet. The control building would be built on the north end of the existing Elverta Substation (Figure 2-4). The control building would be unoccupied, but would include a restroom for employee use while onsite.

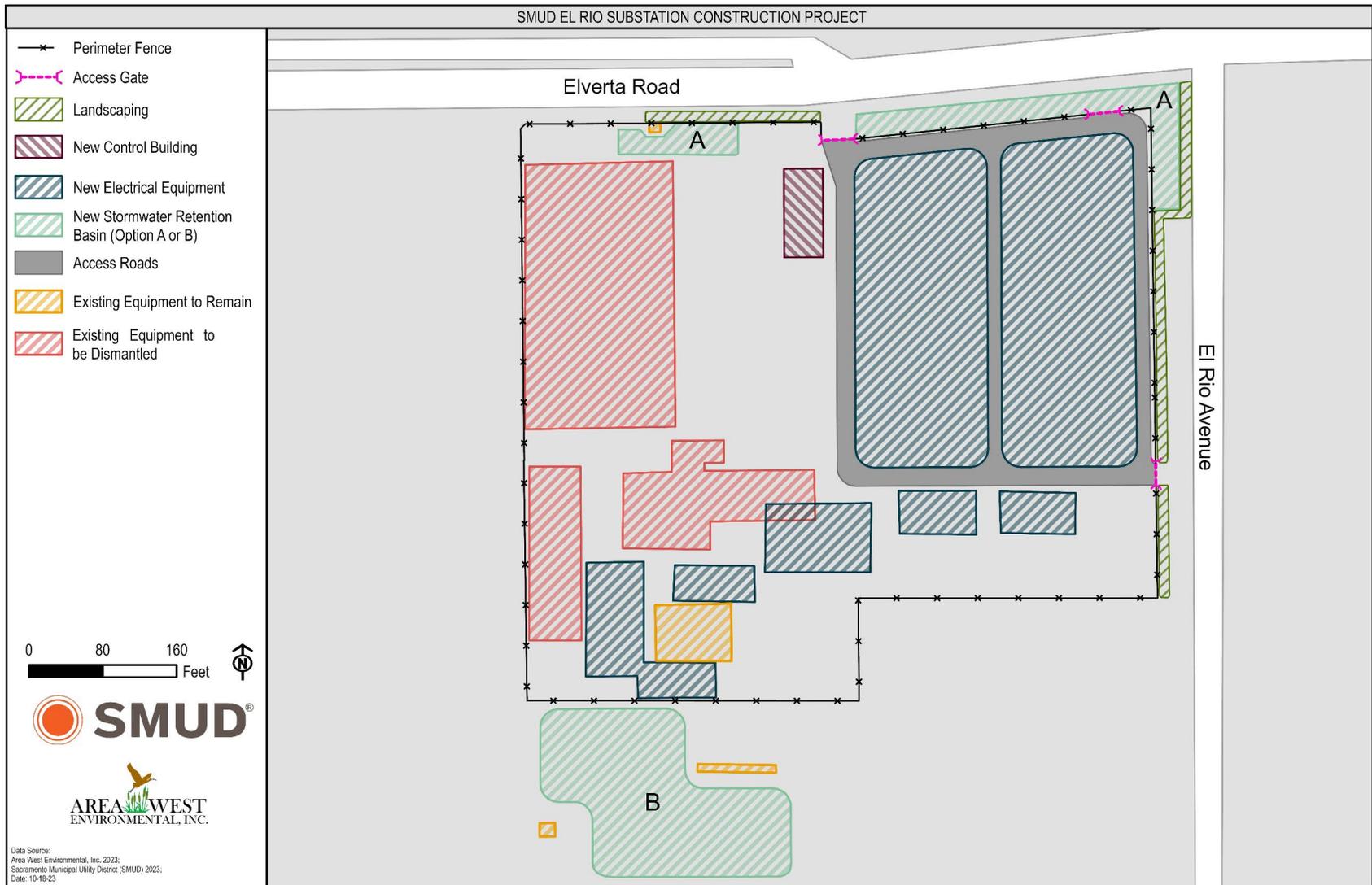
#### Driveway Access and Fencing

The substation would include three driveway entrances: one existing gated driveway entrance from Elverta Road, one new 30-foot-wide gated driveway entrance from Elverta Road, and one new entrance from El Rio Avenue. Additionally, three 20-foot-wide and two 15-foot-wide paved access roads would be constructed within the substation (Figure 2-4). Areas that are not paved or will house equipment or structures would be covered in crushed gravel.

To maintain site security and public safety, a minimum 9-foot fence would be installed around the perimeter of the proposed substation (Figure 2-4). The fence would be chain link with barbed wire and razor ribbon at the top, similar to existing conditions.



**Figure 2-3. Proposed Project Elements**



**Figure 2-4. Conceptual Substation Plan**

### Lighting

Lighting would be provided at the substation for safety, security, and nighttime emergency maintenance and would consist of light-emitting diode (LED) light sources. Lighting would fulfill the National Electrical Safety Code requirements. Lights would likely be installed at the entry gates and various locations within the substation. Most substation lighting would be off during standard operating conditions, except on occasions when nighttime access is required. All substation lighting would be oriented downward toward major equipment to minimize glare onto surrounding properties.

### Stormwater Drainage

The substation would be designed such that on-site runoff would be collected into an underground storm drain pipe system and a stormwater retention basin. The stormwater retention basin would be constructed south of the existing Elverta Substation or within the El Rio Substation footprint after the Elverta Substation is dismantled and in accordance with site drainage design requirements. Figure 2-4 shows optional locations for the retention basin or bioretention basin south of the existing substation (Option B) or along the north side of the new and existing substation (Option A). In order to minimize drainage impacts from the increased amount of non-permeable surfaces (estimated to be 60,000 square feet), the proposed on-site retention basin would collect stormwater in the basin, allowing pollutants to be captured by vegetation and the water to percolate into the soil. If constructed within the substation property, the bioretention basin or retention basin would collect stormwater and allow pollutants to be captured by vegetation before entering the existing roadside stormwater collection system. If the stormwater retention basin were constructed outside of SMUD's current easement area on the WAPA-owned parcel, SMUD would modify the existing easement with WAPA to include the basin area.

### Utilities

SMUD would install one restroom for employee use in the new control building. Water service for the restroom would be through the use of an existing water well within the Elverta Substation or SMUD would request water service from the local utility agency, the Rio Linda Elverta Community Water District (RLECWD). SMUD would install a new onsite wastewater system (septic system) to provide sewer service for the restroom.

### *Transmission and Distribution Lines and Poles*

The proposed project would include modifying and replacing existing towers and overhead powerlines. The project would replace two lattice towers north of the proposed substation with two to three new monopole 230kV transmission towers, spaced approximately 500 to 1,000 feet apart, along a new alignment (Figure 2-3). Existing 69-

115-230kV lines would be re-strung as needed to tie the proposed substation into SMUD's existing electrical grid.

### *Elverta Substation Decommissioning*

Following the energization of the proposed El Rio Substation, the existing Elverta Substation would be decommissioned and outdated substation equipment dismantled and removed from the site, as described in Section 2.4.3 Project Construction.

## **2.4.2 Project Operation and Maintenance**

Operation and maintenance of the proposed substation would be similar to the existing operation and maintenance of the Elverta Substation. During normal operations, the substation would be operated remotely and continuously. Substation maintenance would occur on a regular basis from two to four times per month for internal inspections and four times per year for perimeter maintenance. Major maintenance would occur about once every three years. After the substations have been in operation for an extended period of time, the transformer oil would require filtering. Impurities in the filtrate would either be removed and recycled or disposed of in accordance with federal, state, and local hazardous waste disposal requirements. Additionally, restroom and vegetation management may occur with routine operations and maintenance activities.

## **2.4.3 Project Construction**

### *Construction Phasing*

Construction of the proposed El Rio Substation would occur in several phases. The phases may be sequential, or they may overlap, and not all pieces of construction equipment may be used for the entire duration of a construction phase. The phases of construction would include the following:

- Site preparation
  - clearing and grubbing
  - site grading
  - drainage improvements and retention basin excavation
  - access road improvements
  - fencing installation
  - below grade civil construction, including water and sewer lines, foundations, electrical grounding, and conduits
- Substation components

- control building construction
- erection of steel components and poles
- electrical equipment installation
- Transmission and distribution lines and poles
- Decommissioning of the Elverta Substation

### Site Preparation

Clearing and grubbing at the project site would include removal of existing structures such as residential buildings, barn, sheet-metal-fenced livestock enclosures, detached garage, shed-type outbuildings, ground pipes, power poles, and barbed wire fencing. Vegetation would be cleared from the site, as needed.

The proposed substation site would be graded for substation equipment, drainage, and access roads. SMUD anticipates excavation and removal of existing soil and import of backfill to re-establish grade within the site. While volumes are not yet finalized, the project currently estimates a volume of up to 6,000 cubic yards of exported soils and 7,000 cubic yards of imported fill. Imported fill, and, to the extent feasible, excavated soil, would be used to construct a raised substation pad and a paved access road. The raised pad would have a maximum side slope of 3:1.

A stormwater retention basin would be excavated within the proposed substation or south of the existing Elverta Substation in accordance with site drainage design requirements (Figure 2-3). The estimated excavation depth for the retention basin is 9 to 12 feet.

Below grade water and sewer lines and subsurface drainage components would be installed. Foundations for the control building and transistors would also be installed below grade. The maximum depth of construction within the substation site would be approximately 25 feet.

Following the installation of below grade infrastructure, 20-foot- and 15-foot-wide access roads would be paved, connecting the access points on Elverta Road and El Rio Avenue with the control building and electrical equipment.

The 9-foot chain link fence and gates with barbed wire and razor ribbon at the top would be installed around the perimeter of the substation site. Landscaping would be installed between the property line and the new chain link fence.

### Substation Components

The new control building would be constructed with masonry block, concrete, or steel walls. New substation equipment and overhead electrical conductors would be installed

to provide connectivity to existing incoming electrical transmission service and outgoing distribution service.

Construction would involve installing electrical conduits, grounding, and reinforced concrete foundations, and assembling the two 230/69kV 224MVA transformers, one 230/115kV 250MVA transformer, ten 230kV circuit breakers, one 115kV circuit breaker, and eight 69kV circuit breakers, two 69kV capacitor banks, twenty-seven 230kV disconnect switches, two 115kV disconnect switches, twenty-four 69kV disconnect switches, seven sets of 230kV CCVT, one set of 115kV CCVT, two sets of 69kV PT, one CT/PT Combo unit, and seven circuit switchers.

After the substation and control building equipment are installed and tested, and all network connections are installed, the El Rio Substation would be energized and begin operations.

#### Subtransmission and Transmission Lines and Poles

The project would include modifying existing overhead 69, 115, and 230 kV power lines that would link the substation to SMUD's existing electrical grid.

Three 75-foot-tall steel power poles supporting 69kV electrical lines are located south of the substation near the proposed retention basin. The poles would remain in their current location and the line restrung after substation and retention basin construction is complete.

Two existing lattice towers carrying 230kV line north of the existing substation would be replaced with two or three new single circuit tapered tubular steel transmission monopoles on a new parallel alignment (Figure 2-3). The new transmission poles would be 142 feet tall, which is approximately the same height as the existing transmission towers and would have up to 9-foot-diameter reinforced concrete foundations. Once the line is strung onto the new poles, the lattice towers would be dismantled and removed. The tower foundations would be left in place, cut off 6 feet below grade.

Installation of the two or three new transmission poles would consist of pole foundation preparation, pole installation, transfer of existing 230kV circuits, and restringing with new transmission lines. Installation of each steel transmission pole would require auguring a nine-foot-diameter hole that is up to 30 feet deep using a truck-mounted machine auger. A steel reinforcing cage would be lowered into the hole by a crane. Concrete would be poured from a truck to form the new reinforced concrete foundation. New electrical components (cross-arms, pins, insulators, etc.) would be attached to the tubular steel pole, which would then be lifted to an upright position by a crane, and bolted to the concrete foundation by workers using handheld power tools. Existing access routes (roads or farm equipment tracks) would be used, either from the north or the south, depending on the pole location. No new access roads or equipment staging areas would be developed; equipment would drive across native soils during the dry season when the soil is capable of supporting equipment.

Decommissioning Elverta Substation

After the El Rio Substation is energized, the Elverta Substation would be de-energized, and existing substation equipment, structures, and below grade infrastructure would be dismantled and removed from the site. Salvageable components would be removed for reuse; non-reusable materials would be recycled or scrapped.

*Construction Schedule*

Project construction is anticipated to begin during the first quarter of 2025 and commissioning and energization would occur in December 2026. SMUD anticipates the construction duration to be approximately 24 months for the new substation and approximately 3 months for decommissioning of the Elverta Substation.

Table 2-1 summarizes the timeline for the project phase. The phases may be sequential, or they may overlap.

**Table 2-1. Project Phase Timeline**

Project Phase	Timeline
Clearing and grubbing	3 weeks
Grading, drainage facilities, and access road improvements	16 weeks
Installation of perimeter fencing and perimeter electrical grounding	4 weeks
Installation of water and sewer lines, electrical grounding, belowground conduits, cable troughs, and foundations	16 weeks
Construction of the control building	40 weeks
Integration of the control building with the switchyard	40 weeks
Paving of the substation interior access roads	3 weeks
Erection of structural steel components and tubular steel poles at proposed substation	8 weeks
Installation of the substation equipment and transmission and distribution lines	40 weeks
Commissioning phase	26 weeks
Decommissioning of the existing Elverta Substation	16 weeks

*Personnel, Equipment, and Staging*

Construction would require an average daily worker population of approximately 15 workers, with up to approximately 30 workers during peak construction activities associated with on-site demolition, re-grading, and heavy equipment deliveries. Crews would normally work Monday through Saturday from 7 a.m. to 6 p.m.

Table 2-2 provides summary of the typical and anticipated construction equipment that would be used for each project phase.

**Table 2-2. Summary of Anticipated Equipment for Each Project Phase**

Equipment	Project Phase
Asphalt paver	Paving
Backhoe	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, paving, decommissioning of Elverta Substation
Boom truck	Control building construction
Compactor	Clearing and grubbing, grading
Concrete truck	Fencing, below grade civil construction, control building construction,
Crane	Control building construction, erection of structural steel components and tubular steel poles, installation of new substation electrical components, decommissioning of Elverta Substation
Crew vehicles	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, paving, erection of structural steel components and tubular steel poles, installation of new substation electrical components, decommissioning of Elverta Substation
Dozer	Clearing and grubbing, grading
Excavator	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, decommissioning of Elverta Substation
Forklift	Fencing, below grade civil construction, control building construction, erection of structural steel components and tubular steel poles, installation of new substation electrical components,
Front-end Loader	Clearing and grubbing, grading, below grade civil construction, control building construction, paving, decommissioning of Elverta Substation
Generator	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, paving, erection of structural steel components and tubular steel poles, installation of new substation electrical components
Grader	Clearing and grubbing, grading

Equipment	Project Phase
Manlift	Control building construction, erection of structural steel components and tubular steel poles, installation of new substation electrical components
Scraper	Clearing and grubbing, grading
Semi-end dump truck	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, paving, decommissioning of Elverta Substation
Semi-flatbed truck	Fencing, below grade civil construction, control building construction, erection of structural steel components and tubular steel poles, installation of new substation electrical components
Service truck	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, paving, erection of structural steel components and tubular steel poles, decommissioning of Elverta Substation
Skid steer with drills	Fencing, below grade civil construction, control building construction
Tandem haul trucks	Clearing and grubbing, grading
Transformer oil processing equipment	Installation of new substation electrical components
Truck-mounted drill rig	Below grade civil construction, control building construction,
Vibratory roller	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, paving, decommissioning of Elverta Substation
Water truck/sweeper	Clearing and grubbing, grading, fencing, below grade civil construction, control building construction, paving, erection of structural steel components and tubular steel poles, installation of new substation electrical components, decommissioning of Elverta Substation
Welder	Below grade civil construction, control building construction, erection of structural steel components and tubular steel poles

Staging for construction equipment and a materials laydown area would be located within the existing substation. During construction, access to the staging area would be maintained, with primary access through the existing Elverta Substation.

Construction materials would be delivered to the site and stored on the project site or in the designated staging and laydown area. Deliveries would be made by concrete trucks, flatbed trucks, and tractor-trailer rigs. Hazardous materials, including paint, grease, epoxies, and oil would be delivered to the site, and stored in either storage lockers or covered containers, in accordance with local, state, and federal requirements. Once the electrical equipment has been installed, transformer oil and sealed batteries would be delivered and stored in approved containers.

## 2.5 Potential Permits and Approvals Required

Elements of the project could be subject to the permitting and/or approval authority of other agencies. As the lead agency pursuant to CEQA, SMUD is responsible for considering the adequacy of this IS/MND and determining whether the project should be approved. The following agencies could require permits or approvals as part of project implementation:

- **State Water Resources Control Board (SWRCB)/Central Valley Regional Water Quality Control Board (RWQCB):** The RWQCB issues Construction Storm Water Discharge Permits under Water Quality Order 2009-009-DWQ for projects that disturb more than one acre of land. The permit would require preparation and implementation of a stormwater pollution prevention plan (SWPPP) that would specify storm water best management practices (BMPs).

Should dewatering of the construction site occur, the project would apply for coverage under Water Quality Order 2003-0003-DWQ, which permits small and/or temporary dewatering projects (i.e., excavations during construction).

- **California Department of Transportation (Caltrans):** Caltrans issues permits for movement of oversized or excessive loads on state highways.
- **Sacramento Metropolitan Air Quality Management District (SMAQMD):** Authority to Construct/Permit to Operate pursuant to SMAQMD Regulation 2 (Rule 201 et seq.).
- **Sacramento County:** The project would require permits from the Sacramento County Environmental Management Department:
  - On-Site Wastewater Treatment Permit
  - Cathodic Protection Well Permit

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## 3.0 ENVIRONMENTAL IMPACT EVALUATION

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### 3.0 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-Than-Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063I(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

- c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
  - a) the significance criteria or threshold, if any, used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

### 3.1 Aesthetics

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>I. Aesthetics.</b>				
<p>Except as provided in Public Resources Code Section 21099 (where aesthetic impacts shall not be considered significant for qualifying residential, mixed-use residential, and employment centers), would the project:</p>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.1.1 Environmental Setting

Aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public’s experience and appreciation of the environment. Aesthetic impacts may occur depending on the extent to which the implementation of a project would negatively alter the public’s perception of the visual character and quality of the environment, where visual character is defined by available public views (vistas) and/or available resources.

A scenic vista is generally defined as an expansive view of a highly valued landscape observable from a publicly accessible vantage point or from a designated scenic highway. Scenic resources are physical features that provide scenic value to a project site and its surroundings. These typically include topographic, geologic, hydrologic, and biological resources (e.g., hills, rock outcroppings, creeks, woodlands, or landmark trees) and also can include historic buildings. Some state and county highways are also considered scenic.

The area immediately surrounding the project site is relatively flat and open and comprises lands zoned agricultural, agricultural reserve, and agricultural residential. Agricultural uses include, but are not limited to, rice, hay, and animal production. Rural residences are located east and south of the project site along El Rio Avenue. The ABC Ready-Mix concrete batch plant is also located on El Rio Avenue, approximately 400 feet south of the project site. Directly to the west of the project site is a WAPA-owned substation. To the south of the ABC Ready-Mix concrete plant is a parcel zoned heavy industrial that is used for a 10-megawatt solar power generation facility (Sacramento County, 2023).

Views from publicly accessible roadways in the immediate vicinity surrounding the project site are dominated by flat, open fields with scattered trees, overhead utility lines and poles, and industrial, residential and agricultural structures. The vertical components in the existing substations (SMUD and WAPA) add an industrial element to views along Elverta Road.

Viewer groups of the project site predominantly consist of motorists traveling east or west on Elverta Road, motorists traveling north or south on El Rio Avenue, and residents of rural residences near El Rio Avenue. East Levee Road offers a more distant partial view of the project site through tree-lined road sections, agricultural buildings, and WAPA infrastructure.

There are no designated or eligible state or county scenic highway segments within 3 miles of the project site. The only officially designated scenic highways in Sacramento County are River Road (County Route 160), which borders the Sacramento River between the communities of Isleton and Paintersville, and State Route 160 between Antioch and the Sacramento City limits (Caltrans 2020).

The County of Sacramento General Plan (Public Facilities Element 1993) and the Sacramento County Zoning Code (2015) describe goals, policies, and design requirements directly related to the site selection and design of new electrical utility facilities. Most of the stated goals and policies are applicable to new substation sites rather than substation replacement. However, aesthetic goals, policies, and design requirements directly applicable to the project are listed below.

**Objective:** Minimize the health, safety, aesthetic, cultural, agricultural and biological impacts of energy facilities in Sacramento County.

**Public Facility Policy (PF)-68:** Cooperate with the serving utility in the location and design of energy production and distribution facilities in a manner that is compatible with surrounding land uses by employing the following methods when appropriate to the site:

- Visually screen facilities with topography and existing vegetation and install site-appropriate landscaping consistent with surrounding land use zone development standards where appropriate, except where it would adversely affect access to

utility facilities, photovoltaic performance or interfere with power generating capability.

- Provide site-compatible landscaping.
- Minimize glare through siting, facility design, nonreflective coatings, etc. except for the use of overhead conductors.
- Site facilities in a manner to equitably distribute their visual impacts in the immediate vicinity.

**Objective:** Ensure the provision of safe, reliable, efficient and economical electric service while minimizing potential land use conflicts, and health, safety, environmental, and aesthetic impacts of transmission facilities.

**PF-85:** To minimize visual impacts and protect the county's visual and aesthetic resources, new bulk substations should be located in industrial and non-retail commercial areas when possible. To further minimize visual intrusion and potential land use conflicts, substations shall be enclosed with site-appropriate security fence in concert with a landscaped setback along all public street frontages.

**Objective:** Plan and design transmission facilities to minimize visual impacts, preserve existing land uses, and avoid biological and cultural resources.

**PF-89.** Wherever feasible, utilize existing transmission poles to accommodate new overhead transmission lines. If practical, existing and future transmission corridors should be shared by more than one utility company subject to the Northern California Joint Pole Agreement.

**PF-96.** Locate transmission facilities in a manner that maximizes the screening potential of topography and vegetation

**PF-97:** Utilize monopole construction, where practicable, to reduce the visual impact on a corridor's middle and distant views.

**Sacramento County Zoning Code (2015) Section 3.6.6.A Utility and Public Service Facility Uses, 3.6.6.A.1.c** Substations should be designed and constructed in such a manner as to minimize off-site visual and noise impacts. Planted or landscaped setback of at least 31 feet should be provided on all public street frontages of the parcel.

### 3.1.2 Discussion

- a) **Have a substantial adverse effect on a scenic vista?**
- c) **In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

**Less than Significant.** The project would include decommissioning the existing Elverta Substation and the development of the new El Rio Substation on the adjacent lot and part of the existing substation lot. Components of the new substation would include new electrical equipment, a control building, driveway access, site fencing, lighting, stormwater drainage, and utilities. Planned ground treatments will observe a 31-foot setback from both El Rio Avenue and Elverta Road and will include concrete foundations for electrical components, pavement on new access driveways, and gravel. Aesthetic landscaping treatment would be applied to the project outside of the proposed fencing along Elverta Road and El Rio Avenue and is expected to be similar to the existing treatment (*Agavaceae* plants). The project would also include the removal of two existing lattice towers to the north of the proposed substation site and replacement with two or three new 142-foot-tall steel monopoles located on a new alignment immediately east of the existing lattice towers.

Views of the proposed substation components, building, fencing and lighting, would be similar to existing views of the Elverta Substation but would move the structures closer to El Rio Avenue. Direct views of the new substation and transmission poles would be available from Elverta Road and El Rio Avenue.

The project site would have a visual character similar to that of the existing conditions (i.e., substation with transmission poles). The project would not substantially change the quality and character of views from publicly accessible roads. By maintaining the character of the existing viewshed, views would not be substantially degraded.

The project is consistent with Sacramento County General Plan policies and zoning code for substations and transmission lines. According to the County of Sacramento General Plan, the replacement of the lattice style poles with monopoles would reduce the existing visual impact and result in a slight aesthetic improvement in the area. The project meets Sacramento County goals and requirements for setbacks and design.

The project would have a **less-than significant** impact on scenic vistas and the visual character and quality of public views, and no mitigation is required.

- b) **Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

**No Impact.** There are no designated or eligible state or county scenic highway segments within 3 miles of the project site. The project would have ***no impact***, and no mitigation is required.

- d) **Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

**Less than Significant.** Construction activities would occur during daylight hours and would not require nighttime lighting apart from occasional deliveries of equipment. The project would construct new sources of lighting and sources of glare; lighting is anticipated at the entry gates and various locations within the substation. Most substation lighting would be off during standard operating conditions, except on rare occasions when nighttime access is required for urgent repairs or inspections. All substation lighting would be oriented downward toward major equipment to minimize glare onto surrounding properties. Therefore, the project would have a ***less-than-significant*** impact related to light and glare, and no mitigation is required.

## 3.2 Agriculture and Forestry Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>II. Agriculture and Forest Resources.</b>				
<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.</p> <p>In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.</p> <p>Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.2.1 Environmental Setting

The project is located in a rural area of northeastern Sacramento County. Existing land uses in the vicinity of the proposed substation are primarily agricultural, industrial, and

rural residential. Surrounding Agricultural uses include rice, pasture, and unclassified crop (California Natural Resources Agency. 2021).

The substation site and transmission line work area are located on portions of APN 202-0090-001-000, 202-0090-024-000, and 202-0030-039-000. The parcels in which the proposed substation and retention basin are located on have a County General Plan land use designation of “*IR – Interim Agricultural Reserve*” and are zoned “*AR-5: Agricultural – Residential 5 acres*”. To construct the new substation, SMUD would acquire parcel 202-0090-024-000, which has a County General Plan land use designation of “*AG-RES: Agricultural – Residential*” and is zoned “*AR-5: Agricultural/Residential – 5 acres*”. The residential property contains livestock operations onsite. Parcel 202-0030-039-000, where transmission line work would occur, has a County General Plan land use designation of “*AG-CROP: Agricultural– Cropland*,” and is zoned “*AG-20: Agricultural – 20 acres*.”

As shown in Figure 3-1, the substation site and transmission line work area are located on parcels designated by the Farmland Mapping and Monitoring Program (FMMP) as Grazing Land, Urban and Built-up Land, and Other Land. “Other Land” is described by the FMMP as “land not included in any other mapping category.” Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. However, these areas are not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation [DOC] 2018). Parcel 202-0030-055-000 located east of the transmission line easement, is designated as Farmland of Statewide Importance and Unique Farmland and may serve as access for transmission line work. These parcels are not subject to Williamson Act Contracts (Sacramento County 2023).

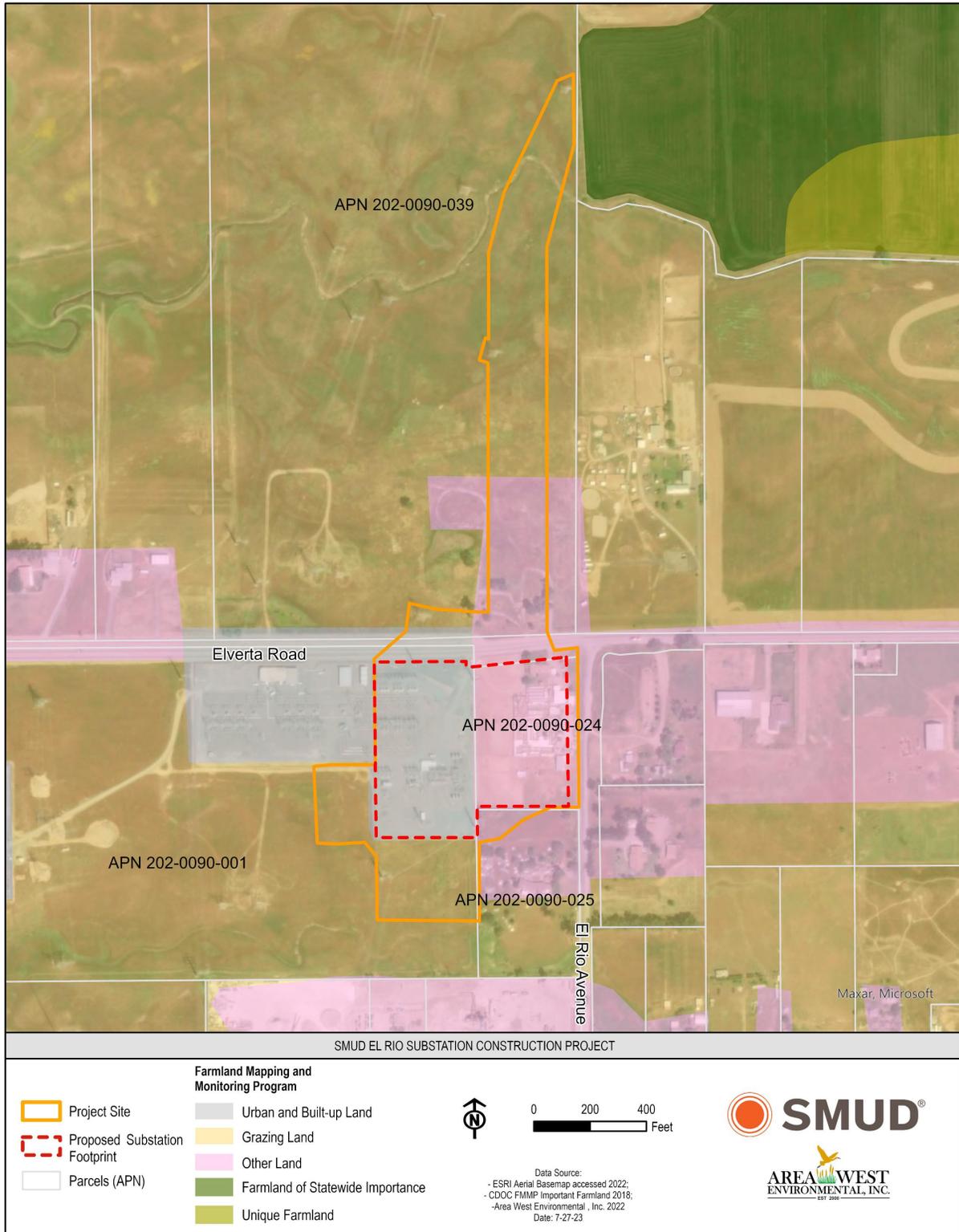


Figure 3-1. Farmland

### 3.2.2 Discussion

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

**No Impact.** The project would have no impact on agricultural use of parcels designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The substation site is not located on land designated either as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2018). Parcels east of the transmission line work are designated Farmland of Statewide Importance or Unique Farmland, and although existing farm roads that cross these parcels may be used to access the northernmost transmission pole for restringing, the needed construction access would be temporary and would not convert these properties. Because implementation of the project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, there would be **no impact** and no mitigation is required.

- b) **Conflict with existing zoning for agricultural use or a Williamson Act contract?**

**No Impact.** The proposed substation and retention basin are located on parcels zoned “IR – Interim Agricultural Reserve” and “AR-5: Agricultural – Residential 5 acres.” The proposed substation would not conflict with the existing zoning as substations are identified as a major utility and may be located in all zoning districts provided they comply with the design measures listed in Sacramento County Zoning Code Section 3.6.6.A (Sacramento County 2015). These measures include setback requirements; the project has been designed in compliance with those requirements. The project site and surrounding parcels are not under a Williamson Act contract. Thus, there would be **no impact** and no mitigation is required.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?**

- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

**No Impact.** The project site does not include provisions for timberland or forest land. There are no parcels surrounding the project site with zoning for forest land, timberland, or timberland zoned Timberland Production. Therefore, there would be **no impact** and no mitigation is required.

- e) **Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

**Less Than Significant.** SMUD would acquire parcel 202-0090-024-000, which has a County General Plan land use designation as “AG-RES: Agricultural – Residential” and a FMMP designation as “Other Land.” The residential property includes livestock operations onsite. Conversion of this parcel to a substation would eliminate a small-scale livestock operation that is incidental to the residential land use. According to Policy AG-5 of the Sacramento County General Plan, mitigation is required only for the loss of local importance farmlands for projects resulting in the conversion of more than 50 acres. Therefore, the conversion of the small livestock operation on the 4.4-acre residential parcel would have a less-than-significant impact on local agricultural operations.

There is no forest land on or near the project site.

The project would not result in substantial conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, the project would result in a **less-than-significant impact**, and no mitigation is required.

### 3.3 Air Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>III. Air Quality.</b>				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.				
Are significance criteria established by the applicable air district available to rely on for significance determinations? <span style="margin-left: 200px;"><input checked="" type="checkbox"/> Yes</span> <span style="margin-left: 200px;"><input type="checkbox"/> No</span>				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.3.1 Environmental Setting

Air quality in Sacramento County is regulated by several jurisdictions including the U.S. Environmental Protection Agency (US EPA), ARB, and SMAQMD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation.

The US EPA has established national ambient air quality standards (NAAQS) for six criteria air pollutants, which are known to be harmful to human health and the environment: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter (which is categorized into particulate matter less than or equal to 10 microns in diameter [PM<sub>10</sub>] and particulate matter less than or equal to 2.5 microns in diameter [PM<sub>2.5</sub>]), and sulfur dioxide. The State of California has established the California ambient air quality standards (CAAQS) for these six pollutants, as well as for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. NAAQS and CAAQS were established to

protect the public from adverse health impacts caused by exposure to air pollution (USEPA 2023).

The designation of an area as in attainment, nonattainment, or unclassified, with respect to applicable standards is the responsibility of the ARB. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once. An “unclassified” designation signifies that the data does not support either an attainment or nonattainment designation.

The project site is located within the Sacramento Valley Air Basin (SVAB). Sacramento County is currently designated as nonattainment for both the federal and state ozone standards, the federal PM<sub>2.5</sub> standard, and the state PM<sub>10</sub> standard. The region is designated as in attainment or being unclassifiable for all other NAAQS and CAAQS (ARB 2023).

SMAQMD is the local agency responsible for air quality planning and development of air quality plans in the project area. SMAQMD maintains an attainment plan for achieving the state and federal ozone standards that was updated and approved by the SMAQMD Board and the ARB in 2017. The air quality plan establishes strategies to achieve compliance with the NAAQS and CAAQS ozone standards in all areas within SMAQMD’s jurisdiction. There are currently no plans available for achieving the federal PM<sub>2.5</sub> or state PM<sub>10</sub> standards.

SMAQMD has developed the Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan as an air quality plan, which presents comprehensive strategies to reduce reactive organic gases (ROG), nitrogen oxides (NO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from stationary, area, mobile, and indirect sources to achieve attainment status of the NAAQS and CAAQS. The plan relies on projected population, employment, and vehicle miles traveled (VMT) growth from regional and local land use plans such as general plans or community plans to estimate population growth. Projects exceeding growth projections could increase VMT and mobile source emissions, conflicting with plan implementation. Such VMT increases beyond what’s projected in the Sacramento’s regional VMT modeling and SMAQMD’s regional air quality plan would significantly hinder SVAB’s ability to achieve CAAQS and NAAQS for all air pollutants.

Within California, there are additional regulated pollutants that pose a hazard to human health. These are broadly categorized as toxic air contaminants (TACs); these are regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). At the local level, the SMAQMD has authority over stationary or industrial sources, and all projects that require air quality permits from the SMAQMD are evaluated for TAC emissions. Among the TACs identified by ARB, diesel-exhaust particulate matter (DPM), recently designated, is one of ARB’s highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles (ARB 2005).

Naturally occurring asbestos, designated in 1986 by ARB, is located in many parts of California and is commonly associated with ultramafic rock and building materials. The project site is not located within an area identified as having a potential for naturally occurring ultramafic rock and serpentine soils, but asbestos-containing material (ACM) may be present in existing structures. If asbestos is determined to be present, the demolition of existing structures would be subject to regulatory requirements.

### *Methods*

Emissions associated with the construction and long-term operation of the proposed project were calculated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.2 computer program. Methods and results of the analysis are presented in the Air Quality and Greenhouse Gas Impact Assessment for the SMUD El Rio Substation Project (Ambient Consulting 2023a).

### *Impact Thresholds*

SMAQMD-recommended thresholds of significance are used to determine if localized and/or regional air quality emissions would adversely affect human health (*Guide to Air Quality Assessment in Sacramento County, SMAQMD 2020*). Project-generated emissions are considered significant if the project would:

- result in construction-generated emissions of NO<sub>x</sub> exceeding 85 pounds per day (lbs/day), PM<sub>10</sub> exceeding 80 lbs/day, or PM<sub>2.5</sub> exceeding 82 lbs/day;
- result in operational emissions of ROG exceeding 65 lbs/day, NO<sub>x</sub> exceeding 65 lbs/day, PM<sub>10</sub> exceeding 80 lbs/day, or PM<sub>2.5</sub> exceeding 82 lbs/day;
- result in carbon monoxide emissions that would violate or contribute substantially to concentrations that exceed the 1-hour CAAQS of 20 parts per million (ppm) or the 8-hour CAAQS of 9 ppm during construction and operations;
- expose any off-site sensitive receptor to a substantial incremental increase in TAC emissions that exceed 10 in one million for carcinogenic risk (i.e., the risk of contracting cancer) and/or a noncarcinogenic hazard index of 1.0 or greater; or
- create objectional odors affecting a substantial number of people.

Importantly, both the construction and operational thresholds for PM<sub>10</sub> and PM<sub>2.5</sub>, as described above, assume the application of SMAQMD-recommended BMPs and the use of Best Available Control Technology (BACT) to minimize emission of PM<sub>10</sub> and PM<sub>2.5</sub>. Without the application of BMPs and BACT, the threshold for PM<sub>10</sub> and PM<sub>2.5</sub> during construction and operations is zero pounds per day.

### 3.3.2 Discussion

a) **Conflict with or obstruct implementation of the applicable air quality plan?**

**Less than Significant.**

It is anticipated that operational activities associated with the project would include only occasional maintenance and would be roughly equivalent to those activities associated with the existing substation that the project is replacing. The project does not include land uses or operational emission sources that would result in new long-term employment opportunities, new housing, or substantial increases in operational vehicle trips considered in the plan. For these reasons, short-term construction and long-term operation of the proposed project would not conflict with or obstruct air quality planning efforts. As a result, this impact would be considered **less than significant**, and no mitigation is required.

b) **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?**

**Less than Significant with Mitigation Incorporated.** As discussed above, the SVAB has been designated “non-attainment” for state ozone (1- and 8-hour) and particulate matter (PM<sub>10</sub>) standards and is designated “non-attainment” for federal ozone 8-hour and particulate matter (PM<sub>2.5</sub>).

*Long-term Project Emissions*

The long-term operation of the substation would not require permanent staff and would be operated by SMUD remotely. SMUD maintenance employees would visit approximately three times per month to conduct routine checks and maintenance. These ongoing activities would generate nominal air pollutant emissions and would not generate substantial emissions of criteria pollutants or precursors. Operational emissions would be roughly equivalent to the emissions generated by the existing substation that the project is replacing. In addition, substation operation would not be anticipated to involve the use of major stationary sources of criteria pollutants or precursors. As a result, the long-term impact would be considered **less than significant**.

*Short-term Construction Emissions*

Construction-generated emissions are of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. Construction of the proposed project would result in the temporary generation of emissions associated with demolition, site grading, construction, paving, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces. Short-term construction emissions would result in increased emissions of ozone-precursor pollutants (i.e., ROG

and NO<sub>x</sub>) and emissions of PM. Emissions of ozone-precursors would result from the operation of on- and off-road motorized vehicles and equipment. Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities and can result in increased concentrations of PM that can adversely affect nearby sensitive land uses.

Estimated maximum daily emissions associated with construction of the proposed project are presented in Table 3-1. Maximum emissions associated with construction would be approximately 48 lbs/day of NO<sub>x</sub>, 4.9 lbs/day of PM<sub>10</sub>, and 2.1 lbs/day of PM<sub>2.5</sub>. Maximum annual emissions would be approximately 0.2 tons/year of PM<sub>10</sub> and 0.1 tons/year of PM<sub>2.5</sub>.

**Table 3-1. Daily Construction Emissions without Mitigation**

Construction Activity	Emissions <sup>1</sup> NO <sub>x</sub> (lbs/day)	Emissions <sup>1</sup> PM <sub>10</sub> (lbs/day)	Emissions <sup>1</sup> PM <sub>2.5</sub> (lbs/day)	Emissions <sup>1</sup> PM <sub>10</sub> (tons/year)	Emissions <sup>1</sup> PM <sub>2.5</sub> (tons/year)
2025	48	4.9	2.1	0.2	0.1
2026	22.6	1.3	1.0	0.1	<0.1
2027	20.1	1.1	0.8	0.1	<0.1
Maximum Emissions <sup>2</sup> :	48	4.9	2.1	0.2	0.1
SMAQMD Thresholds <sup>3</sup> :	85	0/80	0/82	0/14.6	0/15
Exceeds Thresholds?	NO	YES/NO	YES/NO	YES/NO	YES/NO

<sup>1</sup>Emissions were quantified using the CalEEMod, v2020.1.1.2, computer program. Includes onsite and offsite sources. Does not include reductions in fugitive dust associated with compliance with SMAQMD's BMP. Totals may not sum due to rounding.

<sup>2</sup>Maximum daily emissions assumes some activities could potentially occur simultaneously on any given day.

<sup>3</sup>SMAQMD has established a zero emissions threshold for PM<sub>10</sub> and PM<sub>2.5</sub> when projects do not implement SMAQMD-recommended BMPs.

Lbs/day = pounds per day; ton/year = tons per year; NO<sub>x</sub> = oxides of nitrogen; PM<sub>10</sub> = respirable particulate matter (10 micrometers or less); PM<sub>2.5</sub> = respirable particulate matter (2.5 micrometers or less)

Source: Ambient Consulting, 2023a. Air Quality & Greenhouse Gas Impact Assessment for SMUD El Rio Substation Project.

The project's projected maximum construction emissions do not exceed SMAQMD's daily or annual construction emission standards. However, SMAQMD predicates the particulate matter standard on adherence to their *Basic Construction Emission Control Practices and Best Management Practices*. Without the application of the SMAQMD's BMPs, this impact would be **potentially significant**. Mitigation Measure 3.3-1 would require that the project implement the SMAQMD's BMPs.

**Mitigation Measure 3.3-1. Implement SMAQMD Emissions Controls and BMPs.**

*SMUD or the authorized contractor will adhere to the SMAQMD basic construction emissions control practices, including, but not limited to the measures listed below, and additional measures designed to limit DPM:*

- *Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.*
- *Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.*
- *Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.*
- *Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).*
- *All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.*
- *Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.*
- *Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].*
- *Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.*
- *Wheel washers shall be installed for all trucks and equipment exiting unpaved areas, or wheels shall be washed to remove accumulated dirt before such vehicles leave the site.*
- *Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from adjacent project areas with a slope greater than 1%.*
- *Excavation and grading activities shall be suspended when winds exceed 20 mph.*

- *The extent of areas simultaneously subject to excavation and grading shall be limited, wherever possible, to the minimum area feasible.*
- *Diesel equipment meeting the ARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines shall be used to the extent locally available.*
- *On-road heavy-duty equipment with model year 2010 engines or newer shall be used to the extent locally available.*
- *Diesel powered equipment shall be replaced by electric equipment whenever available.*
- *Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, shall be used on-site where locally available.*
- *Catalytic converters shall be installed on gasoline-powered equipment, if available, and in accordance with manufacturer's recommendations.*

#### Significance after Mitigation

SMAQMD has established a zero emissions threshold for PM10 and PM2.5 when projects do not implement SMAQMD-recommended BMPs. Maximum construction emissions without mitigation fall below the threshold applicable to projects that implement SMAQMD-recommended BMPs (Table 3-1). Mitigation measure 3.3-1 mandates construction activities adhere to SMAQMD's Basic Construction Emission Control Practices. Therefore, construction-generated emissions would be considered to have a ***less than significant impact***.

#### **c) Expose sensitive receptors to substantial pollutant concentrations?**

**Less than Significant with Mitigation Incorporated.** As noted above, long-term operation of the substation would not be anticipated to result in substantial increases in mobile-source or stationary-source emissions, when compared to existing conditions in the project area.

Localized air quality impacts associated with the proposed project would be predominantly associated with short-term demolition and construction activities. Pollutants associated with earth moving, demolition and general constructing activities include asbestos, fugitive dust, and TACs.

### *Asbestos*

Based on the California Department of Conservation maps depicting potential areas of naturally occurring asbestos (NOA), the project site is not located in or near an area that has been identified as having a potential for NOA.

Demolition activities have potential negative air quality impacts, including issues surrounding the proper handling, demolition, and disposal of ACM. ACM could be encountered during the demolition of existing buildings, particularly older structures constructed prior to 1970. Asbestos can also be found in various building products, including (but not limited to) utility pipes/pipelines (transit pipes or insulation on pipes).

The project's Phase I Environmental Site Assessment (see Section 3.9) evaluated the potential for ACM onsite. Based on the age of multiple buildings constructed onsite, the potential exists for ACM and lead-based paint (LBP) to be present. The proposed demolition of approximately 21,000 square feet of existing onsite structures may expose construction workers to contaminated dust emissions that contain hazardous constituents, including ACM and LBP. Impact on air quality and health due to handling, demolition, and disposal of ACMs and LBP is considered ***potentially significant***.

#### **Mitigation Measure 3.3-2. Survey, Remove, and Dispose of ACM and LBP.**

*The presence or absence of ACM and LBP will be verified by conducting a survey for these materials prior to demolition activities, and if present, they will be remediated prior to any renovation or demolition at the project site that involves the disturbance or potential disturbance of ACM or LBP, in accordance with applicable regulatory requirements, including requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M-Asbestos; NESHAP). These requirements include but are not limited to: 1) notification, within at least 10 business days of activities commencing, to the air quality management district, 2) an asbestos survey conducted by a Certified Asbestos Consultant, and, 3) applicable removal and disposal requirements of identified ACM. The SMAQMD is delegated authority by the USEPA to implement the Federal Asbestos NESHAP.*

#### **Significance after Mitigation**

Mitigation Measure 3.3-2 would require an ACM and LBP survey prior to demolition activities, and if present, the materials would be remediated prior to any renovation or demolition consistent with applicable state and local regulations. The potential impact on air quality and health would be reduced to a ***less than significant*** level.

#### ***Fugitive Dust***

Fugitive dust emissions would be associated with site preparation activities following demolition, including grading, and vehicle travel on unpaved and paved surfaces. Uncontrolled emissions of fugitive dust may also contribute to potential increases in

nuisance impacts to nearby receptors. This impact is considered **potentially significant**. Construction generated fugitive dust, generally associated with PM<sub>10</sub>, would be limited by implementation of SMAQMD construction BMPs.

### TACs

Assuming that construction activities involving the use of diesel-fueled equipment, DPM, a designated TAC, would be produced. Health risks associated with DPM are primarily associated with potential cancer risks. Because the use of off-road heavy-duty diesel equipment would be temporary and episodic occurring over a relatively large area, and the highly dispersive properties of DPM, project construction would not expose sensitive receptors to substantial emissions of DPM in excess of applicable thresholds. However, short-term exposure to airborne particulates can result in irritation of eyes and the respiratory system and may affect sensitive individuals, including those suffering from asthma and other medical conditions. If uncontrolled, short-term emissions of PM could have a **potentially significant** localized air quality impact. These localized, short-term emissions would be reduced with the implementation of Mitigation Measure 3.3-1, which requires adherence to all applicable SMAQMD construction emissions control practices.

#### **Mitigation Measure 3.3-1. Implement SMAQMD Emissions Controls and BMPs.** (described above)

### Significance after Mitigation

Mitigation Measure 3.3-1 would require compliance with SMAQMD's BMP's for the control of construction related emissions, including fugitive dust and DPM. The potential impact on air quality would be reduced to a **less than significant** level.

#### **d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

**Less than Significant.** The proposed project would not install equipment or require processes that would be considered major odor-emission sources. In addition, no known odor sources are within one mile of the project site. Construction of the proposed project would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel-exhaust, may be considered objectionable by some people. In addition, pavement coatings and architectural coatings used during project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly with increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. For these reasons, potential exposure of sensitive receptors to odorous emissions would be considered **less than significant**, and no mitigation is required.

### 3.4 Biological Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>IV. Biological Resources.</b>				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.4.1 Environmental Setting

This section describes biological resources in the project site and evaluates potential impacts on such resources as a result of project implementation. To determine the

biological resources that may be subject to project impacts, the following data sources were reviewed:

- California Natural Diversity Database (CNDDDB) (CNDDDB 2023);
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2023);
- U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System (USFWS 2023a); and
- USFWS National Wetlands Inventory (USFWS 2023b).

Appendix B provides lists of special-status species and an evaluation of their potential to occur within the project site.

Biologists conducted a reconnaissance survey of the project site on April 12 and 13, 2023 and a follow up survey on June 9, 2023. An aquatic resources delineation was conducted during the April 2023 field surveys. A list of plant and wildlife species observed during field surveys is included in Appendix B.

### *Vegetation and Habitat Types*

Vegetation and habitat types within the project site (Figure 3-2) include:

- developed,
- annual grassland,
- wetlands, and
- ephemeral stream.

The developed habitat consists of roadways, road shoulders, the existing Elverta Substation, the existing residence and associated out buildings at the corner of Elverta Road and El Rio Avenue, livestock paddocks, and other areas routinely disturbed by human activities.

The majority of the project site supports annual grassland. Dominant plants observed within the annual grassland include lesser quaking grass (*Briza minor*), medusa-head grass (*Elymus caput-medusae*), long-beak stork's-bill (*Erodium botrys*), rose clover (*Trifolium hirtum*), slender oat (*Avena Barbata*), wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*), and brome fescue (*Festuca bromoides*). A few scattered trees are present in the annual grassland community.

Two types of aquatic resources were observed within the project: wetlands and an ephemeral stream.

A total of eight wetlands were delineated within the project site (0.88 acre) and two additional wetlands were remotely mapped using aerial signatures in the un-accessible portion of the project site (0.01 acre). These wetlands were a mixture of vernal pool/swales and seasonal wetlands. Only the northern most and southern most wetlands in the project site contained water during the April 2023 field surveys. Dominate plants within these wetlands included perennial rye grass (*Festuca perennis*), hyssop loosestrife (*Lythrum hyssopifolia*), toad rush (*Juncus bufonius*), and waxy manna grass (*Glyceria declinate*). All wetland features identified in the project site contain the three parameters to qualify as a wetland (a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology). Wetland features have the potential to provide habitat for federally and state-listed species including vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and listed plants.

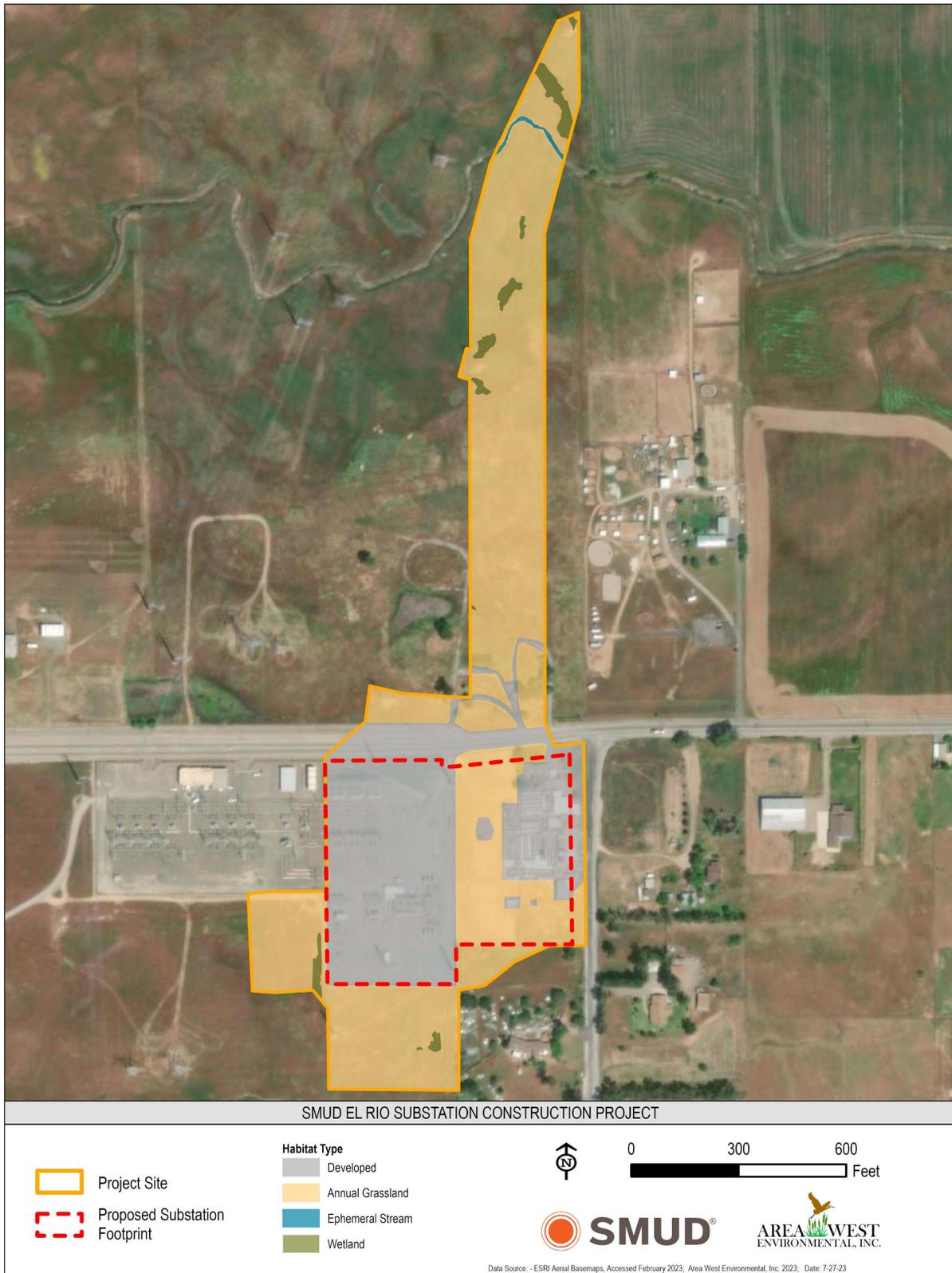
The ephemeral stream in the northern portion of the project site collects stormwater during rain events, flowing east to west into a ponded area west of Sorento Road, approximately 0.45 mile west of the project site. The ponded area drains into Steelhead Creek which is a tributary to the Sacramento River. At the time of the April 2023 survey, the ephemeral stream contained approximately 1.5 feet of water. At the time of the June 2023 survey, the ephemeral stream was dry within the project site. The ephemeral stream occupies 0.060-acre of the project site. The ephemeral stream exhibits ordinary high water mark (OHWM) indicators.

A full list of observed plant species is included in Appendix B.

### *Special-Status Species*

Special-status species are plants and animals that are legally protected under the federal Endangered Species Act (ESA), California Endangered Species Act (CESA), California Fish and Game Code, or local plans, policies, and regulations or that are otherwise considered sensitive by federal, state, or local resource conservation agencies. For this IS/MND, special-status species are defined as:

- species listed or proposed for listing as threatened or endangered under the ESA;
- species designated as candidates for listing as threatened or endangered under the ESA;
- species listed, proposed for listing, or candidates for listing as threatened or endangered under CESA;
- species listed as fully protected under the California Fish and Game Code;
- animals identified by the California Department of Fish and Wildlife (CDFW) as species of special concern (SSC);



**Figure 3-2. Vegetation Communities**

- plants considered by CDFW to be “rare, threatened or endangered in California” and assigned California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere; 2A, presumed extinct in California but more common elsewhere; and 2B, considered rare or endangered in California but more common elsewhere;
- species considered a locally significant species—that is, species that are not rare from a statewide perspective but are rare or uncommon in a local context, such as in a county or region (CEQA Section 15125[c]), or that are so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines Appendix G); and
- taxa (i.e., taxonomic categories or groups) that meet the criteria for listing even if they are not currently included on any list, as described in CCR Section 15380 of the State CEQA Guidelines.

Based on a review of existing data sources (CNDDDB 2023; CNPS 2023; USFWS 2023a), 12 special-status plant species and 17 special-status wildlife species have potential to occur in the project area (Appendix B). Species ranges and habitat requirements were further evaluated to determine potential for occurrence on the project site.

Area West Environmental, Inc. (AWE) biologists conducted botanical surveys in April and June 2023. The blooming periods for all special-status plant species with potential to occur were captured during these two survey windows. Suitable habitat was observed within the project area for 8 of the 12 special-status plant species with potential to occur. However, no special-status plant species were observed within the project area. Refer to Appendix B for additional detail.

Out of the 17 special-status wildlife species, 10 species are considered likely to occur in or immediately adjacent to the project site:

- Monarch butterfly (*Danaus plexippus*) (Federal candidate);
- Vernal pool fairy shrimp (Federal threatened);
- Vernal pool tadpole shrimp (Federal endangered);
- Western spadefoot (*Spea hammondi*) (SSC);
- Giant garter snake (*Thamnophis gigas*) (Federal and State threatened);
- Burrowing owl (*Athene cunicularia*) (SSC);
- Grasshopper sparrow (*Ammodramus savannarum*) (SSC);
- Swainson’s hawk (*Buteo swainsoni*) (State threatened)

- White-tailed kite (*Elanus leucurus*) (CDFW fully protected); and
- American badger (*Taxidea taxus*) (SSC).

### 3.4.2 Discussion

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

**Less than Significant with Mitigation Incorporated.** The majority of the permanent ground disturbance associated with the project would occur within previously disturbed land, with the exception of the installation of the two or three new monopoles north of the proposed substation and the construction of the retention basin south of the existing substation. At the current stage of design, the location of the new monopoles has not been finalized. SMUD is designing the new monopole locations with the intent to avoid wetlands, which represent habitat for special-status species. However, SMUD may be unable to install replacement monopoles outside of wetland features due to spatial restrictions, resulting in a permanent loss of potential habitat. Although permanent project features would avoid sensitive habitats to the extent feasible, construction access to the new pole locations may require temporary access routes and ground disturbance within sensitive habitats for lattice tower removal and monopole installation. This impact assessment assumes that sensitive habitats (wetlands) that have potential to support sensitive species may be permanently or temporarily affected by new transmission pole installation.

As explained above, no special-status plants are expected to occur on the site. Therefore, the project would have no impact on special-status plant species.

The project has potential to adversely affect vernal pool fairy shrimp, vernal pool tadpole shrimp, western spadefoot, giant garter snake, burrowing owl, grasshopper sparrow, Swainson's hawk, white-tailed kite, nesting birds, and American badger. Potential impacts on these species are addressed below.

#### Vernal Pool Branchiopods

While no vernal pool fairy shrimp and vernal pool tadpole shrimp were observed within the project site during the April 2023 surveys, the vernal pool and swale features in the project site provide suitable habitat for these species. The project has been designed to avoid impacts to aquatic features to the greatest extent possible. However, the final locations of the new monopoles have not yet been determined. This analysis includes mitigation measures to offset permanent impacts on wetland features, if needed.

To gain access to the existing lattice towers that are proposed for removal and the locations of the new monopole tower installations, project vehicles and heavy

equipment may need to be driven through wetland features. This could cause compaction of the soil and disturb branchiopod cysts. Additionally, work activities adjacent to wetland features could cause indirect temporary impacts to habitat through sediment runoff into these features. The project would have a **potentially significant impact**, and mitigation measures are required.

**Mitigation Measure 3.4-1: Avoid or Minimize Effects on Special-status Aquatic Species and Waters of the U.S. and State**

- *All on-site construction personnel will receive worker environmental awareness training, which instructs workers regarding the presence of listed species and the importance of avoiding impacts to these species and their habitat.*
- *Access, egress, and ground-disturbing activities will be sited to avoid aquatic features to the extent possible. Where present, existing paved and unpaved roads will be used to access the work area.*
- *All work in or near potential aquatic species habitat will be performed in the dry season (approximately April 15 through October 15).*
- *Temporary fencing shall be placed along the boundary of the work areas to avoid and protect environmentally sensitive areas (waters of the U.S. and State, special-status species habitat) during construction activities. Fencing must be installed prior to the initiation of any vegetation removal, equipment staging, construction, or other project activity. Fencing will consist of temporary construction barrier fencing or silt fencing. The fencing will be checked regularly and maintained until all construction is complete.*
- *All temporarily disturbed areas will be returned to pre-project conditions upon completion of construction. Soil stabilization may include, but is not limited to, seeding with a native grass seed mix and/or planting native plants. These areas will be properly protected from washout and erosion using appropriate erosion control devices including coir netting, hydroseeding, and revegetation. The existing grades in temporary impact areas will be recontoured to existing conditions.*
- *Rubber matting, or similar equivalent, will be used where temporary access for heavy equipment is required through vernal pools and seasonal wetlands/swales.*
- *For pole installations in or within 250 feet of wetlands, the upper four inches of topsoil will be stockpiled separately on Visqueen or plastic sheets during excavations. The area between the pole and the pole hole will be backfilled with cement, and the upper portion will be backfilled with native soil commensurate with the topography and stratigraphy of the surrounding soil. When this topsoil is replaced, compaction shall be minimized to the extent*

*consistent with utility standards. Areas of disturbed soil will be reseeded with a native seed mix.*

- *For pole removal, clay (native or bentonite) will be used to fill the pole hole.*
- *No pesticides or herbicides will be applied within 250 feet of vernal pools.*

### **Mitigation Measure 3.4-2. Compensate for Permanent Impacts to Wetlands and Aquatic Species Habitat**

*If the new monopole locations result in permanent impacts on wetland features, the appropriate permits would be obtained and the USFWS would be consulted. As part of the consultation process, SMUD would prepare and implement a Compensatory Mitigation Plan for project impacts on wetlands and vernal pool branchiopods. The Compensatory Mitigation Plan may include, but is not limited to, the purchase of mitigation credits for vernal pool fairy shrimp and vernal pool tadpole shrimp from the SMUD Nature Preserve Mitigation Bank or an alternative USFWS-approved mitigation bank in accordance with USFWS guidance on mitigation ratios. This mitigation requirement may be refined or superseded by the USFWS and U.S. Army Corps of Engineers permit terms.*

#### **Significance after Mitigation**

With implementation of Mitigation Measures 3.4-1 and 3.4-2, the impact to vernal pool branchiopods would be reduced to a ***less than significant*** level.

#### **Western Spadefoot**

While no western spadefoot individuals were observed within the project site during the April 2023 surveys, the wetland features in the project site do provide suitable habitat for this species. The project has been designed to avoid impacts to aquatic features to the greatest extent possible. However, the final locations of the new monopoles have not yet been determined. This analysis includes mitigation measures to offset permanent impacts on wetland features, which may provide suitable habitat for western spadefoot.

To gain access to the existing lattice towers that are proposed for removal and the proposed locations of the new monopole tower installations, project vehicles and heavy equipment may need to be driven through wetland features. This could cause direct impacts on western spadefoot individuals that may be present within or adjacent to these wetland features. Additionally, work activities adjacent to wetland features could cause indirect temporary impacts to habitat through sediment runoff into these features. As a result, the project impact would be ***potentially significant***, and mitigation is required.

**Mitigation Measure 3.4-1: Avoid or Minimize Effects on Special-status Aquatic Species and Waters of the U.S. and State** (described above)

**Mitigation Measure 3.4-2. Compensate for Permanent Impacts to Wetlands and Aquatic Species Habitat** (described above)

**Mitigation Measure 3.4-3: Conduct Pre-construction Survey for Western Spadefoot**

*A biologist will conduct a survey no less than 7 days prior to the initiation of any ground disturbing activities within or adjacent to suitable habitat for western spadefoot. This survey will comprise walking transects while conducting visual encounter surveys within areas that will be subject to staging, vegetation clearing, grubbing, grading, cut and fill, or other ground disturbing activities. The survey will include wetlands and adjacent grassland. All potential habitat features in the project site, such as crevices and burrows western spadefoot often use, will be searched to the maximum extent practicable.*

*If western spadefoot are present within the project work limits (including their egg masses or tadpoles), then CDFW will be notified and additional avoidance and minimization measures will be implemented. Any special-status species observed will be allowed to voluntarily move outside of the work area on its own volition.*

**Significance after Mitigation**

With implementation of Mitigation Measures 3.4-1, 3.4-2, and 3.4-3, the impact to western spadefoot would be reduced to a ***less-than-significant*** level.

**Giant Garter Snake**

When water is present, the ephemeral stream in the northern portion of the project site could provide suitable aquatic dispersal habitat for this species. The ephemeral stream lacks emergent vegetation cover required for foraging and escape cover; therefore, individuals of this species are unlikely to be in the project area for significant amounts of time. There are known occurrences of this species west of the project site in Steelhead Creek.

The new transmission monopoles would not be sited in the ephemeral stream. However, to gain access to the existing lattice towers proposed for removal and the new monopole towers, vehicles and heavy equipment may need to be driven across the ephemeral drainage. This could directly affect giant garter snake individuals that may be present within or adjacent to this feature. Ground disturbance within 200 feet of the ephemeral stream could adversely affect giant garter snake individuals using the area as upland refuge. Additionally, work activities adjacent to aquatic features could cause indirect temporary impacts to habitat through sediment runoff into these features. As a result, the project impact would be ***potentially significant***; mitigation is required.

**Mitigation Measure 3.4-1: Avoid or Minimize Effects on Special-status Aquatic Species and Waters of the U.S. and State** (described above)**Mitigation Measure 3.4-4: Avoid or Minimize Effects on Giant Garter Snake**

- *Avoid construction activities within 200 feet from the banks of giant garter snake aquatic habitat to the greatest extent feasible.*
- *Construction activity within 200 feet of giant garter snake aquatic habitat should be conducted between May 1 and October 1. This is the active period for giant garter snakes and direct mortality is lessened, because snakes are expected to actively move and avoid danger. If activities occur between October 2 and April 30 within 200 feet of giant garter snake habitat, SMUD will contact the USFWS Sacramento Fish and Wildlife Office to determine if additional measures are necessary to minimize and avoid take.*
- *Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided giant garter snake habitat within or adjacent to the project site as Environmentally Sensitive Areas. This area should be avoided by all construction personnel.*
- *Construction personnel shall receive worker environmental awareness training. This training instructs workers to recognize giant garter snakes and their habitat(s).*
- *24 hours prior to construction activities, the project site should be surveyed for giant garter snakes. The survey of the project site should be repeated if a lapse in construction activity of two weeks or more has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake will not be harmed.*
- *Any dewatered habitat should remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.*

**Significance after Mitigation**

With implementation of Mitigation Measures 3.4-1 and 3.4-4, the impact to giant garter snake would be reduced to a ***less-than-significant*** level.

**Swainson's Hawk and Other Special-status Raptors and Nesting Birds**

The mature trees within and adjacent to the project site have potential to provide suitable nesting habitat for Swainson's hawk, white-tailed kite, and other common raptors and nesting birds. The annual grassland within and adjacent to the project site provides suitable nesting habitat for burrowing owl, grasshopper sparrow, and other common nesting birds, and provides foraging habitat for raptors such as Swainson's hawk and white-tailed kite.

White-tailed kites generally nest within 0.5 mile of foraging habitat and are rarely found away from their preferred foraging habitats, which include alfalfa and other hay crops, irrigated pastures, sugar beets, and tomatoes (Erichsen et al. 1994; Dunk 1995; CDFW 2005). There are eight known occurrences of white-tailed kite within a 5-mile radius of the project site. All of these occurrences are southeast of the project, along Dry Creek near Del Paso.

Swainson's hawk nest sites are generally located within approximately two miles of suitable foraging habitat, which consists of alfalfa, disced fields, fallow fields, dryland pasture, beets, tomatoes, irrigated pasture, grains, other row crops, and uncultivated grasslands (Estep 1989, 2009). Although Swainson's hawks may forage 10 miles or more from their nest sites, foraging habitat within 1 mile of the nest is of primary importance, and reproductive success decreases for Swainson's hawks as distance from foraging habitat increases (Estep 1989; England et al. 1995, cited in Estep 2009; England et al. 1997). There are 15 known Swainson's hawk nests within 5 miles of the project site. Of these nests, none have been known to be active within the last 5 years.

Burrowing owl nest in natural burrows, such as ground squirrel burrows, and human-made structure like culverts. Burrowing owl prey on small mammals which are present within the project site. There are 12 known occurrences of burrowing owl within a 5-mile radius of the project site. The nearest occurrence is approximately 630 feet south of the project site.

Grasshopper sparrows nest on the ground in annual grassland and prey upon insects. There are no known occurrences of grasshopper sparrows within a 5-mile radius of the project site.

Project construction would remove several trees on the residential parcel east of the existing substation and therefore has the potential to result in direct removal of bird nests. Driving project vehicles and equipment through the annual grassland could also result in direct removal of bird nests. Additionally, construction activities occurring during the nesting season (between approximately February 1 and August 31), such as demolition, ground disturbance, and presence of construction equipment and crews, could generate noise and visual stimuli that may result in disturbance to active bird nests, if present, potentially resulting in nest abandonment. Nest abandonment may result in death of chicks or loss of eggs if the adult bird does not return to the nest. Nest abandonment would be considered a significant impact.

In addition to providing potential nesting sites for special-status birds and raptors, mature trees in the general project area could support nests of common raptors, including Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), and red-shouldered hawk (*Buteo lineatus*). In addition to common raptors, trees adjacent to the project site may also support other common nesting birds. The nests of common raptors and other common birds are protected under Sections 3503 and 3503.5 of the California Fish and Game Code. As a result, this impact would be **potentially significant**, and mitigation is required.

**Mitigation Measure 3.4-5: Avoid or Minimize Effects on Nesting Swainson's Hawk, White-Tailed Kite, Grasshopper Sparrow, and Other Nesting Birds**

*The following measures shall be implemented to avoid or minimize loss of active Swainson's hawk, white-tailed kite, grasshopper sparrow, and other raptor nests:*

- *If construction (including vegetation removal) would occur during the nesting season (between February 1 and August 31), an authorized project biologist/biological monitor shall conduct pre-construction nesting bird surveys to determine whether birds are nesting in the work area or within 0.25 mile for Swainson's hawk and 500 feet for all other nesting birds of the project site.*
- *The pre-construction nesting bird surveys will identify on-site bird species and any nest-building behavior. If no nesting Swainson's hawks are found on or within 0.25 mile of the project site or if no nesting birds are found on or within 500 feet of the project site during the pre-construction clearance surveys, construction activities may proceed as scheduled.*
- *If pre-nesting behavior is observed but an active nest of common nesting bird has not yet been established (e.g., courtship displays but no eggs in a constructed nest), a nesting bird deterrence and removal program will be implemented. Such deterrence methods include removal of the previous year's nesting materials and removal of partially completed nests in progress. After a nest is situated and identified with eggs or young, it is considered to be "active," and the nest cannot be removed until the young have fledged.*
- *If active Swainson's hawk nests are found within the survey area, the construction contractor shall avoid impacts on such nests by establishing a no-disturbance buffer around the nest. Monitoring of the nest by a qualified biologist during construction activities shall be required if the activity has the potential to adversely affect the nest. Based on guidance for determining a project's potential for affecting Swainson's hawks (Swainson's Hawk Technical Advisory Committee 2000), projects in urban areas have a low risk of adversely affecting nests greater than 600 feet from project activities. Therefore, 600 feet is anticipated to be the adequate buffer size for protecting nesting Swainson's hawks from disturbances associated with the project. However, the qualified biologist shall consult with CDFW to confirm the adequacy of the no-disturbance buffer and/or whether the buffer may be reduced based on the biologist's professional judgment.*
- *If an active white-tailed kite, grasshopper sparrow, or common bird species nest is found on or within 500 feet of the project site during construction, a "no-construction" buffer zone will be established around the active nest (usually a minimum radius of 50 feet for passerine birds and 500 feet for raptors) to minimize the potential for disturbance of the nesting activity. The project biologist/biological monitor will determine and flag the appropriate buffer size required, based on the species, specific activities being conducted, tolerances of the species, and the nest location. Project activities will resume in the buffer area*

*when the project biologist/biological monitor has determined that the nest(s) is (are) no longer active or the biologist/biological monitor has determined that with implementation of an appropriate buffer, work activities would not disturb the bird's nesting behavior.*

**Mitigation Measure 3.4-6: Avoid or Minimize Effects on Burrowing Owls**

*The following measures shall be implemented to avoid or minimize effects to burrowing owl during construction of the proposed project:*

- *Pre-construction surveys for burrowing owls would be completed before the project begins. A survey to determine presence or absence of burrowing owls may be performed at any time to facilitate passive relocation efforts, which must occur during the nonbreeding season (generally September 1 to January 31). In addition, a pre-construction survey would be conducted no more than 14 days prior to the initiation of any project activities, including vegetation removal, equipment staging, or construction. This survey would be conducted in all areas of potential habitat within the project area plus a 500-foot buffer and would follow the methods described in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012) or an updated version of this document.*
- *If the biologist finds an active burrowing owl burrow, the biologist would establish a buffer around the site. The buffer location would be based on the CDFW Staff Report on Burrowing Owl Mitigation (2012) or at the distance which the biologist, in consultation with CDFW, determines that burrowing owls would not be harassed by the proposed project.*

**Significance after Mitigation**

With implementation of Mitigation Measures 3.4-5 and 3.4-6, the project would not result in disturbance to or loss of nesting birds. Therefore, the impact to nesting grasshopper sparrow, burrowing owl, Swainson's hawk, white-tailed kite, and other nesting birds would be reduced to a ***less-than-significant*** level.

**American Badger**

Though no American badger individuals or evidence of active den sites were observed within the project site, the annual grassland present provides suitable habitat, and the ground squirrels and other small rodents present provide a suitable prey base for this species. If American badger is present within the project site during project activities, there could be direct impacts to individuals. Grading and vegetation removal within the project site could directly affect denning or foraging American badger. Additionally, noise associated with construction activities involving heavy equipment operation could temporarily disturb any individuals denning nearby. As a result, the project impact would be ***potentially significant***, and mitigation is required.

**Mitigation Measure 3.4-1: Avoid or Minimize Effects on Special-status Aquatic Species and Waters of the U.S. and State** (described above)**Mitigation Measure 3.4-7: Conduct an American Badger Pre-construction Survey**

*A qualified biologist would conduct a preconstruction survey for American badger individuals and active dens in the project site and within a 250-foot buffer of the project site.*

- *The preconstruction survey would be conducted no more than 14 days before the initiation of construction activities.*
- *For surveys in inaccessible areas, the biologist would use binoculars to scan any suitable denning substrate for potential individuals or dens.*
- *If no active dens are found during the preconstruction surveys, then no additional mitigation is required.*
- *If an active den is identified within the survey area, a no-disturbance buffer would be established around the nest/den to avoid disturbance of the denning mammal until a qualified biologist determines that the young have dispersed. The extent of these buffers would be determined by the biologist and would depend on the level of noise or construction disturbance, line-of-sight between the den and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers.*
- *If any non-denning individuals are observed in the survey area before or during construction, the species would be allowed to move out of harm's way on its own.*

**Significance after Mitigation**

With implementation of Mitigation Measures 3.4-1 and 3.4-7, the project would not result in disturbance to or loss of American badger. Therefore, the impact to American badger would be reduced to a ***less-than-significant*** level.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

**No Impact.** The project site does not contain riparian habitat. Therefore, there would be ***no impact*** on riparian habitat. Sensitive natural communities include wetlands, which are discussed in question c).

- c) **Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Less than Significant with Mitigation Incorporated.** The project site does not contain riparian habitat. Therefore, there would be no impact on riparian habitat. Sensitive natural communities include wetlands, discussed below. There are Waters of the U.S. and State (wetland features and an ephemeral stream) present in the project site (Figure 3-2). The project has been designed to avoid impacts to Waters of the U.S. and State to the greatest extent possible. At the current stage of design, the location of the new monopoles has not been finalized. SMUD is designing the new monopole locations with the intent to avoid wetlands, which represent habitat for special-status species. However, SMUD may be unable to install replacement monopoles outside of wetland features due to spatial restrictions, resulting in a permanent loss of state and federally protected wetlands. Although permanent project features would avoid wetlands to the extent feasible, construction access to the new pole locations may require temporary access routes and ground disturbance within wetlands for lattice tower removal and monopole installation, which could cause compaction of the soil. This impact assessment assumes that wetlands may be permanently or temporarily affected by new transmission pole installation.

Additionally, the project proposes to construct a stormwater retention basin just south of the southern edge of the existing substation. There is one wetland west and two wetlands southeast of the proposed retention basin. It is possible that the construction of the retention basin may affect the hydrology of the neighboring wetlands by diverting water that would otherwise flow into the wetland from the surrounding uplands. Based on existing topography and flow patterns, this indirect impact on nearby wetlands is not expected to be significant.

Work activities adjacent to wetland features may also cause indirect temporary impacts through sediment runoff into these features. As a result, the project would have a **potentially significant** impact on wetlands, and mitigation is required.

**Mitigation Measure 3.4-1: Avoid or Minimize Effects on Special-status Aquatic Species and Waters of the U.S. and State** (described above)

**Mitigation Measure 3.4-2. Compensate for Permanent Impacts to Wetlands and Aquatic Species Habitat** (described above)

#### Significance after Mitigation

With implementation of Mitigation Measures 3.4-1 and 3.4-2, the project would minimize disturbance to and compensate for loss of wetlands and Waters of U.S. and State. Therefore, the impact to Waters of U.S. and State would be reduced to a **less-than-significant** level.

- d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**No impact.** A search of CDFW's California Essential Habitat Connectivity and Missing Linkages in California Landscape data did not identify any designated essential habitat connectivity areas or missing linkages on the project site or in the immediate project vicinity. Additionally, the project area does not contain known wildlife nursery sites. Therefore, there would be **no impact**, and no mitigation is required.

- e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**No Impact.** The project does not conflict with local policies or ordinances protecting biological resources.

The Sacramento County General Plan Public Facilities Element (1993, as amended) includes the following policies for siting electrical facilities:

**PF-69.** Cooperate with the serving utility to minimize the potential adverse impacts of energy production and distribution facilities to environmentally sensitive areas by, when possible, avoiding siting in the following areas:

- Wetlands.
- Permanent marshes.
- Riparian habitat.
- Vernal pools.
- Oak woodlands.
- Historic and/or archaeological sites and/or districts.

**PF-92.** Transmission lines should avoid to the greatest extent possible, cultural resources and biological resources such as wetlands, permanent marshes, riparian habitats, vernal pools, and oak woodlands. When routed through such areas, transmission lines should have maximum line spans and cross at the narrowest points which involve minimal cutting and cropping of vegetation, maintaining the drainage regime of wetland basins. Additionally, when feasible, such routes should be maintained to serve as biological dispersion corridors between areas of high biodiversity.

**PF-93.** Protect native and non-native bird populations by incorporating electrocution prevention measures into the design of transmission towers.

The project has been designed to avoid sensitive habitats, including wetlands and vernal pools, to the extent feasible. The project would include the removal of several trees within the parcel east of the existing substation that would be converted to substation use. These trees are not oak species and are not protected by the County tree ordinance. The project would not conflict with local policies and would result in **no impact**; no mitigation is required.

**f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**No Impact.** The project site is not located within the plan area of an adopted habitat conservation plan, natural community conservation plan or other applicable and approved habitat conservation plan. As a result, it would not conflict with the provisions of any such plan. Therefore, the project would result in **no impact**, and no mitigation is required.

### 3.5 Cultural Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>V. Cultural Resources.</b>				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 3.5.1 Environmental Setting

In March 2023, AWE contacted the North Central Information Center (NCIC) of the California Historical Resources Information System (CHRIS) located at California State University, Sacramento with a request for a records search. The purpose of this review is to determine whether any portion of the project area has been surveyed for cultural resources and whether there are known archaeological or historic-era resources in the immediate area. The NCIC provided the results of a record search dated March 10, 2023. The record search was requested for the proposed project site and within a quarter-mile radius of that location.

The literature search conducted by the NCIC includes:

- OHP Historic Properties Directory & Determinations of Eligibility (March 2023);
- California Register of Historic Places (2023);
- California Inventory of Historic Resources (1976) (requested, but none listed);
- historic maps: General Land Office maps for T10N R5E 1856 and 1866; USGS quadrangles 1902 and 1954 Fair Oaks, and 1911, 1950, 1951, 1967, and 1975 Rio Linda;
- local inventories (requested, but none listed); and
- previous reports of surveys within the quarter-mile search radius.

State and federal inventories have no list of historic properties eligible for either the State or Federal Registers of Historic Places within or adjacent to the project. The West Levee Natomas East Main Drainage Canal and the Union Pacific Railroad/Western Pacific Railroad are both located approximately ½ mile west of the project. They have both undergone Determinations of Eligibility for the National Register of Historic Places and have both been determined ineligible through the National Historic Preservation Act Section 106 process.

The NCIC identified ten archived reports within a quarter-mile radius of the project. Portions of the project site have been previously surveyed. Multiple cultural resource surveys have been completed along the current transmission line corridors serving the existing SMUD and WAPA Substations. Two surveys have been completed on property to the west and south of the current Elverta Substation.

The NCIC reported that there is one recorded resource within a quarter-mile radius of the project. The archaeological resource was an isolate found at the edge of the quarter-mile radius.

A Sacred Lands File search conducted by the Native American Heritage Commission (NAHC) reported that the project area is negative for Sacred Lands.

There are no known historic-era resources within a quarter-mile radius of the project site. The house at 604 Elverta Road was built in 1947. This home is typical of homes built in the region at that time. It does not meet the criteria as a historical resource since it does not exhibit distinctive architectural characteristics and is not associated with persons or events important to local, California, or national history.

A qualified archaeologist conducted a pedestrian survey on April 11 and June 30, 2023. Due to access restrictions, a portion of the proposed transmission line easement for the new monopoles was not surveyed. During the pedestrian survey, ground visualization varied from moderate in areas of annual grassland and herbaceous vegetation, to fair in areas with comparatively sparse ground cover, abundant rodent kick-back, or disturbance related to the transmission line poles. The study area was surveyed using 15-meter transects.

The study area is considered low sensitivity for the surface presence of indigenous materials as low-lying areas throughout the project site and vicinity were subjected to annual inundation until flood control measures were undertaken in the early 1900s. No surface cultural resources were located during the pedestrian field survey.

### 3.5.2 Discussion

#### a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

**No Impact.** The records search and the pedestrian survey revealed no built-environment historical resources within the project site. Therefore, there would be *no impact* to historical resources, and no mitigation is required.

**b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

**Less than Significant with Mitigation Incorporated.** No historical or archaeological resources listed on or eligible for the California Register of Historical Resources, or that meet other criteria of significance under Section 15064.5, were identified within the project work limits. However, there remains the possibility that historical or archaeological resources may be found during ground disturbing activities associated with construction of the proposed project. It is possible that previously undiscovered resources could be found during ground disturbing activities. Potential significant impacts to previously undiscovered historic and/or archaeological resources would be avoided through implementation of Mitigation Measure 3.5-1.

**Mitigation Measure 3.5-1: Worker Environmental Awareness and Cultural Respect Training and Procedures for Inadvertent Discovery of Cultural Resources**

*Prior to excavation or other subsurface disturbance activities, individuals conducting the work will be required to participate in Worker Environmental Awareness and Cultural Respect Training. Workers will be advised to watch for cultural resource materials. If workers observe any evidence of pre-contact cultural resources (freshwater shells, beads, bone tool remnants or an assortment of bones, soil changes including subsurface ash lens or soil darker “midden” in color than surrounding soil, lithic materials such as flakes, tools or grinding rocks, etc.), or historic cultural resources (adobe foundations or walls, structures and remains with square nails, refuse deposits or bottle dumps, often associated with wells or old privies), all ground-disturbing activity within 100 feet of the discovery must immediately cease and a qualified archaeologist must be consulted to assess the significance of the cultural materials. SMUD will be notified of the potential find and a qualified archeologist shall be retained to investigate its significance. If the qualified archaeologist determines the archaeological material to be Native American in nature, Mitigation Measure 3.18-1 shall be implemented. If the find is determined to be significant by the archaeologist (i.e., because it is determined to constitute a unique archaeological resource), the archaeologist shall work with SMUD to develop and implement appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.*

**Significance after Mitigation**

Implementation of Mitigation Measure 3.5-1 would reduce potential impacts to archaeological resources discovered during project construction activities to a **less-than-significant** level.

- c) **Disturb any human remains, including those interred outside of formal cemeteries?**

**Less than Significant with Mitigation Incorporated.** There are no known past cemeteries or burials on the project site or immediate area. However, because earthmoving activities associated with project construction would occur, there is potential to encounter buried human remains or unknown cemeteries in areas with little or no previous disturbance. This impact would be potentially significant.

**Mitigation Measure 3.5-2: Procedures for Discovery of Human Remains**

*If human remains are discovered, all work within a 100 feet of the find must immediately cease, and the local coroner must be contacted. Procedures for the discovery of human remains will be followed in accordance with provisions of the State Health and Safety Code, Sections 7052 and 7050.5 and the State Public Resources Code Sections 5097.9 to 5097.99. If the Coroner determines that the remains are those of Native American origin, the Coroner shall contact the Native American Heritage Commission (NAHC) and subsequent procedures shall be followed, according to State Public Resources Code Sections 5097.9 to 5097.99, regarding notification of the Native American Most Likely Descendant. Following the coroner's and NAHC's findings, SMUD and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.*

**Significance after Mitigation**

Implementation of Mitigation Measure 3.5-2 would reduce potential impacts related to human remains to a **less-than-significant** level.

### 3.6 Energy

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>VI. Energy.</b>				
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.6.1 Environmental Setting

The energy production landscape in California is built on regional power systems composed of a diverse mix of natural gas, petroleum, hydroelectric, and nuclear generation resources, and alternative and renewable sources. SMUD’s power mix data from 2021 (SMUD 2021) describes most grid power coming from natural gas, large hydroelectric, and renewables (wind).

SMUD serves a population of 1.5 million over 900 square miles. Substations like the existing Elverta Substation are crucial components of the SMUD power delivery system. Using transformers, substations transfer power from the transmission system to the distribution system that serves a particular area. That is, the substation reduces the voltage from the large transmission lines and moves that reduced power into a system that powers residential and commercial customers.

#### 3.6.2 Discussion

- a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

**Less than Significant.** The proposed El Rio Substation project would not produce power, nor is there a product created by the substation itself that would require energy use. The project would replace and upgrade aging equipment in order to more efficiently and reliably transfer and distribute power already available on the SMUD power distribution grid.

Project-related consumption or use of grid-sourced energy and gas and diesel fuel is largely associated with construction and decommissioning work. This would be a temporary expenditure of energy. Energy would be consumed during project

construction to operate and maintain construction equipment, transport construction materials, and remove old electrical equipment and related construction debris offsite. Fuel would also be consumed by construction worker commutes to the project site. This one-time energy expenditure required to decommission the existing substation and construct the project would be nonrecoverable. However, because the energy needs for project construction would be temporary and are essential for the project implementation, resulting in long-term energy efficiency, the consumption would not be considered excessive or wasteful.

Salvageable components would be removed for reuse; non-reusable materials would be recycled (e.g., concrete) or scrapped (metal). See Section 3.19 for discussion of CALGreen Code and compliance with construction waste stream reduction requirements.

Operation and maintenance of the substation would require a negligible amount of on-site electricity for integration of the substation elements, such as security lighting. Fuels would also be utilized periodically to maintain equipment during operation and would be used in vehicles related to employees travel. Project operation would generate minimal vehicle trips associated with ongoing operation and maintenance of the substation, which would not be notably greater than the existing vehicle trips accessing the project site. These vehicle trips by SMUD employees would be essential to ensuring that the new El Rio Substation is safe and functional. Therefore, the project would not result in an inefficient, wasteful, or unnecessary consumption of energy resources. This impact would be **less than significant**, and no mitigation is required.

**b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency**

**No Impact.** As discussed above, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy resources. Furthermore, the project would not involve the construction or installation of any new significant energy-consuming buildings, structures, or equipment. The proposed lighting and monitoring equipment in the control building would replace existing Elverta Substation lighting and monitoring equipment. All lighting would be LED and meet or exceed California building efficiency codes (Title 24).

The purpose of the project is to replace aging electrical equipment and would result in increased efficiency in transmitting energy between source and end destinations and an increase in electrical transmission capacity. With the capacity to increase electrical power transmission to neighborhoods, options for commercial scale solar are increased; in this way, the El Rio Substation project would keep SMUD on track to meeting the goals established in SMUD's 2030 Zero Carbon Plan (SMUD 2021a) and California clean air and pollution reduction goals (Senate Bill 350). The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project would have **no impact**, and no mitigation is required.

### 3.7 Geology and Soils

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>VII. Geology and Soils.</b>				
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 3.7.1 Environmental Setting

The topography of the existing Elverta Substation site is flat (Figure 3-3). The proposed El Rio Substation site would consist of a portion of the existing site and the immediately adjacent parcel, APN 202-0090-024-000. The adjacent parcel, in its existing condition, is nearly flat and is developed with a residence and numerous outbuildings to accommodate livestock production. The project site is located on Section 19 of Township 10 North, Range 5 East of the Rio Linda U.S. Geological Survey 7.5-minute topographic quadrangle, Mount Diablo Baseline and Meridian. The centroid coordinates of the project site are 38° 42' 47.6784" North, -121° 28' 37.2216" West.

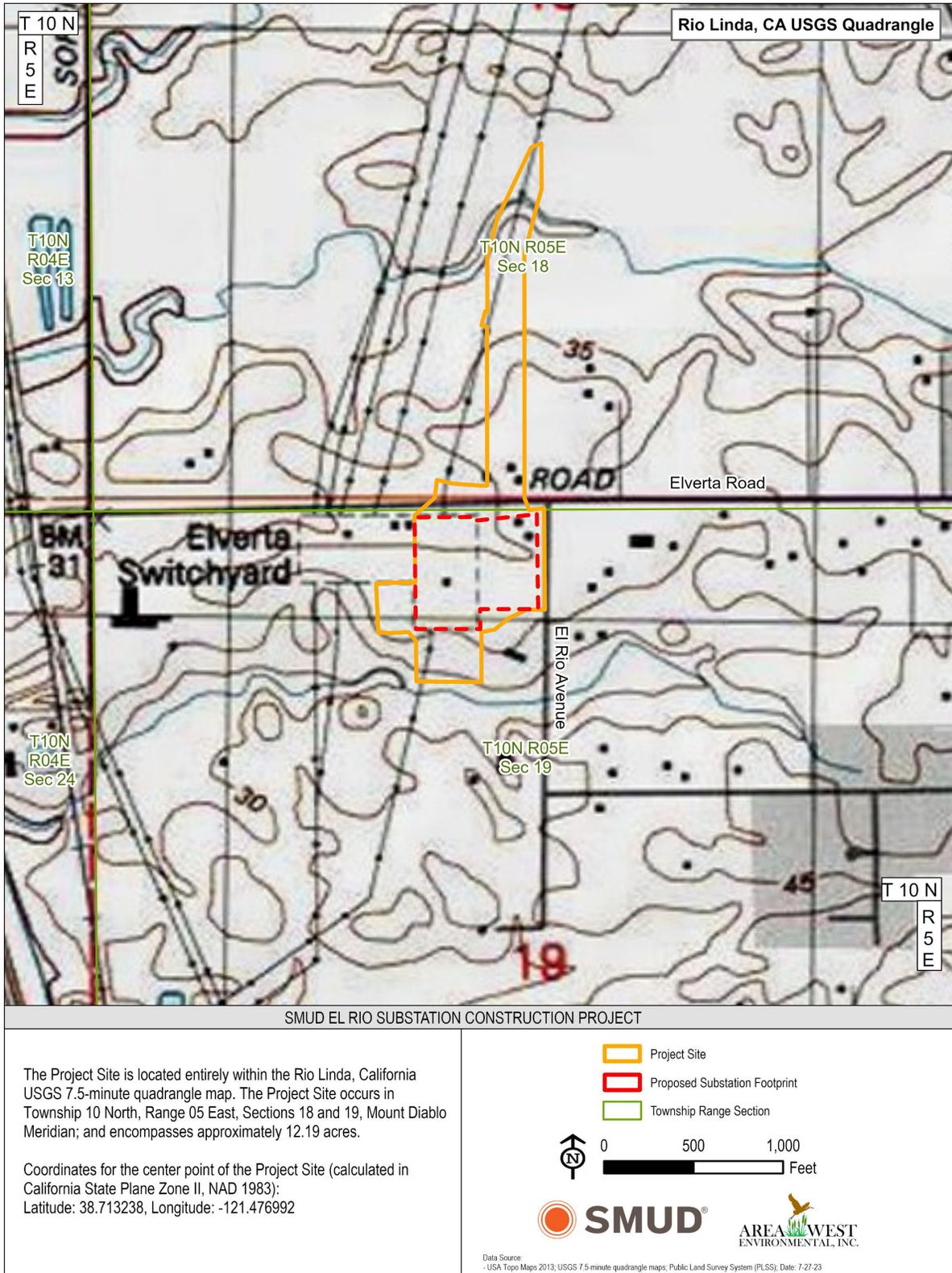
#### *Geology and Soils*

The Sacramento Valley forms the northern half of the Central Valley (or the Great Valley). Geologically, the Central Valley is a large basin of interbedded mud, silt, sand, and gravel thousands of feet deep overlies Sierran basement rocks. The Central Valley is bounded on the west by the Great Valley Fault Zone and the southern Coast Ranges and bounded on the east by the Sierra Nevada and the Foothills Fault Zone (SWRCB 2016).

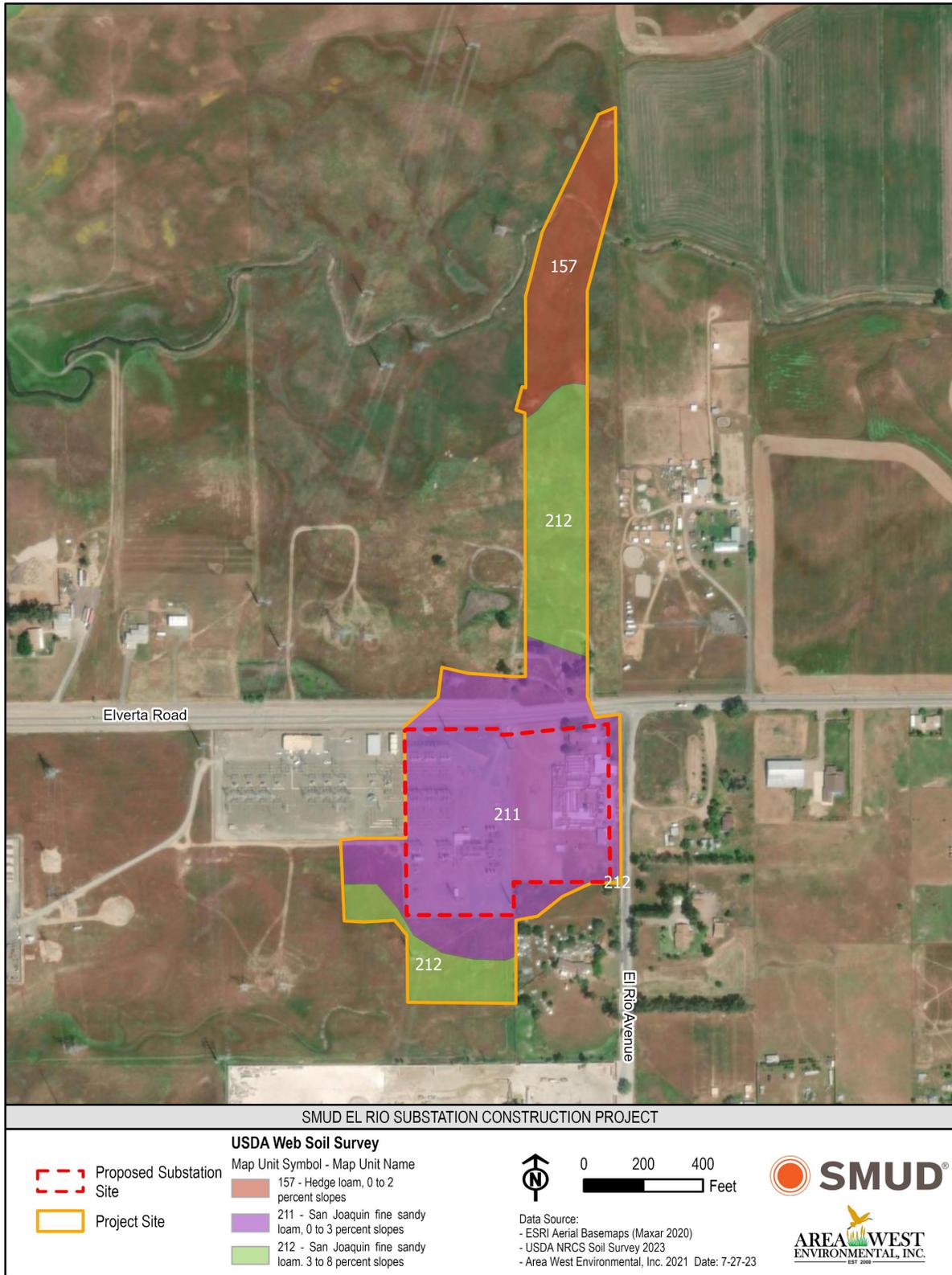
Most of the surface of the Central Valley is covered with alluvial deposits, both Holocene and Pleistocene (Wagner, D.L., et al. 1981), that were transported by water from the newer mountain ranges, the Coast Ranges to the west and the Sierra Nevada to the east. Most of the Sacramento Valley is underlain with Pleistocene age geologic units, known originally as the Victor Formation (now divided into the Riverbank and Modesto Formations) and is described as composed of interbedded sand, silt and clay with lenses of gravel and includes meandering stream deposits composed of poorly sorted cobbles, gravel and sand (California Department of Water Resources [DWR] 1974).

Native soils within the proposed El Rio Substation area, as mapped by the Natural Resources Conservation Service's (NRCS) Web Soil Survey, consist of the San Joaquin soil series (Map Unit 211) (NRCS 2023) (Figure 3-4). This series is described as occurring on a flat to hummocky landscape at low elevations. The San Joaquin series is composed of sandy loam soils, moderately to well-drained underlain by a clay loam and hardpan. These soils formed in alluvium and derived from mixed, but dominantly granitic, rock sources; some soil areas within the lower slope unit are described as sticky and plastic with very slow permeability and are subject to rare or occasional flooding (NRCS1999). The San Joaquin soil series is a typical 'capping' soil occurring above quaternary deposits, including the Riverbank Formation, and is common to the San Joaquin and Central Valleys (Shelton et al. 2000; Anderson, et al. 2018).

Native soils along the proposed layout line for the new transmission towers include both the San Joaquin Series soils and Hedge Series soils (Figure 3-4). The Hedge soil is mapped by the NCREC as Hedge Loam (Map Unit 157).



**Figure 3-3. Topography**



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**Figure 3-4. Soils**

This soil type had previously been undistinguished from the San Joaquin series as it is similarly formed in alluvium, is derived from granitic rock sources, and has the familiar hard pan characteristic. The primary difference between the soil types is that the Hedge Loam is much more friable and is not described as highly plastic (NCRS 2003).

### *Paleontological Resources*

The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources which were approved through a consensus of professional paleontologists and reflect the currently accepted standard practices (SVP 2010). The guidelines are referenced herein as many federal, state, county, and city agencies have either formally or informally adopted the SVP's standard guidelines for the mitigation of adverse construction-related impacts on paleontological resources.

SVP outlined criteria for screening the paleontological potential of rock units and established assessment and mitigation procedures tailored to such potential (SVP 2010). A *High Potential* is generally assigned to rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered. Rocks units classified as having high potential for producing paleontological resources usually include sedimentary formations and some volcanoclastic formations (e.g., ashes), and some low-grade metamorphic rocks, sedimentary rock (middle Holocene and older, and various sandstones). A *Low Potential* is assigned to geologic units that are not known to have produced a substantial body of significant paleontological material or are, by scientific consensus, known to only preserve fossils in rare circumstances.

Alluvial deposits mapped in the project area are quaternary with both Holocene and Pleistocene strata. The depth of newer Holocene soils has been described in general terms as up to 150 feet thick toward the midpoint of the Central Valley (SWRCB 2016). Estimates specific to the Pleistocene, Victor (Riverbank) Formation are more conservative, estimating the Holocene layer to be between zero and 100 feet in thickness (0-30.5± m). The thickness is important because young alluviums, like the Holocene strata, generally consist of sediments too young to produce fossils (Kunkel and Upson 1960) whereas the Pleistocene strata, in particular the Riverbank Formation, often contributes fossils (Shelmon et al. 2000; Anderson, et al. 2018). At the Arco Arena site, approximately 5 miles to the southwest of the project site and underlain by the Riverbank Formation, construction excavation resulted in the recovery of mammal fossils starting at 11.5 feet below the valley floor. Most paleontological discoveries in the Sacramento area are a result of excavation (Anderson, et al. 2018).

The County of Sacramento recognizes the possibility of potentially significant undiscovered Paleontological Resources and includes specific policies for managing discretionary permits in the Conservation Element of the County's General Plan (Sacramento County 1993, as amended 2017):

- **CO-161.** As a condition of approval for discretionary projects, require appropriate mitigation to reduce potential impacts where development could adversely affect paleontological resources.
- **CO-162.** Projects located within areas known to be sensitive for paleontological resources, should be monitored to ensure proper treatment of resources and to ensure crews follow proper reporting, safeguards and procedures.

### *Seismicity*

The closest quaternary fault to the project alignment with evidence of displacement is Dunnigan Hills Fault (approximately 21 miles to the west north of Woodland). An older, pre quaternary fault with no recognized displacement is the Willows Fault zone that is mapped by the California Geological Survey (CGS) as occurring approximate 0.9 miles to the east of the project site. In general, active faults are located along the margins of the valley (CGS,2015; Jennings and Bryant, 2010). According to the California Geological Survey Earthquake Shaking Potential for California, the Sacramento region generally experiences lower levels of infrequent shaking due to the regions distance from known, active faults. However, large magnitude earthquakes from those distant faults could still cause strong shaking (CGS 2016). The project site is not located in a designated State of California Seismic Hazard Zone for liquefaction and is not identified by the Sacramento General Plan as an area of potential liquefaction (CGS 2021; Sacramento County 1993).

### **3.7.2 Discussion**

- a) **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)**
  - ii) **Strong seismic ground shaking?**
  - iii) **Seismic-related ground failure, including liquefaction?**
  - iv) **Landslides?**

**No Impact.** No Alquist-Priolo Earthquake Fault Zones exist in Sacramento County (CGS 2015; CGS 2021). The project site is located in the Sacramento Valley, which has historically experienced a low level of seismic ground shaking. The California Geological Survey has identified the region as an area of low to moderately low earthquake shaking potential (CGS 2016). The project would be constructed in a manner consistent with the California Building Code (CBC) Title 24, which identifies specific design requirements to reduce damage from strong seismic ground shaking, ground failure.

Liquefaction, though possible under specific circumstances, is not mapped as a hazard in the Sacramento area. The project would not expose people or structures to adverse effects caused by the rupture of a known fault.

The project site is located within an area of low relief, having nearly flat terrain. Implementation of the project would involve grading and installation of drainage features within the project site. Because the project site is flat, slope stability, landslides do not present substantial hazards to people and property.

Consequently, the project would result in **no impact** related to known earthquake faults, strong seismic ground shaking, ground failure including liquefaction and landslides, and no mitigation is required.

**b) Result in substantial soil erosion or the loss of topsoil?**

**Less than Significant.** Ground disturbance is estimated to encompass a disturbed area of up to 10 acres with approximately 60,000 square feet of new impervious surface area. Excavation depths are estimated to be 9 to 12 feet for the retention basin, 20 to 25 feet for the electrical equipment component foundations, and up to 30 feet for the monopole foundations.

Construction of the project would include clearing and grading the adjacent parcel to create a level surface and excavation for project components and monopole installation. This activity may result in the short-term placement of soil in stockpiles during grading and excavation activities. Stockpiled soils would be exposed to wind and water erosion that could transport sediments onto adjacent parcels. Site-specific effects of erosion are generally limited to construction when stormwater runoff can carry sediment into local waterways or fugitive dust emissions. As part of the project, a SWPPP would be prepared (See Section 3.10). This plan would address the movement, relocation, staging, and use of soil stockpiles on the project site, and would include dust and erosion control measures related to the movement and use of stockpiles as well as track-out prevention measures and other stormwater pollution prevention controls. With the implementation of the required SWPPP and associated BMPs (see also Section 3.10), the impact would be **less than significant**, and no mitigation is required.

**c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**

**d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?**

**Less than Significant.** The Natural Resource Conservation Service (NRCS) soil mapping describes project soil as composed of the San Joaquin Series and Hedge Loam. The San Joaquin Series may be considered an expansive soil due to the high clay content and association with shrink-swell potential.

The project site is not located in a known subsidence area as denoted by the DWR's 2017 Global Positioning System Survey of the Sacramento Valley (2018). However, there are soils present in the project area that exhibit the potential to subside because of their shrink-swell potential.

Prior to final design, SMUD would conduct a geotechnical engineering investigation and implement geotechnical recommendations in the final project design. The geotechnical engineering investigation, prepared by a licensed engineer, will evaluate the subsurface soil and geologic conditions underlying the proposed development areas (site soils, geologic conditions, groundwater, and other hazards) and, based on conditions encountered, will provide recommendations for design and construction methods, including reuse potential of existing soils. The geotechnical investigation would inform the project final design and construction plans so that, if needed, specific measures to manage expansive soils would be implemented. The project does not include housing or other land uses that would increase exposure of people to geologic risks. With compliance with geotechnical recommendations and building codes, the project would have a **less than significant impact** related to unstable or expansive soils, and no mitigation is required.

- e) **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

**Less Than Significant Impact.** A restroom would be constructed for SMUD employee use during project operations. The project is expected to install a septic system to support the planned restroom. The NCRS soil series may present difficulties for septic leach fields, however this is highly dependent on the system design and the site conditions. In compliance with the Sacramento County On-Site Wastewater Treatment Systems and Local Agency Management Program (Sacramento County 2015), the project would conduct soil sampling and percolation testing and meet siting requirements to obtain an approved septic permit.

During construction, the project would use portable restroom facilities that would be located where work is occurring. Portable restroom facilities would be regularly cleaned and maintained to comply with health and safety codes.

Compliance with existing environmental health regulations would ensure that the impact of the waste disposal systems (temporary and permanent) on the surrounding environment is **less than significant**, and no mitigation is required.

f) **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Less than Significant with Mitigation Incorporated.** While a search of the University of California Museum of Paleontology (UCMP, [ucmpdb.berkeley.edu](http://ucmpdb.berkeley.edu)) collections database did not identify any evidence of significant paleontological resources in the specific project area, most of the returned results (126 results total) are attributable to the Riverbank Formation. Since fossil vertebrates have been previously reported from this formation, the Riverbank Formation is considered to have high sensitivity for paleontological resources. Although the depositional conditions (depth at which the Pleistocene, Riverbank formation would occur) are unknown, there is a risk of encountering paleontological resources during construction. The project would have a **potentially significant** impact, and mitigation is required.

**Mitigation Measure 3.7-1: Worker Environmental Awareness Training and Procedures for Inadvertant Discovery of Paleontological Resources**

*A Worker Environmental Awareness Training (WEAT) will be presented for all construction workers prior to the start of ground disturbing activities (including vegetation removal, grading, excavation, etc.). The training session shall discuss the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction/decommissioning personnel attended the training.*

*SMUD will retain an on-call paleontologist to respond to potential finds during project construction. If potential paleontological resources are uncovered during on-site construction activities, all work must stop immediately within 100 feet of the find and a qualified paleontologist shall evaluate the deposits. The paleontologist will be responsible for assessing any evidence of paleontological resources encountered during construction. If the find is deemed significant, it should be salvaged by the paleontologist following the standards of the SVP (2010) and curated with a certified repository. Work in the area may resume after authorization is granted by SMUD's project manager in consultation with the paleontologist.*

**Significance after Mitigation**

With implementation of Mitigation Measure 3.7-1, potential impacts to paleontological resources would be avoided or reduced to a **less than significant** level.

### 3.8 Greenhouse Gas Emissions

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>VIII. Greenhouse Gas Emissions.</b>				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.8.1 Environmental Setting

Various gases in the earth’s atmosphere, classified as atmospheric greenhouse gasses (GHGs), play a critical role in determining the earth’s surface temperature. Solar radiation enters the earth’s atmosphere from space and a portion of the radiation is absorbed by the earth’s surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

GHG emissions from human activities have greatly increased GHG concentrations in the atmosphere and caused levels of warming far above natural levels, resulting in global climate change. In California, these activities are associated primarily with transportation (passenger vehicles and heavy-duty vehicles are top contributors), followed by industrial/manufacturing activities, electricity generation and consumption, residential and commercial on-site fuel use, and agriculture (including livestock) (ARB 2022).

The state of California is leading the nation in setting goals and regulating GHG reduction. The most notable of these is Assembly Bill (AB) 32 – California Global Warming Solutions Act of 2006 (AB 32), which requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels, disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap.

SMAQMD is the primary agency responsible for addressing air quality concerns in Sacramento County and has established quantitative significance thresholds for evaluating GHG emissions. For construction emissions generated by land development projects, the SMAQMD threshold is 1,100 metric tons per year of CO<sub>2</sub> equivalent (MTCO<sub>2e</sub>) (SMAQMD 2020).

An Air Quality and Greenhouse Gas Impact Assessment was prepared for the project (Ambient Air Quality and Noise Consulting, 2023a) and provides a description of the existing setting related to climate change, a summary of the regulatory framework, and a quantitative analysis of GHG emissions associated with the project. These results are summarized below.

### 3.8.2 Discussion

**a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less than Significant.** Project operation would not generate substantial GHG emissions because operational activities would be limited to occasional and infrequent monitoring and maintenance that would be equivalent to the emissions generated by the existing substation. However, the project would generate GHGs during construction from the use of heavy-duty off-road construction equipment and vehicle use for worker commutes.

Estimated increases in GHG emissions associated with the construction of the proposed project were modeled using CalEEMod. Table 3-2 presents results of the modeling conducted.

**Table 3-2. Construction-related Greenhouse Gas Emissions**

Construction Year	Activities	GHG Emissions (MTCO <sub>2e</sub> /year)	Exceeds Threshold of 1,100 MTCO <sub>2e</sub> ?
Year 1		669	No
Year 2		263	No
Year 3		180	No

Yearly GHG emissions for construction would not exceed the 1,100 MTCO<sub>2e</sub>/year threshold established by SMAQMD. This impact would be **less than significant**, and no mitigation is required.

**b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**No Impact.** Plans, policies, and regulations adopted for the purpose of reducing GHG emissions are developed with the purpose of reducing cumulative emissions related to

long-term operational emissions. The project would not generate substantial GHG emissions during operations. Construction-related GHG emissions would be finite and would not exceed SMAQMD's threshold for construction emissions, which were established in order to support statewide GHG emission targets. Additionally, the project would improve the electricity distribution infrastructure, which would help to further reduce community-wide GHG emissions. For these reasons, the proposed project would not conflict with local or state GHG-reduction planning efforts. There would be ***no impact***, and no mitigation is required.

### 3.9 Hazards and Hazardous Materials

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>IX. Hazards and Hazardous Materials.</b>				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.9.1 Environmental Setting

The existing Elverta Substation uses limited amounts of SF<sub>6</sub>, a common insulating gas for high-voltage electrical systems. Use of SF<sub>6</sub> at the existing substation complies with ARB regulations for reduction of SF<sub>6</sub> emissions. As part of substation operations and maintenance activities, SMUD monitors existing substation equipment to accurately and

immediately identify any SF<sub>6</sub> leaks and immediately repair leaks that are discovered. SMUD is also an active member of the SF<sub>6</sub> Emission Reduction Partnership, which focuses on reducing emissions of SF<sub>6</sub> from transmission and distribution sources. The Elverta Substation also contains a propane tank that serves the existing telecommunications tower within the substation.

The State Water Resources Control Board's GeoTracker website provides data relating to leaking underground storage tanks (LUSTs) and other types of soil and groundwater contamination, along with associated cleanup activities. The GeoTracker website identifies LUST incidents that occurred at the WAPA-owned substation located at 736 Elverta Road, immediately west of the SMUD Elverta Substation and at the adjacent WAPA Elverta Maintenance facility located at 7940 Sorento Road. The WAPA-owned substation record at 736 Elverta Road describes a 1986 release of oil from a LUST, resulting in polychlorinated biphenyls (PCBs) and total petroleum hydrocarbons (TPH) soil contamination; soil cleanup activities concluded and the case was closed in 1992 (case number 340681; SWRCB,2023). The other WAPA record at 7940 Sorento Road describes a 1997 gasoline release from an underground storage tanks (UST) with potential for groundwater contamination; the case was closed in 2017 following extensive groundwater testing and reporting. Post-closure site management requirements include notification prior to change in land use, development, or subsurface work (case number 341148; SWRCB,2023). These LUST incidents have both been closed, having received letters of No Further Action required from the Sacramento County Environmental Management Department confirming completion of site investigation and remedial actions (SWRCB 2023; California Department of Toxic Substances Control's [DTSC] 2023).

The DTSC EnviroStor website, which provides data related to hazardous materials spills and cleanups, did not identify additional hazards related to any cleanup sites on or near the project site (DTSC 2023).

No schools are located within one-quarter mile of the project site. The project site is located within the Twin Rivers Unified School District. The closest school to the project site is the Elverta Elementary School, located 0.65 miles east of the project site at 7900 Eloise Avenue.

The nearest airports are the privately owned Freedom Field located approximately 3 miles northeast of the project site and the public use airstrip Rio Linda Airport located approximately 3 miles southeast of the project site. The Sacramento International Airport is located approximately 6 miles to the west, southwest of the project site.

The project site is located in a local responsibility area that is not mapped as a very high fire hazard severity zone (California Department of Forestry and Fire Protection [CAL FIRE] 2008).

### 3.9.2 Discussion

a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

**Less than Significant.** Construction activities would involve the use of hazardous materials, such as fuels, gasoline, and oil. These materials would primarily be contained within construction equipment but may also be stored on site or transported to the site and may be replenished or disposed of periodically. The use and storage of these materials during construction could potentially expose and adversely affect workers, the public, or the environment through improper handling or use, accident, environmentally unsound disposal methods, fire, explosion, or other emergencies. Exposure to hazardous materials may result in adverse health or environmental effects.

The California Highway Patrol and California Department of Transportation are responsible for enforcing regulations related to the transportation of hazardous materials on local roadways, and the use of these materials is regulated by DTSC, as outlined in CCR Title 22. SMUD and its construction contractors would be required to comply with the California Environmental Protection Agency's (CalEPA) Certified Unified Program Agencies (CUPA), which protects Californians from hazardous waste and hazardous materials by ensuring consistency throughout the state regarding the implementation of administrative requirements, permits, inspections, and enforcement at the local regulatory level. Regulated activities would be managed by the Sacramento County Environmental Management Department (EMD), CUPA, and in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California Uniform Fire Code hazardous material management plans and inventories). Compliance with these regulations would reduce the potential for accidental release of hazardous materials during project construction.

Because the project would disturb greater than 1 acre of land, it also would be subject to the requirements of the Construction General Permit (CGP). As described in Section 3.10 Hydrology and Water Quality, this permit requires preparation and implementation of a SWPPP which includes good site housekeeping measures, including protocols for proper storage, capture, and disposal of hazardous materials.

Operation of the project would involve minimal transport, use, and disposal of hazardous waste. Similar to the existing substation, the proposed El Rio Substation would use limited amounts of SF<sub>6</sub>. Use of the proposed switchgear equipment would comply with recordkeeping, reporting, and leakage emission limit requirements in accordance with ARB regulations for reduction of SF<sub>6</sub> emissions. As part of substation operations and maintenance activities, SMUD would monitor existing substation equipment to accurately and immediately identify any SF<sub>6</sub> leaks and immediately repair leaks that are discovered.

Also similar to the existing substation, the El Rio Substation would utilize a highly refined mineral oil within transformers and other components. While the oil is not toxic, secondary containment and/or diversionary structures or equipment would be integrated into the project design, as feasible, to prevent an oil discharge. After the substation has been in

operation for an extended period of time, the transformer oil would require filtering. Impurities in the filtrate would either be removed and recycled or disposed of in accordance with federal, state, and local hazardous waste disposal requirements.

Due to the battery system which would be located inside the control building or in an enclosure in the substation and amount of SF<sub>6</sub> that would be onsite, a Hazardous Materials Business Plan (HMBP) would be required. While there are exceptions, a HMBP is generally required if operation of the project includes the handling or storage of hazardous materials equal to or greater than the minimum reportable quantities. These quantities are 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases (CalEPA 2023).

The project also may be subject to the US Environmental Protection Agency (USEPA) Spill Prevention, Control and Countermeasure (SPCC) rule, which requires preparation and implementation of an SPCC plan, including identification and implementation of appropriate secondary containment measures designed to contain oil releases from the transformers. The SPCC criteria include facilities that store greater than 1,320 gallons of oil and have a reasonable expectation of a discharge to water (USEPA 2022). SMUD's existing SPCC Plan would be revised to incorporate the proposed El Rio Substation.

The project would maintain the existing propane tank, which would continue to serve the existing telecommunications tower. The project would not store or use additional fuels or chemicals onsite.

Project operation would comply with USEPA's SPCC and CalEPA's CUPA programs and are subject to Occupational Safety and Health Administration (OSHA) and California Division of Occupational Safety and Health (Cal/OSHA) regulations, which include requirements for the protection of worker health and safety. Compliance with these programs would include procedures that identify methods and techniques to minimize the exposure of the public and workers to potential hazardous materials during all phases of project construction and operation.

The project would be required to comply with existing laws and regulations regarding the transportation, use, and disposal of hazardous materials. These regulations are specifically designed to protect the public health and the environment and must be adhered to during project construction and operation. Because the project would comply with applicable regulations, the impact would be **less than significant**, and no mitigation is required.

**b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?**

**Less than Significant with Mitigation Incorporated.** Construction of the project would involve use, transport, storage, and disposal of hazardous materials, including, but not limited to, diesel fuel, gasoline, and lubrication oil. These materials would primarily be contained within construction equipment but may also be stored on-site and transported

to and from the site. Use of these materials could potentially result in accidental spills that could release hazardous materials into the environment.

As described in Section 3.10 Hydrology and Water Quality, the project would be required to obtain coverage under the CGP, which requires preparation and implementation of a SWPPP. The SWPPP would include good site housekeeping measures for proper storage and management of hazardous materials, as well as spill prevention, control, and countermeasures. Implementation of the SWPPP would greatly reduce the potential for construction activities to result in accidental releases of hazardous materials.

The proposed project would be expanding onto adjacent property to the east and south of the existing substation. Recent and historical aerial photographs suggest surface dumping of unknown materials has occurred on the parcel to the east. Hazardous materials contamination in rural areas is more typically associated with activities such as agricultural processing and domestic disposal. SMUD completed a Phase I Environmental Site Assessment (ESA Phase 1) for the parcel to the east to identify potential environmental risks to the property, such as current or historic operations that are known or suspected to have used hazardous substances or petroleum products during onsite operations (Brown and Caldwell, 2023). The Phase I ESA did not identify any recognized environmental conditions indicating known contamination or the potential for the subsurface to have been impacted by contamination (either from the subject property or possibly from an offsite source).

The project's ESA Phase I evaluated the potential for ACM and LBP onsite. Based on the age of multiple buildings constructed onsite, the potential exists for ACM and LBP to be present. Demolition activities have potential negative air quality impacts, including issues surrounding the proper handling, demolition, and disposal of ACM (see Section 3.3). The proposed demolition of approximately 21,000 square feet of existing onsite structures may expose construction workers to contaminated dust emissions that contain hazardous constituents, including ACM and LBP. Impact on air quality and health due to handling, demolition, and disposal of ACMs and LBP is considered ***potentially significant***.

During earth moving activities, water would be applied uniformly and lightly throughout the site to provide adequate control of nuisance dust. As discussed in Section 3.3, Air Quality, the SWPPP would satisfy the requirements of the Fugitive Dust Rule 403 to reduce PM emissions. This rule would also limit the amount of contaminated dust emitted by the project to the extent feasible, thus reducing the potential for inhalation of contaminated soils associated with the site.

In compliance with state and federal regulations (SWPPP, Cal/OSHA, OSHA, HMBP, and SPCC) accidental releases of hazardous materials during construction of the project would be unlikely to occur. Should a release occur, potential impacts on the public and the environment would be minimized. While the potential to encounter contaminated soil or groundwater is considered low, this impact would be ***potentially significant***.

**Mitigation Measure 3.3-2. Survey, Remove, and Dispose of ACM and LBP**  
**(described in Section 3.3 above)**

**Mitigation Measure 3.9-1: Manage Accidental Discovery of Hazardous Materials**

*If contaminated soils or potentially hazardous items are discovered during earth moving activities, all ground-disturbing activities within 50 feet shall be halted until a qualified SMUD employee or SMUD representative can assess the conditions on the site. SMUD will notify the appropriate agency (e.g., Sacramento County EMD) to determine if it is appropriate to rebury the potentially hazardous materials. If it is determined that the hazardous material cannot be re-incorporated into the project site, it shall be hauled by a qualified hauler to an appropriate waste disposal facility.*

**Significance after Mitigation**

Mitigation Measure 3.3-2 would require an ACM and LBP survey prior to demolition activities, and if present, the materials would be remediated prior to any renovation or demolition consistent with state and local regulations. The potential impact on air quality and health would be reduced to a **less than significant** level.

With implementation of Mitigation Measure 3.9-1, requiring that construction employees stop work in the event that suspicious soils or items are uncovered, the potential exposure risks would be reduced to a **less than significant** level.

**c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**No Impact.** As described above, the closest school to the project site is the Elverta Elementary School, located 0.65 miles east of the project site at 7900 Eloise Avenue. Haul routes to and from the project site would be exiting from State Route 99 at West Elverta Road, located more than 3 miles west of the project site, and there are no schools located between State Route 99 and the project site. Compliance with existing laws and regulations regarding the transportation, use, and disposal of hazardous materials would protect the public health and the environment during construction of the project and use of the haul routes. Construction and operation of the project would not emit hazardous emissions within one-quarter mile of a school. There would be **no impact**, and no mitigation is required.

**d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

**Less than Significant with Mitigation Incorporated.** Construction of the project would involve soil excavation, and thus could encounter soil contaminants that may have migrated from the LUST locations near the project site. This could potentially expose construction workers, the public, or the environment to hazards. However, measures for

detection, testing, and proper handling and disposal of potentially contaminated soils encountered during construction would avoid or substantially minimize any potential impacts from contaminated soils from known or unknown hazardous materials sources. While the potential to encounter contaminated soils from the previous LUST sites is considered low, this impact would be **potentially significant**.

**Mitigation Measure 3.9-1: Manage Accidental Discovery of Hazardous Materials**  
(Described above)

Significance after Mitigation

Implementation of Mitigation Measure 3.9-1 would minimize potential for accidental release into the environment or a substantial hazard to the public. Thus, this impact would be reduced to a **less than significant** level.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

**No Impact.** The nearest airports are the privately owned Freedom Field located approximately 3 miles northeast of the project site and the public use airstrip Rio Linda Airport located approximately 3 miles southeast of the project site. The Rio Linda overflight zone extends 5,000 feet from the airport, which does not include the project site. The Sacramento International Airport is located approximately 6 miles to the west, southwest of the project site. Review of the Sacramento International Airport land use compatibility plan indicates the project site is located approximately 1,000 feet east of the airport influence area. The project site is not located within an airport land use plan or within 2 miles of any public or public use airport. There would be **no impact**, and no mitigation is required.

- f) **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**Less than Significant.** West Elverta Road is a main thoroughfare for the area and provides the most direct access to State Route 99. Elverta Road is a collector for State Route 99, identified as a potential evacuation route by the City of Sacramento Flood Depth & Emergency Evacuation Route (City of Sacramento 2015). The project would be developed on a private parcel with staging located away from public roads.

Construction of the project would involve operation and temporary storage of large construction equipment, excavation and hauling of excavated material, and transport and storage of construction materials. The substation would be constructed on a private parcel with staging located away from public roads. Because the project does not propose traffic control to stop, reroute, or block traffic during construction, project construction would not interfere with vehicle movement on public roadways and would not impede emergency response or evacuation procedures.

During normal operations, the project would be operated remotely and continuously in the same way the Elverta Substation was operated. There would be no onsite employees; onsite maintenance and inspection visits would occur approximately three times per month. Operational vehicle trips associated with project maintenance would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. There would be **less than significant impact** to emergency vehicle access or evacuation procedures, and no mitigation is required.

**g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?**

**Less than Significant.** The project site is not located within a designated very high fire hazard severity zone in a local responsibility area (CAL FIRE 2008). The project would involve use of combustion-engine construction equipment, as well as storage of potentially flammable materials, such as fuel or lubricating oil. Construction activities could potentially provide a spark or ignition source, or introduce materials that could combust or burn at high intensity if exposed to a heat source. Heat or sparks from a vehicle or hot work activities could ignite dry vegetation and cause fires. As such, construction activities could increase the risk of initiating a wildland fire.

Other than initial vegetation clearing activities, construction activities would be confined to areas that have been cleared of vegetation, including access roads and work areas. Vehicles and equipment would primarily use existing roads to access work areas, all of which would be cleared of vegetation to reduce fire potential.

While the use of fuels and construction equipment could pose a risk to fire ignition, the potential to result in a wildland fire is low because of the location and condition of the project site. Therefore, the impact related to the exposure of people or structures to the risk of loss, injury, or death involving wildland fires would be **less than significant**, and no mitigation is required.

### 3.10 Hydrology and Water Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>X. Hydrology and Water Quality.</b>				
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial on- or offsite erosion or siltation;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.10.1 Environmental Setting

#### *Surface Water*

The project site is located in the largest river basin in California, the Sacramento River Basin, and its tributaries cover approximately 27,000 square miles (National Marine Fisheries Service [NMFS] 2023). The project is located in the Upper Steelhead Creek watershed, an area of approximately 17,354 acres that is bounded by the constructed Natomas-East-Main Drainage Canal (aka Steelhead Creek) to the west, the Curry Creek drainage to the north, and the Dry Creek Drainage to the South.

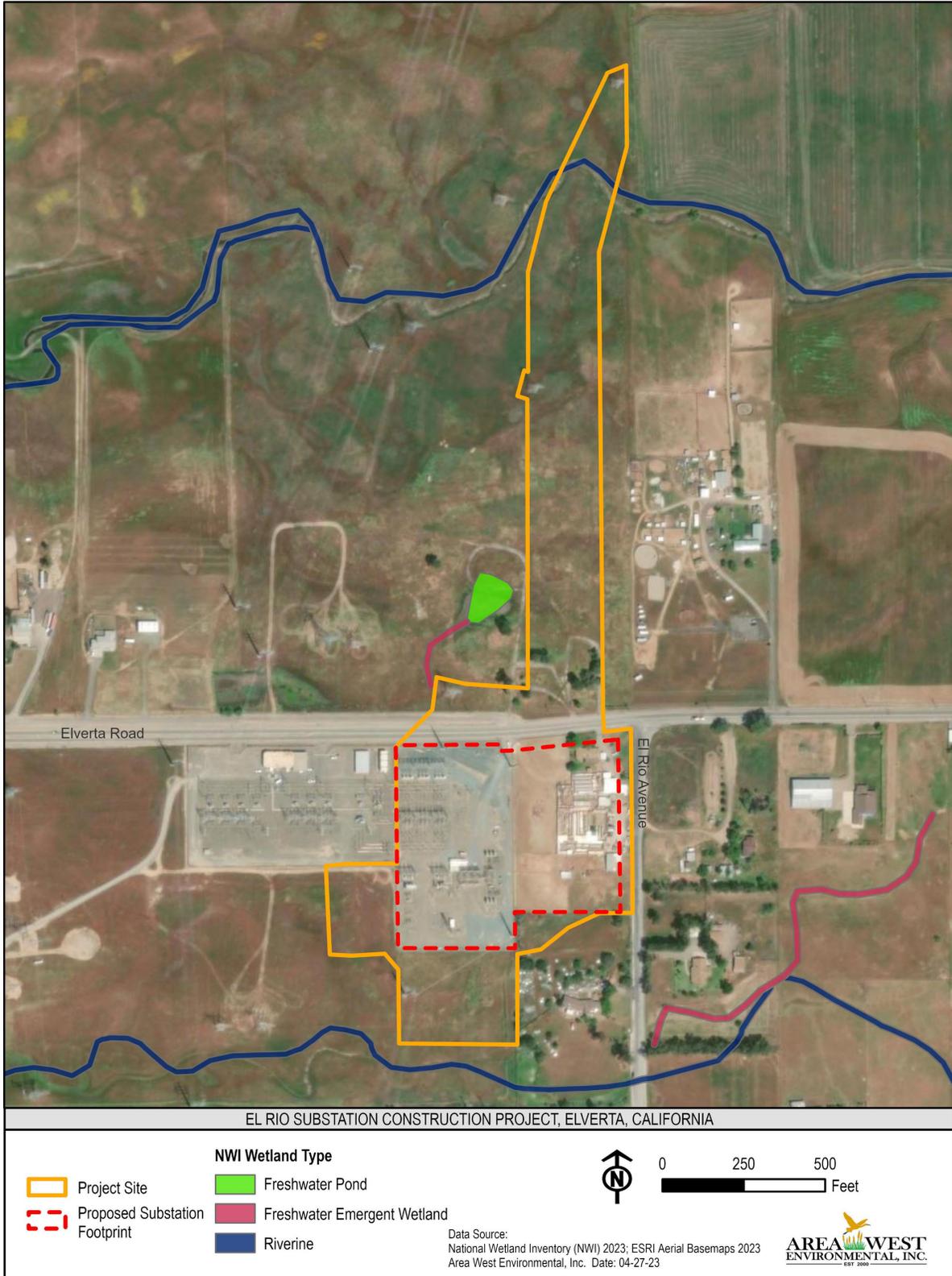
The major rivers in the area, the American River and the Sacramento River, are over 6.5 miles away. There are several unnamed creeks in the Upper Steelhead Creek watershed, with the closest mapped by the National Wetlands Inventory (NWI) as a Riverine waterbody 380 feet south of the proposed substation (Figure 3-5). Approximately 0.5 miles to the north of Elverta Road and the proposed El Rio Substation is an unnamed tributary to the Natomas-East Main Drainage Canal.

Additional NWI features include a freshwater pond and emergent wetland areas located approximately 290 feet north of the substation and two emergent wetland features mapped over 300-feet west and south of project (Figure 3-5). As described in Section 3.4, there are wetlands in the project vicinity that are not mapped by the NWI (Figure 3-2).

#### *Water Quality*

The Lower American River from the Nimbus Dam in Folsom to the confluence with the Sacramento River, the Lower Sacramento River, and Natomas-East-Main Drainage Canal (aka Steelhead Creek) are listed as impaired waterways under the Clean Water Act, Section 303(d) (SWRCB 2022). The Lower American River is listed as impaired for: Insecticides (Pyrethroids, Bifenthrin), PCBs, Indicator Bacteria (*E. coli*), Mercury, Temperature, and Unknown Toxicity. The Natomas-East-Main Drainage Canal (aka Steelhead Creek) is listed as impaired for: Indicator Bacteria, Mercury, PCBs, and Trash. The Lower Sacramento River is listed as impaired for: Insecticides and Pesticides (Chlordane, DDT [Dichlorodiphenyltrichloroethane], and Dieldrin), Mercury, PCBs, Temperature, and Unknown Toxicity.

There are adopted Total Maximum Daily Load (TMDL) quantities for Pyrethroids and Mercury and/or Methylmercury associated with the major waterways in the project vicinity (SWRCB 2022). These TMDLs and other regional prohibitions for pollutants are identified in the Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region (RWQCB 2019).



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**Figure 3-5. National Wetland Inventory Features**

The SWRCB and regional water boards like the Central Valley RWQCB use water quality surveillance programs and cleanup and enforcement options as tools in achieving regulatory water quality objectives. However, one of the most important tools of the SWRCB in achieving the goal of protecting water resources is prevention of water quality impairment. A common means of prevention is through the issuance of National Pollutant Discharge Elimination System (NPDES) permits, waste discharge requirements (WDRs), discharge prohibitions, and other discharge restrictions. The national permit system only applies to certain surface water discharges. WDRs are called for by California Water Code, Section 13260, et seq. The WDRs system can be applied more liberally than the Federal NPDES and are used to control any type of discharge to ground or surface waters.

In California, the SWRCB is fully authorized by the USEPA to administer the NPDES permit program. The SWRCB regulates stormwater discharge related to construction activities (a NPDES program area) through the statewide stormwater general permit for construction activity (Order 2009-0009-DWQ). This permit, known as the CGP, is applicable to all construction activities that could cause off-site stormwater discharge and would disturb one acre or more.

#### *Groundwater Basin; Groundwater*

The Sustainable Groundwater Management Act (SGMA) was adopted in September 2014 with implementation beginning January 1, 2015. Uncodified legislative findings of SGMA state that properly managed groundwater resources help protect communities, farms, and the environment against prolonged dry periods and climate change, thereby preserving water supplies for existing and potential beneficial uses. The project site overlays the Sacramento Valley–North American Subbasin (NASb). The DWR has designated this subbasin as a high-priority groundwater basin under the SGMA, with most ‘priority points’ being awarded due to recorded decline in water levels and a rise in population (DWR 2020). The high-priority designation requires the adoption of a groundwater sustainability plan or submittal of an alternative plan.

There are two DWR monitoring wells in the vicinity of the project. One well (SCWA\_SGA\_007) is located 0.8 miles to the east of the project in close proximity to Elverta Road and the Natomas East Drainage Canal. Data from the last 10 years shows a high-water table 13 feet below the ground surface and a low water table 32 feet below the ground surface. The other well near the project site (SGA\_MW01) is located 0.68 miles to the north, northeast near the intersection of Rio Linda Avenue and Elwyn Avenue. Data from the last 10 years shows a high-water table 32 feet below the ground surface and a low water table 65 feet below the ground surface. Hydrographs for the 2022 water year published in the North American Subbasin’s annual report estimate the ground water level at approximately 20-feet above sea level (GEI Consultants 2023). SMUD will complete a geotechnical investigation to confirm groundwater depths at the substation site before final design.

### *Water Use*

There is a well on the existing Elverta Substation parcel. Wells in Sacramento County are permitted by the Sacramento County Environmental Management Department. The project area is served by the local water district, RLECWD, which secures water from 11 groundwater wells with limited inputs from surface waters.

### *Flooding*

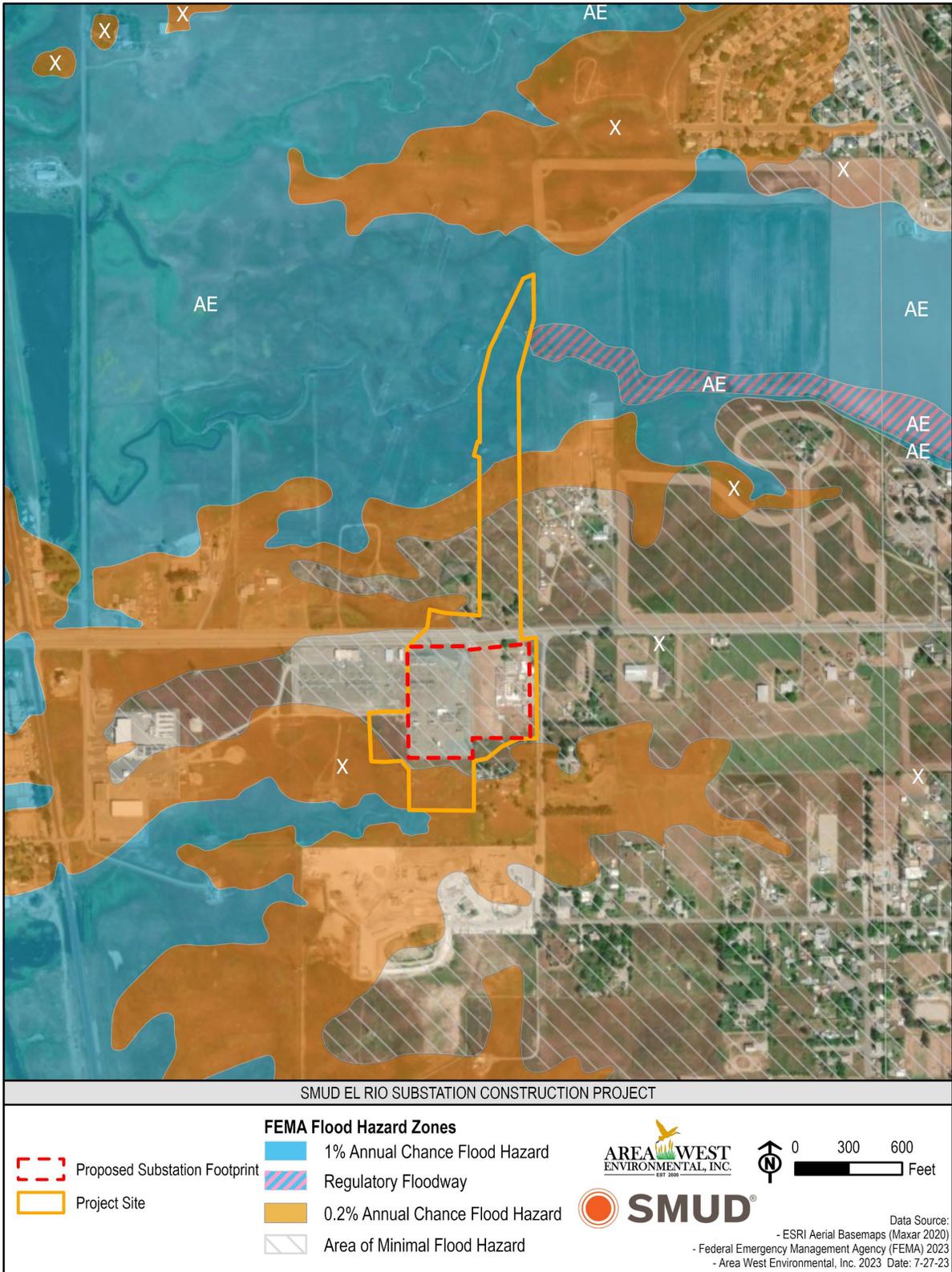
The majority of the project site is located in an area of minimal flood hazard; however, the southern portion of the project site, where the storm water retention basin is proposed, is in an area of 0.2 percent annual chance flood hazard (Figure 3-6). To the north, the existing transmission towers and their proposed monopole replacements would be located in a special flood hazard area as identified on the Federal Emergency Management Agency (FEMA) flood map (panel number 06067C0053J; FEMA 2015). Neither the existing poles, nor the monopole replacements would be located in a mapped floodway. Maximum flood depth maps indicate the project area would not be inundated under Sacramento River and American River 200-year flood and levee breach scenarios (City of Sacramento 2016).

### **3.10.2 Discussion**

**a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

**Less than Significant.** Construction of the project would not significantly degrade surface water. The construction of the new El Rio Substation would require grading APN 202-0090-024-000, approximately 4.4 acres. This construction activity is therefore subject to the requirements and conditions of the NPDES program and the CGP. An important component of the CGP is the development and implementation of a SWPPP and subsequent tracking. A SWPPP is a site-specific plan in which potential pollution sources (slope erosion, track-out, wind dispersal, oil leaks, etc.) are identified and specific BMPs are developed and implemented to prevent water pollution. SMUD would submit a notice of intent and prepare a SWPPP that specifies BMPs to minimize water quality degradation during construction. SMUD would be required to implement the SWPPP and adhere to permit conditions during construction activities, thereby reducing potential impacts to surface water to a less than significant level.

Project operations would not have significant potential to degrade surface or groundwater quality. Runoff during project operations would be captured in the planned retention basin. The stormwater retention basin would be constructed south of the existing Elverta Substation in accordance with site drainage design requirements. In order to offset impacts from the increased amount of non-permeable surfaces (anticipated to be approximately 60,000 square feet), the proposed on-site retention basin would collect storm water in the basin, allowing pollutants to be captured by vegetation, slowing runoff velocity and allowing soil percolation.



**Figure 3-6. FEMA Flood Hazard Zones**

The project would have a septic system; the system would be engineered and permitted such that all infiltration and setback requirements would be observed.

Because excavation depths for project components and monopoles would reach up to 30 feet below grade, there would be potential to encounter groundwater during construction. Wet excavation can be dangerous for equipment operators and construction workers and can result in surface or ground water contamination. The project would require a site-specific analysis of potential groundwater levels as part of the Geotechnical Engineering Investigation Report prepared for the project. Should this analysis indicate that the project would encounter groundwater during construction, the project would prepare a Construction Dewatering Plan that would describe dewatering strategies and applicable water quality protection measures to protect groundwater and surrounding surface waters from potential contamination. If construction site dewatering is required, the Construction Dewatering Plan will specify that pumped water shall not be discharged into any waters of the state. Should dewatering occur, the project is likely to qualify for coverage as a Low Threat Discharge under SWRCB's Water Quality Order 2003-0003-DWQ, which permits small and/or temporary dewatering projects (i.e., excavations during construction).

Since the project would be designed and constructed in compliance with regulatory requirements for surface and groundwater quality, this impact would be **less than significant**, and no mitigation would be required.

**b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

**Less Than Significant.** The project would not increase demand for water supply or otherwise affect groundwater supplies. Construction water use would be limited to dust control and hand washing stations for construction employees. The water would be provided by the contractor using a licensed water carrier. Water use during construction would be limited in volume and duration and would not affect groundwater supplies.

Operationally, the project restroom would provide employees a restroom facility that could be used when employees are on site (average of three times per month); SMUD does not expect an increase in the number of employees or frequency of employee site visits for the proposed substation above existing conditions. The restroom facilities would be constructed using low flow technologies to conserve water. Water for the restroom would be provided through an authorized connection to the RLECWD system or use of the existing onsite well. During project operations, the use of the restroom by SMUD employees would result in a negligible demand on water resources and would not have a measurable impact on groundwater supply.

The project would incorporate a retention basin to capture storm water runoff and, in that way, facilitate onsite groundwater recharge.

Project implementation would not substantially decrease groundwater supplies or interfere with groundwater recharge. As a result, this impact would be **less than significant**, and no mitigation is required.

- c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**
- i) **Result in substantial on- or offsite erosion or siltation;**
  - ii) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;**
  - iii) **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or**
  - iv) **Impede or redirect flood flows?**

**Less than Significant.** The substation has been designed so on-site runoff would be collected into an underground storm drain pipe system and a stormwater retention basin. There is potential for the basin to capture water beyond the intended runoff (sheet flow), but due to the very low slope in the area, and the proposed placement of the basin adjacent to the existing substation, the amount of intercepted sheet flow is expected to be negligible.

In addition, the proposed substation and electrical infrastructure is located within an area with minimal flood risk as identified on FEMA flood maps (FEMA 2015; Figure 3-6). The substation would not be subject to significant flood hazards. The proposed storm water retention basin would have some potential to experience flooding (0.2% annual chance of flood); as a retention basin, this project feature would not be adversely affected. To the north of the substation, two to three proposed monopoles would replace two lattice poles on a new alignment. These monopoles would be located in an area of special flood hazard but would not be located in a floodway and would not be a significant impediment to flood flows.

The project would not affect the existing hydrology or increase runoff to a degree that would result in substantial on- or off-site erosion or siltation, result in flooding off-site, exceed the capacity of existing or planned stormwater drainage systems, or impede or redirect flood flows. This impact would be **less than significant**, and no mitigation is required.

- d) **In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

**No Impact.** The project site is at an inland location that is outside of any ocean-related tsunami zones. The site is separated from the American River and the Sacramento River by multiple flood control levees and is not identified as an area of significant risk of

flooding. Thus, the project would not be at risk of flood, seiche, tsunamis, or the release of pollutants from inundation. There would be **no impact**, and no mitigation is required.

**e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

**Less than Significant.** In June of 1998, the Board of Supervisors adopted the Rio Linda and Elverta Community Plan (RLECP). The RLECP specifies policies that address water quality and are applicable to the project:

- **PF10/ DR-2** Potential cumulative impacts to water quality resulting from construction activities within the Rio Linda and Elverta Community Plan area shall be mitigated through the enforcement of all appropriate ‘Best Management Practices’ and other requirements under the NPDES program.

As discussed under (a), above, the project includes implementation of a SWPPP and the construction of a storm runoff retention basin. The SWPPP would prevent sedimentation and other potential surface water pollution that may occur during project construction. The project would not result in a potentially significant impact on groundwater and would not obstruct a sustainable groundwater management plan. This impact would be **less than significant**, and no mitigation is required.

### 3.11 Land Use and Planning

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XI. Land Use and Planning.</b>				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.11.1 Environmental Setting

In June of 1998, the Board of Supervisors adopted the RLECP. The guiding principles of this plan include the following:

- Retain the rural character of the communities.
- Maintain agricultural and agricultural-residential uses.

Surrounding land uses include agricultural, industrial, and scattered residential. The substation site and transmission line work area are located on portions of APN 202-0090-001-000, 202-0090-024-000, and 202-0030-039-000. The parcels in which the proposed substation and retention basin are located on have a County General Plan land use designation of “*IR – Interim Agricultural Reserve*” and are zoned “*AR-5: Agricultural – Residential 5 acres*”. To construct the new substation, SMUD would acquire parcel 202-0090-024-000, which has a County General Plan land use designation of “*AG-RES: Agricultural – Residential*” and is zoned “*AR-5: Agricultural/Residential – 5 acres*”. The residential property contains livestock operations onsite. Parcel 202-0030-039-000, where transmission line work would occur, a County General Plan land use designation of “*AG-CROP: Agricultural– Cropland,*” and is zoned “*AG-20: Agricultural – 20 acres*” (Sacramento County 2023).

The RLECP identified an urban development area in eastern Elverta. The urban development area, or the Elverta Specific Plan, encompasses 1,755 acres of land located approximately 1.5-miles east of the proposed El Rio Substation. The Elverta Specific Plan is primarily residential in character: it includes urban residential uses and agricultural-residential uses with a total holding capacity of up to 4,950 units; commercial uses; office/professional uses; schools; parks; open spaces; and detention facilities, trails, powerline corridor and major roads (Sacramento County 2007). The

RLECP identified the objective of provision of adequate energy facilities and services for all areas of the community.

### 3.11.2 Discussion

#### a) Physically divide an established community?

**No Impact.** The proposed project is expanding an existing facility and would have no impact on an established community. The closest community to the proposed substation site is the rural residents on the east side of El Rio Avenue. The proposed project does not introduce new travel corridors or other facilities that could divide the established community. Therefore, the proposed project would have **no impact**.

#### b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

**No Impact.** Implementation of the proposed project would result in the expansion of an existing energy facility. The Sacramento County 2030 General Plan Public Facilities Element Section VIII: Energy Facilities sets forth a number of policies with the goal of appropriately siting energy facilities that efficiently and safely produce and distribute energy to Sacramento County residents without compromising environmental quality or human health. Public Facility (PF) policies applicable to the proposed project are presented in Table 3 -3.

**Table 3-3. Sacramento County General Plan Energy Facility Polices**

PF #	Sacramento County Public Facility Element Policy
PF-67	<p>Cooperate with the serving utility in the location and design of production and distribution facilities so as to minimize visual intrusion problems in urban areas and areas of scenic and/or cultural value including the following:</p> <ul style="list-style-type: none"> <li>• Recreation and historic areas.</li> <li>• Scenic highways.</li> <li>• Landscape corridors.</li> <li>• State or federal designated wild and scenic rivers.</li> <li>• Visually prominent locations such as ridges, designated scenic corridors, and open viewsheds.</li> <li>• Native American sacred sites.</li> </ul>
PF-68	<p>Cooperate with the serving utility in the location and design of energy production and distribution facilities in a manner that is compatible with surrounding land uses by employing the following methods when appropriate to the site:</p> <ul style="list-style-type: none"> <li>• Visually screen facilities with topography and existing vegetation and install site-appropriate landscaping consistent with surrounding land use zone development standards where appropriate, except where it would adversely affect access to utility facilities, photovoltaic performance or interfere with power generating capability.</li> <li>• Provide site-compatible landscaping.</li> </ul>

PF #	Sacramento County Public Facility Element Policy
	<ul style="list-style-type: none"> <li>• Minimize glare through siting, facility design, nonreflective coatings, etc. except for the use of overhead conductors.</li> <li>• Site facilities in a manner to equitably distribute their visual impacts in the immediate vicinity.</li> </ul>
PF-69	<p>Cooperate with the serving utility to minimize the potential adverse impacts of energy production and distribution facilities to environmentally sensitive areas by, when possible, avoiding siting in the following areas:</p> <ul style="list-style-type: none"> <li>• Wetlands.</li> <li>• Permanent marshes.</li> <li>• Riparian habitat.</li> <li>• Vernal pools.</li> <li>• Oak woodlands.</li> <li>• Historic and/or archaeological sites and/or districts</li> </ul>
PF-70	<p>Cooperate with the serving utility so that energy production and distribution facilities shall be designed and sited in a manner so as to protect the residents of Sacramento County from the effects of a hazardous materials incident.</p>
PF-85	<p>To minimize visual impacts and protect the county's visual and aesthetic resources new bulk substations should be located in industrial and non-retail commercial areas when possible. To further minimize visual intrusion and potential land use conflicts, substations shall be enclosed with site-appropriate security fence in concert with a landscaped setback along all public street frontages.</p>
PF-89	<p>Wherever feasible, utilize existing transmission poles to accommodate new overhead transmission lines. If practical, existing and future transmission corridors should be shared by more than one utility company subject to the Northern California Joint Pole Agreement.</p>
PF-92	<p>Transmission lines should avoid to the greatest extent possible, cultural resources and biological resources such as wetlands, permanent marshes, riparian habitats, vernal pools, and oak woodlands. When routed through such areas, transmission lines should have maximum line spans and cross at the narrowest points which involve minimal cutting and cropping of vegetation, maintaining the drainage regime of wetland basins. Additionally, when feasible, such routes should be maintained to serve as biological dispersion corridors between areas of high biodiversity.</p>
PF-93	<p>Protect native and non-native bird populations by incorporating electrocution prevention measures into the design of transmission towers.</p>
PF-96	<p>Locate transmission facilities in a manner that maximizes the screening potential of topography and vegetation</p>
PF-97	<p>Utilize monopole construction, where practicable, to reduce the visual impact on a corridor's middle and distant views.</p>

The project would not result in potentially significant impacts to human health or the quality of the environment. If the recommended mitigation measures are followed, the

proposed substation would constitute an appropriately sited energy facility that efficiently and safely produces and distributes energy to Sacramento County residents.

The parcels in which the proposed substation would be located on are zoned “IR – Interim Agricultural Reserve” and “AR-5: Agricultural – Residential 5 acres”. The proposed substation would not conflict with the existing zoning as substations are identified as a major utility and may be located in all zoning districts provided they comply with the design measures listed in Sacramento Zoning Code Section 3.6.6.A. (Sacramento County 2015).

### 3.6.6.A. Utility and Public Service Facility Uses, Major

#### 1. Transmission Facilities of SMUD

##### c. Advisory for Other Permitting Requirements

(ii) Substations should be designed and constructed in such a manner as to minimize off-site visual and noise impacts. Planted or landscaped setbacks of at least 25 feet should be provided on all public street frontages of the parcel. For rights-of-way with PUPFs, planted or landscaped setbacks of at least 31 feet should be provided on all public street frontages of the parcel.

(iii) For rights-of-way with public utilities, public facilities easements, substations should be designed and constructed in such a manner as to minimize off-site visual and noise impacts. Planted or landscaped setback of at least 31 feet should be provided on all public street frontages of the parcel.

The substation design includes setbacks and landscaping consistent with Sacramento County’s design standards. The proposed project is consistent with applicable County General Plan and Zoning policies, would not result in the creation of a new land use that is inconsistent with current zoning, and would not conflict with plans, policies, or regulations adopted for avoiding or mitigating environmental effects. Therefore, the project would have **no impact**, and no mitigation is required.

### 3.12 Mineral Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XII. Mineral Resources.</b>				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.12.1 Environmental Setting

The proposed project is located in the northwestern portion of Sacramento County. Principal mineral resources in Sacramento County include construction aggregates (sand and gravel) and natural gas. Natural gas production areas are located in the southwestern extent of the county and aggregate deposits are located south of the American River (Sacramento County 1993). There are no mineral resource extractions activities near the project site.

Under the State Mining and Reclamation Act, areas containing economically significant mineral deposits are classified and mapped. The project site is not classified as an area that is likely to contain substantial mineral deposits (DOC 2018).

#### 3.12.2 Discussion

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**
- b) **Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

**No Impact.** The project site is not located near known mineral extraction activities or primary production areas of the county (Sacramento County 1993). The project site is not classified as an area that is likely to contain substantial mineral deposits (DOC 2018), so implementing the project would not result in the loss of known mineral resources that would be of value to the region or residents of the state. Therefore, there would be **no impact** and no mitigation is required.

### 3.13 Noise

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XIII. Noise.</b>				
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.13.1 Environmental Setting

The project site is generally surrounded by agricultural and rural agricultural parcels with low housing density. The nearest residences are located approximately 240 feet from the southern project site boundary, and approximately 260 feet east of the project site.

A Noise Impact Report was prepared for the project (Ambient Air Quality and Noise Consulting 2023b) and is summarized in this section.

##### *Acoustic Fundamentals*

Acoustics is the scientific study that evaluates the perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Non-auditory behavioral effects of noise on humans are primarily subjective effects, such as annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communication, sleep, and learning.

The noise descriptors used in this section include:

Decibel (dB)	A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to referenced sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
Energy Equivalent Noise Level ( $L_{eq}$ )	The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value (in dBA) is calculated.
Minimum Noise Level ( $L_{min}$ )	The minimum instantaneous noise level during a specific period of time.
Maximum Noise Level ( $L_{max}$ )	The maximum instantaneous noise level during a specific period of time.
Day-Night Average Noise Level (DNL or $L_{dn}$ )	The 24-hour $L_{eq}$ with a 10 dBA “penalty” for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is “added” to noise events that occur in the nighttime hours to account for increased sensitivity to noise during these hours.
Community Noise Equivalent Level (CNEL)	The CNEL is similar to the $L_{dn}$ described above, but with an additional 5 dBA “penalty” added to noise events that occur between the hours of 7:00 p.m. to 10:00 p.m. The calculated CNEL is typically approximately 0.5 dBA higher than the calculated $L_{dn}$ .

### *Noise Regulations*

Human annoyance, activity interference, sleep disruption, and land use compatibility determinations are typically based on the use of the cumulative noise exposure metrics that were first developed in the 1970s. The cumulative noise exposure metric (expressed as CNEL or  $L_{dn}$ ) is currently the only noise metric for which there is a substantial body of research data and regulatory guidance defining the relationship between noise exposure, people’s reactions, and land use compatibility.

State of California Office of Planning and Research’s *General Plan Guidelines* (2017), which recommend an interior noise level of 45 dB CNEL/ $L_{dn}$  as the maximum allowable interior noise level sufficient to permit “normal residential activity”.

The Sacramento County General Plan and Municipal Code draw upon existing state and federal standards to provide statutory Noise Control standards designed to protect people from excessive noise exposure. Generally, in residential zones of unincorporated Sacramento County, maximum exterior noise levels shall not exceed 55

decibels (dBA) between the hours of 7am to 10pm and 50 dBA between the hours of 10pm and 7am. These noise limits may be adjusted for, or exemptions may apply to certain activities.

The County has not adopted noise standards that apply to short-term construction activities (or residential area maintenance activities); these activities are generally considered exempt from the noise standards provided they occur between the daytime hours of 6:00 a.m. to 8:00 p.m., Monday through Friday, and 7:00 a.m. to 8:00 p.m. on Saturday and Sunday (Sacramento County 2023). Based on screening noise criteria commonly recommended by federal agencies, construction activities would generally be considered to have a potentially significant impact if average-hourly daytime noise levels would exceed 80 dBA  $L_{eq}$  at noise-sensitive land uses, such as residential land uses (Federal Transit Authority [FTA] 2018).

### *Ground Vibration*

While noise is generally defined as sound that is loud, disagreeable, or unexpected, 'sound,' is essentially mechanical energy transmitted in the form of a wave because of a disturbance or vibration. Similar to auditory vibrations, ground borne vibrations can result in physical damage to existing infrastructure and cause annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communication, sleep, and learning.

To address the human response to ground vibration, the California Department of Transportation (Caltrans) published the Transportation and Construction Vibration Manual (Caltrans 2020) that provides general guidance on vibration issues associated with construction and operation of projects in relation to the potential for structural damage and human perception (see Table 3-4).

**Table 3-4. Caltrans Recommendations Regarding Levels of Vibration Exposure**

Potential Impact	Transient Sources	Continuous/ Frequent Intermittent Sources
<b>Structure and Condition</b>	<b>Maximum Vibration Level (in/sec ppv)</b>	<b>Maximum Vibration Level (in/sec ppv)</b>
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
<b>Human Response</b>	<b>Maximum Vibration Level (in/sec ppv)</b>	<b>Maximum Vibration Level (in/sec ppv)</b>
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Severe	2.0	0.4

The vibration levels are based on peak particle velocity in the vertical direction for continuous vibration sources, which includes most construction activities.

Source: Caltrans 2020

Notes: in/sec = inches per second; PPV = peak particle velocity.

### *Ambient Noise – Project Site*

An ambient noise measurement survey was conducted by Ambient Air Quality and Noise Consulting on April 26, 2023, using a Larson Davis Model LxT Type I sound-level meter. To document the existing noise environment in the project vicinity, three short-term (i.e., 10-minutes) noise measurements noise measurement were conducted at three locations near the project site; two measurement locations (ST-2 and ST-3) were near on Elverta Road and one measurement location was on El Rio Avenue near the Elverta Road intersection. As noted in Table 3-5, measured short-term daytime average-hourly noise levels in the project area generally range from approximately 62

dBA  $L_{eq}$  to approximately 75 dBA  $L_{eq}$ . Noise levels in the area were dominated by vehicular traffic traveling along EI Rio Avenue and Elverta Road.

**Table 3-5. Short-Term Noise Measurement Data**

Measurement Location	Measurement Location Description	Major Noise Sources	Noise Level (dBA)	Noise Level (dBA)
			$L_{eq}$	$L_{max}$
ST-1	Adjacent to eastern EI Rio Avenue, approximately 340 feet south of Elverta and EI Rio intersection.	Cement trucks, farm animals, overhead commercial jet flights	61.8	79.3
ST-2	Adjacent to northern Elverta Road, approximately 585 feet west of Elverta and EI Rio intersection.	Traffic, overhead commercial jet flight, electrical corona	65.9	77.3
ST-3	Adjacent to southern Elverta Road, approximately 1,120 feet east of Elverta and Sorento intersection.	Traffic	74.6	91.0

ST=short-term

Source: Ambient Air Quality and Noise Consulting 2023b

### 3.13.2 Discussion

- a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?**

**Less than Significant.** The project would result in temporary increases in noise levels during construction and long-term operational noise.

#### *Construction-Related Noise*

Construction-related noise would result from the use of heavy-duty equipment for excavation, demolition, material hauling and deliveries, auguring, crane operations, cement trucks, and water trucks for dust suppression (See Table 2-1 for a list of anticipated construction equipment). Construction noise would be short-term and temporary, and operation of heavy-duty construction equipment would be intermittent throughout the day during construction.

With regard to residential land uses, noise levels associated with construction activities would not exceed the 80 dBA  $L_{eq}$  threshold commonly recommended by federal agencies (FTA 2018). However, activities occurring during the more noise-sensitive

evening and nighttime hours (i.e., 8:00 p.m. to 6:00 a.m.) are of increased concern. Because exterior ambient noise levels typically decrease during the evening and nighttime hours, as community activities (e.g., commercial activities, vehicle traffic) decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of nearby residential dwellings. Nighttime construction activities would be infrequent; equipment deliveries may be made at night or early morning and oil filtering for transformer installation would require a generator for three days (24 hours a day). For these reasons, noise-generating construction activities would be considered to have a **potentially significant** impact.

### **Mitigation Measure 3.13-1. Limit Construction Noise**

The following measures shall be implemented to reduce short-term construction noise impacts:

- Construction activities shall be limited to between the hours of 6 a.m. and 8 p.m., Monday through Friday, and 7 a.m. to 8 p.m. on Saturdays, where practicable. Construction activities would be prohibited on Sundays and legal holidays. Haul truck operations shall be limited to these same hourly restrictions.
- Construction equipment shall be properly maintained and equipped with exhaust mufflers and engine shrouds in accordance with manufacturers' recommendations.
- To the extent locally available, electrified, or alternatively powered construction equipment shall be used.
- Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses (residences).
- Stationary noise sources such as generators, pumps, and pavement crushers, shall be located at the furthest distance possible from noise-sensitive uses.

### **Significance after Mitigation**

With implementation of the construction noise measures in Mitigation Measure 3.13-1, the project would have a **less than significant** noise impact during construction.

### ***Operations-Related Noise***

Long-term noise impacts associated with the proposed substation, similar to the existing substation, would be primarily associated with the operation of onsite transformers, cooling units, and corona noise from the off-site transmission lines. The noise assessment prepared for the project determined that if all noise sources operate simultaneously, predicted exterior noise levels at the nearest residential outdoor activity area would be approximately 48 dBA Leq/L50. Assuming an average exterior-to-interior noise reduction of 20 dBA, predicted interior noise levels at the nearest residence would

be 28 dBA Leq/L50. Predicted noise levels would be lower than Sacramento County's exterior daytime/nighttime noise standards of 55/50 dBA Leq/L50 and interior noise standard of 35 dBA Leq/L50.

Similarly, predicted noise levels would be lower than the California guidelines (2017), which recommend an interior noise level of 45 dB Ldn as the maximum allowable interior noise level sufficient to permit "normal residential activity".

Therefore, because project operational-related noise would not exceed existing state or county thresholds, which are designed to protect human health, the impact from long-term operations-related noise would be considered **less than significant** and no mitigation is required.

**b) Generation of excessive ground-borne vibration or ground-borne noise levels?**

**Less than Significant.** No major stationary sources of ground-borne vibration were identified in the project area that would result in the long-term exposure of proposed onsite land uses to unacceptable levels of ground vibration. In addition, the proposed project would not involve the use of any major equipment or processes that would result in potentially significant levels of ground vibration that would exceed the standards at nearby existing land uses.

Construction activities associated with the proposed project would require the use of various tractors, trucks, and jackhammers that could result in intermittent increases in ground-borne vibration levels. However, the use of major ground-borne vibration-generating construction equipment/processes (i.e., blasting, pile driving) is not required for construction of the new substation and associated facilities.

As identified in the Noise Assessment (Ambient Air Quality and Noise Consulting 2023b), ground-borne vibration levels generated by construction equipment would be approximately 0.21 in/sec ppv, or less, at 25 feet. This would be perceptible to humans, but not strongly perceptible or severe (Table 3-4). Given that the nearest existing residential structures are located approximately 250 feet from the project site, they would be expected to experience a greatly diminished vibration level (approximately 0.011 inches per second ppv); this level is considered barely perceptible by humans (Table 3-4); standard homes are generally only evaluated for potential structural damage at a level of 0.5 in/sec ppv or higher.

In addition, haul trucks traveling along project area roadways may result in perceptible increases in vibration levels. However, these vibration levels would be transient and instantaneous events, which would be typical of existing vibrations along the roadway network. Based on measurements conducted by Caltrans, on-road heavy-duty trucks would not generate substantial increases in ground-borne vibration that would be expected to exceed commonly applied criteria for structural damage or annoyance (Caltrans 2020). The impact on humans and structures from ground-borne vibration or noise would be considered **less than significant**, and no mitigation is required.

- c) **For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

**No Impact.** The project site is not located within two miles of a public airport or private airstrip. The nearest airport is Sacramento McClellan Airport, which is located approximately 4 miles south of the project site. The project site is not located within the 65 dBA CNEL contour of this airport. As a result, the project site is not subject to high levels of aircraft noise. The project would not result in exposure of on-site workers to excessive aircraft noise levels. There would be **no impact**, and no mitigation is required.

### 3.14 Population and Housing

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XIV. Population and Housing.</b>				
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.14.1 Environmental Setting

The project site is located in northeastern Sacramento County, west of the census-designated place of Elverta, California. Surrounding land uses include agricultural, industrial, and scattered residential residences. A single-family residence is located east of the project site, as well as several homes located on the east side of El Rio Avenue. Elverta had a population of 5,435 in 2020 and has experienced little population change since the 2010 census (US Census Bureau 2021).

#### 3.14.2 Discussion

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

**No Impact.** The proposed project would not generate jobs that could lead to population growth. Construction of the proposed project is expected to generate few jobs over the construction period. The majority of these jobs are expected to be filled by the local labor pool. Furthermore, long-term operation of the proposed project would require minimal staffing for purposes of ongoing maintenance and repairs. Substation maintenance would occur on a regular basis from two to four times per month for internal inspections and four times per year for perimeter maintenance. Major maintenance would occur about once every three years. Therefore, from the perspective of job generation, construction of the proposed project would not induce population growth as a result of construction or operation activities.

Implementation of the proposed project would result in the construction and operation of a replacement substation that would step down power to serve existing customers within SMUD’s existing service area. One of the purposes of the proposed project is to

meet current and future energy demand within SMUD's service area, which includes all of Sacramento County. SMUD's primary purpose is to supply electrical energy to customers in the Sacramento area. The construction and operation of the proposed project would not induce population growth; rather, it would maintain the electrical service system and accommodate the electrical service needs of growth that is already expected due to planned development. Therefore, the project is not considered to be "growth inducing," as defined by CEQA.

Because jobs associated with construction of the proposed substation would be staffed by local labor pools and the facility would be used for SMUD's existing service area, the project would not result in unplanned population growth, either directly or indirectly. **No impact** would occur, and no mitigation is required.

**b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

**Less Than Significant.** One home would be displaced as a result of project construction. The single-family home and associated livestock operations at 604 Elverta Road would be acquired and demolished to construct the new substation. SMUD will compensate the homeowner consistent with relocation assistance policies in the Uniform Relocation Act and the Civil Rights Act, and as codified in California Government Code Section 7260 – 7277. These policies provide for fair, uniform, and equitable treatment of residents and property owners displaced by projects undertaken by a public entity. If the project is approved, SMUD would negotiate in good faith with the property owner.

The project would not displace substantial numbers of people or housing, so the impact is **less than significant**, and no mitigation is required.

### 3.15 Public Services

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XV. Public Services.</b>				
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.15.1 Environmental Setting

The project site is located in the rural northeastern portion of Sacramento County. The substation site is bound by Elverta Road to the north and El Rio Avenue to the east. Rural residences are located east and south of the project site along El Rio Avenue. Directly to the west of the substation is a WAPA-owned substation. For the project site, public services are provided by a variety of service districts and other public agencies as described below.

##### *Fire Protection Services*

Sacramento Metropolitan Fire District provides fire protection and emergency rescue services in the project area. Sacramento Metropolitan Fire Station No. 116 is located at 7995 Elwin Avenue, approximately 0.5 miles east of the project site. Additionally, Sacramento Metropolitan Fire Station No. 117 is located approximately 3 miles east of the project area at 7961 Cherry Brock Drive (Sacramento Metro Fire 2023).

### *Police Protection Services*

The Sacramento County Sheriff's North Division District 1 is responsible for providing police protection services to the community of Elverta, including the project site. The Sacramento County Sheriff's North Division is based at Garfield Station, located at 5510 Garfield Avenue Sacramento, California, approximately 10.2 miles southeast of the project site (Sacramento County Sheriff's Office 2023).

### *Schools*

The project site is located within the Twin Rivers Unified School District. The closest school to the project site is the Elverta Elementary School, located approximately 0.65 miles east of the project site at 7900 Eloise Avenue (Sacramento County Office of Education 2022).

### *Parks and Other Public Facilities*

The project site is within the Rio Linda Elverta Recreation and Park District. The park nearest to the project site is Westside park, located at 6601 West 2nd Street, Rio Linda, approximately 1.9 miles from the project. Babe Best Park is also located approximately 1.9 miles from the project at 7525 10th Street, Rio Linda. Gibson Ranch park, 355-acres in size, is the largest park in the Elverta area and is located approximately 3.8 miles east of the project. The Sacramento Northern Bike Trail is located approximately 0.7 mile east of the project site (Sacramento County 2020).

## **3.15.2 Discussion**

- a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

### **Fire and Police protection?**

**No Impact.** Implementation of the project would not increase demand for Sacramento Fire Department fire protection services or Sacramento County Sheriff services, because the project would not generate new residents, which is the driving factor for these services, nor would it result in a significant net increase in structures on the project site that could result in a significant increase in calls for service. Because the project would not increase demand for fire and police protection services, no construction of new or expansion of existing fire and police service facilities would be required. Therefore, there would be **no impact**, and no mitigation is required.

**School, Parks, or Other Public Facilities?**

**No Impact.** The project would not provide new housing, so it would not generate new students in the community or result in an increase in employment opportunities that could indirectly contribute new students to the local school district. The project would not result in additional residents that could necessitate new or expanded park facilities. No other public facilities in the project area could be affected by implementation of the project. Therefore, there would be ***no impact***, and no mitigation is required.

### 3.16 Recreation

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XVI.Recreation.</b>				
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.16.1 Environmental Setting

The project site is within the Rio Linda Elverta Recreation and Park District. The park nearest to the project site is Westside Park, located at 6601 West 2<sup>nd</sup> Street in Rio Linda, approximately 1.9 miles from the project site. Babe Best Park is also located approximately 1.9 miles from the project at 7525 10<sup>th</sup> Street in Rio Linda (Sacramento County 2020). Gibson Ranch Park, 355-acres in size, is the largest park in the Elverta area and is located approximately 3.8 miles east of the project site (Sacramento County 2023). The Sacramento Northern Bike Trail, which parallels Rio Linda Boulevard, is located approximately 0.7 mile east of the project site.

#### 3.16.2 Discussion

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**No Impact.** The project does not include new development that could increase the use of existing parks or recreational facilities. Therefore, there would be **no impact**, and no mitigation is required.

- b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?**

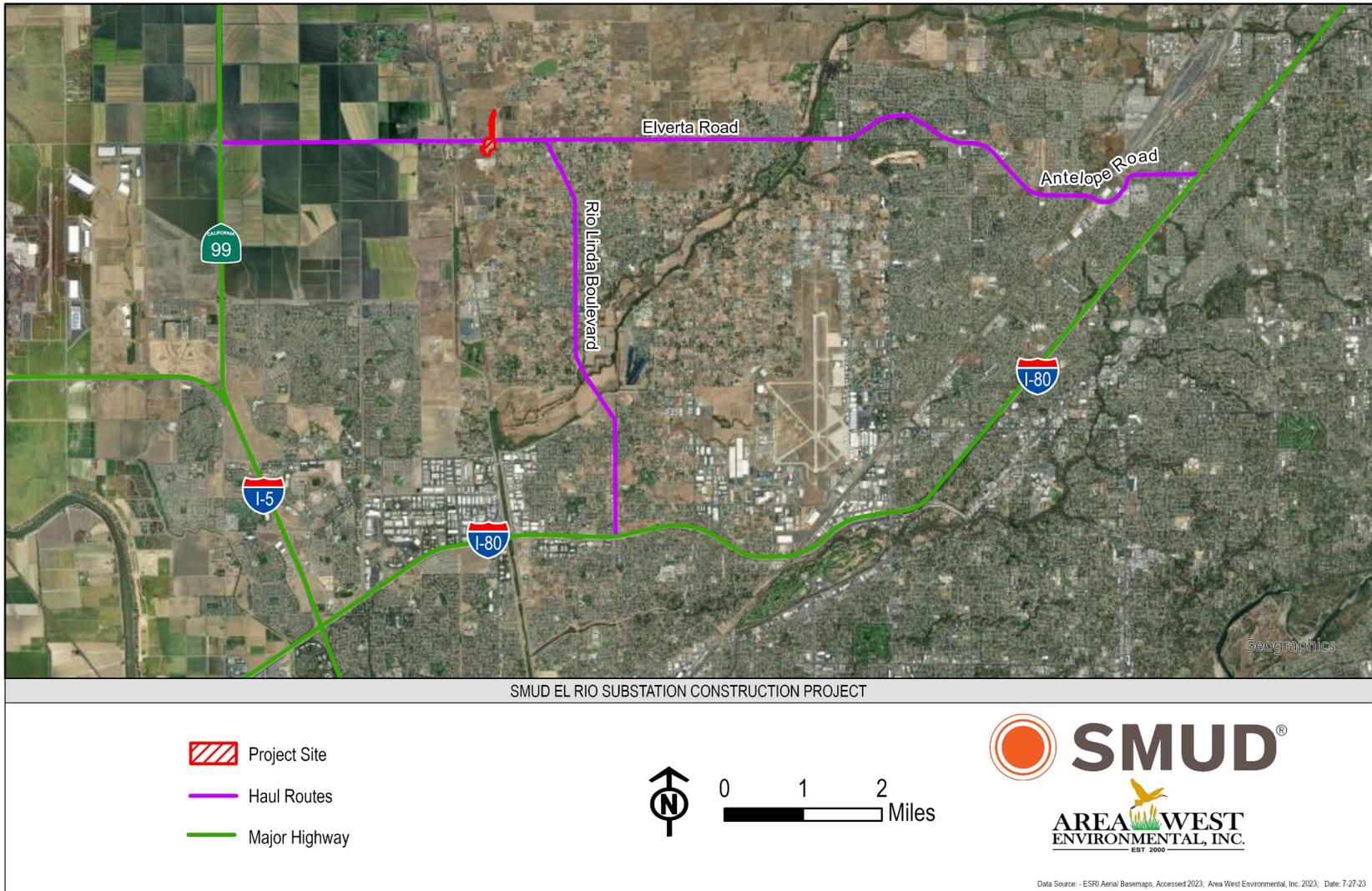
**No Impact.** The project does not include new development that could necessitate new or expanded recreational facilities. Therefore, there would be **no impact**, and no mitigation is required.

### 3.17 Transportation

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XVII. Transportation.</b>				
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.17.1 Environmental Setting

The project site can be accessed from the west via State Route 99 at the Elverta Road Interchange, from the south via I-80 at the Raley Boulevard interchange, and from the east via I-80 at the Antelope Road interchange (Figure 3-7). Elverta Road is a two-lane rural road that connects the census-designated places of Elverta and Antelope to State Route 99. Sacramento County traffic counts on Elverta Road near Sorento Road estimate average daily traffic on Elverta Road as 7,330 vehicles (Sacramento County 2023). El Rio Avenue is a two-lane rural road used for local traffic for residents and the ABC Ready-Mix concrete batch plant. Current access to the substation site is obtained through gated driveways on Elverta Road.



**Figure 3-7. Potential Haul Routes for Construction Access**

### 3.17.2 Discussion

**a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**

**No Impact.** The project would not conflict with plans and policies related to the circulation system. The project would not modify existing roadways, transit facilities, pedestrian or bicycle facilities. Neither Elverta Road nor El Rio Avenue at the project location are indicated as priority pedestrian improvements (Sacramento County 2007). The project would not create new housing or otherwise increase demand for transportation facilities beyond what is already planned by local agencies. There would be **no impact**, and no mitigation is required.

**b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), which pertains to vehicle miles travelled?**

**Less than Significant.** The project would not create a significant increase in VMT. It would not add capacity to existing roadways, nor would it create new housing or businesses that stimulate regional VMT.

Temporary construction activities would result in temporary increases in vehicle trips associated with worker commutes and equipment and materials delivery. The conservative estimate for the project is 700 truck deliveries for gravel and asphalt, 867 truck trips for export and import of fill, and 360 deliveries for equipment over the 30-month construction period. Figure 3-7 shows the potential haul routes that would likely be used during construction.

During operations, the new substation would be operated in a manner identical to that of the existing substation. Maintenance and operation of the substation would not increase vehicle trips or VMT over existing conditions.

Because the project would not change the amount of development projected for the area, would be consistent with the population growth and vehicle miles traveled projections in regional and local plans, and would result in only a temporary increase in vehicle miles traveled during construction, this impact would be **less than significant**, and no mitigation is required.

**c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**Less Than Significant.** The project proposes to add an additional access driveway from Elverta Road and access driveway from El Rio Ave. All new access driveways would require encroachment permits from Sacramento County and conformance to driveway design standards (Sacramento County 2018). The substation is not a public

facility and there is no public ingress or egress. Neither the temporary increase in truck traffic onto the project site during construction, nor the ongoing intermittent use of the new proposed access driveways would have a significant impact on the circulation system or roadway safety. The project does not involve substantial changes in road geometry or incompatible uses. Therefore, the impact is **less than significant**, and no mitigation is required.

**d) Result in inadequate emergency access?**

**No Impact.** With the added access to the substation sties, emergency responders would have adequate access to the project in case of a fire or other emergency.

During construction, the project would install temporary signage alerting drivers to the potential for tuck traffic entering and exiting the substation. The project does not propose traffic control to stop, reroute, or block traffic. There would be **no impact** for emergency providers, and no mitigation is required.

### 3.18 Tribal Cultural Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XVIII. Tribal Cultural Resources.</b>				
Has a California Native American Tribe requested consultation in accordance with Public Resources Code Section 21080.3.1(b)?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Would the project cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 3.18.1 Environmental Setting

The United Auburn Indian Community (UAIC), Shingle Springs Band of Miwok Indians (SSBMI), Lone Band of Miwok, and Wilton Rancheria are federally recognized Tribes comprised of both Miwok and Maidu (Nisenan) Indians and are traditionally and culturally affiliated with the proposed project area. Although boundaries with neighboring Tribes were often fluid and overlapping, traditional Nisenan territory extended from the southern boundary beginning below the Consumnes River, north to Gold Lake then west along ridges and canyons to the south fork of the Feather River, then southwest to the Sacred Mountain, 'Estom Yanim (Marysville Buttes), and from the west bank of the Sacramento River east to Kyburz. Today, many descendants of Nisenan still reside on lands once inhabited by their ancestors or on lands set aside for Tribal communities by the federal government in California which may or may not have been traditionally inhabited by their ancestors. The Tribes possess the expertise concerning Tribal cultural resources in the area and are contemporary stewards of their culture and the landscapes. These Tribal communities represent a continuity and endurance of their ancestors by maintaining their connection to their history and culture. It is the Tribe's goal to ensure the preservation and continuance of their cultural heritage for current and future generations.

Under PRC section 21080.3.1 and 21082.3, SMUD must consult with Tribes traditionally and culturally affiliated with the project area that have requested formal notification and responded with a request for consultation (PRC 21080.3.1(b)). Consultation is deemed concluded when the parties agree to measures to mitigate or avoid a significant effect on a Tribal cultural resource when one is present (PRC 21080.3.2 (b)(1)) or when a party concludes that mutual agreement cannot be reached (PRC 21080.3.2(b)(2)). Mitigation measures agreed on during the consultation process must be included in the environmental document.

### *Tribal Consultation*

On March 21, 2023, SMUD sent notification letters, as required by PRC 21080.3.1(d), to the four Native American Tribes that had previously requested such notifications: Wilton Rancheria, UAIC, SSBMI, and Lone Band of Miwok Indians. The notification included a brief description of the proposed project and its location. UAIC responded that they were unaware of any Tribal cultural resources in or adjacent to the project area and requested their unanticipated discoveries measure be incorporated as mitigation. SSBMI and Wilton Rancheria responded requesting consultation.

SMUD held a field consultation meeting a representative from Wilton Rancheria on April 13, 2023. The Wilton Rancheria representative was present during a portion of the cultural resources survey conducted by the AWE project archaeologist. SMUD has been coordinating with SSBMI, and consultation is ongoing.

The Sacred Lands File search conducted by the NAHC reported that the project area is negative for Sacred Lands.

### **3.18.2 Discussion**

**Would the project cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:**

- a) **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?**

**Less than Significant with Mitigation Incorporated.** The identification of Tribal cultural resources for this project by UAIC, SSBMI, and Wilton Rancheria included a review of pertinent literature and historic maps, and a records search using Tribal historic records and information databases. These Tribal databases are composed of areas of oral history, ethnographic history, and places of cultural and religious significance, including Sacred Lands that are submitted to the NAHC.

The resources shown in this region also include previously recorded indigenous resources identified through the CHRIS NCIC as well as historic resources and survey

data. The UAIC reviewed the proposed project site within their database and declined consultation – UAIC requested the standard mitigation measure for inadvertent discoveries to be included for this proposed project. A field assessment was conducted on April 13, 2023 by Wilton Rancheria using a meandering pedestrian survey across the proposed project area.

Under the California Register of Historical Resources (CRHR) criterion for a historical resource, the proposed project would not affect unique ethnic cultural values or religious, sacred uses as the consultation from NAHC did not turn up any sacred lands files. However, in the event Tribal cultural resources are found within the proposed project site during construction, the standard mitigation measure for inadvertent discoveries has been included to ensure this impact is ***less-than significant***.

- b) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?**

**Less than Significant with Mitigation Incorporated.** Consultation with UAIC, Wilton Rancheria and SSBMI revealed no known Tribal cultural resources on the project site as defined in PRC Section 21074; however, the area is potentially sensitive for unknown Tribal cultural resources. Therefore, it is possible that yet-undiscovered Tribal cultural resources could be encountered or damaged during ground-disturbing construction activities. This impact would be ***potentially significant***, and mitigation is required.

**Mitigation Measure 3.18-1: Worker Environmental Awareness and Cultural Respect Training and Procedures for Discovery of Potential Tribal Cultural Resources**

*All construction personnel must receive Tribal Cultural Resources Sensitivity and Awareness Training (Worker Environmental Awareness Program [WEAP]), including field consultants and construction workers. The WEAP shall be developed in coordination with interested Native American Tribes.*

*The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and Tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and Tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or Tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American*

*Tribal values. The training may be done in coordination with the project archaeologist.*

*All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training.*

*During excavation or other substantial subsurface disturbance activities, all construction personnel must follow procedures and the direction of archeologists and Tribal monitors if any cultural resource materials are observed.*

### **Mitigation Measure 3.18-2: Spot Check Monitoring for Tribal Cultural Resources**

*SMUD shall invite representatives of Wilton Rancheria and SSBMI to periodically inspect the active areas of the project, including any soil piles, trenches, or other disturbed areas. Wilton Rancheria and SSBMI shall be notified at least 48 hours prior to start of construction.*

### **Mitigation Measure 3.18-3: Unanticipated Discovery of Tribal Cultural Resources**

*If any suspected Tribal cultural resources are discovered during ground disturbing construction activities, including midden soil, artifacts, cultural belongings, chipped stone, exotic rock (nonnative), or unusual amounts of baked clay, shell, or bone, all work shall pause within 100 feet of the find. Consulting Tribe(s) shall be immediately notified and shall determine if the find is a Tribal cultural resource (pursuant to PRC section 21074). The Tribal representative will make recommendations for further evaluation and treatment, as necessary. Preservation in place is the preferred alternative, and every effort must be made to preserve the resources in place, including through project redesign. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, and returning objects to a location within the project area where they will not be subject to future impacts. Curation of Tribal cultural resources is not considered appropriate or respectful; materials would not be permanently curated, unless approved by the consulting Tribe. Treatment that preserves or restores the cultural character and integrity of a Tribal cultural resource may include Tribal monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.*

### **Mitigation Measure 3.5-2: Procedures for Discovery of Human Remains** (Described in Section 3.5, Cultural Resources)

#### Significance after Mitigation

Implementation of Mitigation Measure 3.18-1, 3.18-2, 3.18-3, and 3.5-2 would reduce impacts to Tribal cultural resources to a **less than significant** level.

### 3.19 Utilities and Service Systems

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XIX. Utilities and Service Systems.</b>				
Would the project:				
a) Require or result in the relocation or construction of construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 3.19.1 Environmental Setting

The project site includes the existing Elverta Substation. Constructed in 1954, the existing substation, is located on 5.5 acres, which are under easement to SMUD from the WAPA. The existing SMUD Elverta Substation consists of an outdoor switchyard including:

- three 230kV transmission lines;
- five 230kV circuit breakers;
- one 230/115kV 150MVA transformer;

- one 230/69kV 224MVA transformer;
- five 69kV transmission lines;
- eight 69kV circuit breakers; and
- two 69kV, 25MVAR capacitor banks.

Overhead transmission and distribution lines connect to the existing substation.

#### *Water*

The RLECWD provides water supply to residents and businesses in the project vicinity. RLECWD secures water from 11 groundwater wells, and there is an 8-inch distribution line on Elverta Road (RLECWD 2014). There is a well on the existing Elverta Substation parcel.

#### *Storm Water*

There are no municipal storm water or drainage structures at the project site.

#### *Wastewater*

The project is located outside of the Sacramento Area Sewer District. Septic systems are used by local residents and businesses. The project site does not have and would not require municipal wastewater, or municipal stormwater drainage facilities.

#### *Solid Waste*

Most solid waste in the Sacramento area is disposed at the Kiefer Landfill, which is permitted to accept municipal solid waste, construction and demolition debris, green materials, and other nonhazardous designated debris. The Kiefer Landfill has a permitted throughput of 10,815 tons per day, a remaining capacity of approximately 4.1 million cubic yards, and an expected closure date of 2064.

### **3.19.2 Discussion**

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?**

**Less than Significant.** The project is not served by municipal stormwater, wastewater treatment, stormwater drainage, natural gas, or telecommunication facilities and therefore would not cause significant environmental effects related to the provision of these facilities.

The project would use the existing water well at the Elverta Station or connect to the RLECWD to provide water supply for the proposed restroom. If the new El Rio Substation parcel does not have a connection to the RLECWD, and a new connection is required, ground disturbance impacts would limit to excavation to lay connecting lines and surface repair. No significant impact would be associated with this physical connection.

The project includes stormwater drainage improvements to accommodate increased storm water runoff from approximately 2 acres of new impervious surface area. The installation of the retention basin and the on-site stormwater drainage system is evaluated throughout this document as a project component.

Similarly, the project represents the expansion of electric utility transfer capacity; the environmental impacts associated with this expansion are addressed by this document. This is a utility project that includes the construction of a new El Rio 69-115-230kV substation, and the subsequent dismantling of the existing Elverta 69-115-230kV substation. During substation construction, electrical lines that cross the construction area would be temporarily re-routed using a line built to bypass the construction area (referred to as a “shoo-fly”); the poles would remain in their current location and the line would be restrung after substation and retention basin construction is complete. In addition to upgrading the substation equipment, the project would also include the removal of two existing lattice transmission towers to the north of the substation, to be replaced with two to three new steel monopole towers. The monopole towers would be installed on a new alignment and would tie the proposed substation into the existing grid. Once the line is strung on the new monopoles, the lattice towers would be dismantled and removed. Following the tie in of the new poles and the energization of the proposed substation, the existing Elverta Substation would be decommissioned and outdated substation equipment dismantled and removed from the site. Construction and decommissioning would be timed to ensure minimal disruption for electrical customers.

The project does not include land use development that would require the construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities. The changes to utility infrastructure associated with the project would be modest and would not cause significant environmental effects. Therefore, the impact is ***less than significant***, and no mitigation is required.

**b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?**

**Less than Significant.** Project construction would require water for hand washing and dust suppression activities; water would be provided by a licensed water transport company and would be a temporary condition. Project operations would require new water supply for the restroom. The existing water well on the Elverta Station would be used to secure water for the project. Alternatively, an authorized connection to the RLECWD system would be approved, consistent with their Water Master Plan (2014).

The project's impact to water supplies would be ***less than significant***, and no mitigation is required.

- c) **Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?**

**No impact.** The project would construct a restroom that would be served by an onsite waste water treatment system. There would be ***no impact*** to a wastewater treatment provider or community served by the provider, and no mitigation is required.

- d) **Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

- e) **Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**Less than Significant.** The project would generate solid waste during construction activities and during the decommissioning of the existing substation. Project construction and decommissioning would require clearing the expansion site of existing pavement, concrete, and outdated electrical equipment. Project construction of the new substation would generate various construction-period wastes, including scrap lumber, finishing materials, and various metals, and other recyclable and non-recyclable construction-related wastes.

Compliance with the updated 2022 CALGreen Code (24 CCR Part 11) would result in a reduction of construction waste and demolition debris and increase recycling. The CALGreen Code requires that 100% reuse/recycling of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing and an overall minimum of 65% of the waste stream be salvaged or recycled. Consistent with this requirement, soils excavated from the new substation site would be stockpiled and reused onsite where possible. Implementation of the CALGreen Code would significantly reduce construction-related waste. Landfilled waste would be delivered to facilities that have a large volume of landfill capacity available to serve the project during construction.

During project operations, employees would generate waste (food packaging, restroom paper towels, etc.). It is anticipated that SMUD would integrate the new restroom facility and control room into an existing facilities maintenance schedule. Any solid waste generated during project operation would be incidental. Waste removal is expected to occur during scheduled maintenance visits.

Because the proposed project would comply with all statutes and regulations related to solid waste and sufficient landfill capacity would be available to accommodate solid waste disposal needs for the proposed project, this impact would be ***less than significant***, and no mitigation is required.

### 3.20 Wildfire

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XX. Wildfire.</b>				
Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones?	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.20.1 Environmental Setting

The project site is located within a Local Responsibility Area that is designated as a Non-Very High Fire Hazard Severity Zone (CAL FIRE 2008). The project site is primarily surrounded by annual grassland and industrial land uses. Sacramento Metropolitan Fire District provides fire protection and emergency rescue services in the project area. Sacramento Metropolitan Fire Station No. 116 is located at 7995 Elwin Avenue, approximately 0.5 miles east of the project site. Additionally, Sacramento Metropolitan Fire Station No. 117 is located approximately 3 miles east of the project area (Sacramento Metro Fire 2023).

#### 3.20.2 Discussion

- a) **Substantially impair an adopted emergency response plan or emergency evacuation plan?**

- b) **Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**
- c) **Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**
- d) **Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

**No Impact.** The project would not exacerbate wildfire risks because the project site is not located within a high or very high wildfire hazard zone and would not expose people or structures to wildfire risks. Construction equipment would be stored away from vegetation that could provide fire fuel if ignited. In addition, vegetation would be removed or trimmed on the project site, as needed, to ensure that construction activities do not increase risks associated with wildfires. Thus, the project would not affect the potential for wildfires to ignite or spread within areas surrounding the project site. There would be **no impact**, and no mitigation is required.

### 3.21 Mandatory Findings of Significance

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>XXI.Mandatory Findings of Significance.</b>				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 3.21.1 Discussion

- a) **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

**Less than Significant with Mitigation Incorporated.** As discussed in Section 3.4, “Biological Resources,” of this IS/MND, the project has potential to adversely affect special status species, including the Western Spadefoot, Giant Garter Snake, Burrowing Owl, American Badger, Swainson’s Hawk, White-Tailed Kite, Grasshopper Sparrow, and Other Nesting Birds. Potentially significant impacts would be reduced to a less than significant level with implementation of Mitigation Measures 3.4-3 through 3.4-7. The project also has the potential to impact important habitat areas, including vernal pools

and seasonal wetlands/swales and the species found therein. Potentially significant impacts would be reduced to a less-than-significant level with implementation of Mitigation Measures 3.4-1 and 3.4-2.

As discussed in Section 3.5, “Cultural Resources,” while no cultural resources were identified as occurring within the proposed substation footprint, proposed ground-disturbing activity for project construction could result in the disturbance of undiscovered archaeological materials or remains. Mitigation Measures 3.5-1 and 3.5-2 would reduce potential impacts to archaeological resources and/or human remains discovered during project construction activities to a **less than significant** level by requiring construction worker training, and, in the case of a discovery, preservation options (including data recovery, mapping, capping, or avoidance) and proper curation if significant artifacts are recovered. Similarly, in Section 3.18, “Tribal Cultural Resources,” proposed ground-disturbing activity for project construction could result in the disturbance of undiscovered Tribal cultural resources. Mitigation Measures 3.18-1 would reduce potential impacts to Tribal cultural resources discovered during project construction activities to a **less than significant** level by requiring construction worker training, and, in the case of a discovery, preservation options or other options, including reburial or culturally appropriate recovery, mapping, capping, or avoidance).

- b) **Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

**Less than Significant.** The project is not growth inducing and impacts would primarily be related to construction activities. Project impacts would be individually limited due to the temporary and site-specific nature of the potential impacts. Potential short-term, cumulative impacts would only occur if construction of the proposed project occurred simultaneously with other projects in the area, which is not anticipated. Therefore, project impacts would not combine with the impacts of other cumulative projects to result in a cumulatively considerable impact on the environment as a result of project implementation. Therefore, this impact would be **less than significant**.

- c) **Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

**Less than Significant with Mitigation Incorporated.** The project would have potentially significant impacts related to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, and Tribal cultural resources. However, all of these impacts would be reduced to less than significant levels with incorporation of the mitigation measures included in the respective section discussions above. No other direct or indirect impacts on human beings were identified in this IS/MND. Therefore, this impact would be **less than significant**.

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## 4.0 ENVIRONMENTAL JUSTICE EVALUATION

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### 4.1 Introduction

At present, there are no direct references to the evaluation of environmental justice (EJ) as an environmental topic in the Appendix G Environmental Checklist, CEQA statute, or State CEQA Guidelines; however, requirements to evaluate inconsistencies with general, regional, or specific plans (State CEQA Guidelines Section 15125[d]) and determine whether there is a “conflict” with a “policy” “adopted for the purpose of avoiding or mitigating an environmental effect” (Environmental Checklist Section XI[b]) can implicate EJ policies. As additional cities and counties comply with Senate Bill (SB) 1000 (2016), which requires local jurisdictions to adopt EJ policies when two or more general plan elements are amended, environmental protection policies connected to EJ will become more common.

“Environmental Justice” is defined in California law as the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies (California Government Code Section 30107.3[a]). “Fair treatment” can be defined as a condition under which “no group of people, including racial, ethnic, or socioeconomic group, shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies” (USEPA 2011).

SMUD created the Sustainable Communities Initiative, which encompasses the framework of EJ, to help bring environmental equity and economic vitality to all communities in SMUD’s service area with special attention to historically underserved neighborhoods. The initiative focuses on the development of holistically sustainable neighborhoods through partnerships and collaboration. The goal of this effort is to ensure the advancement of prosperity in the Sacramento region regardless of zip code or socioeconomic status by focusing on equitable access to mobility, a prosperous economy, a healthy environment, and social well-being. To support the initiative, SMUD teams are working internally and with community partners to improve equitable access to healthy neighborhood environments, energy efficiency programs and services, environmentally friendly transit modes (including electric vehicles), and energy-related workforce development and economic development prospects. To the extent these goals seek to avoid environmental impacts affecting vulnerable communities, the State CEQA Guidelines already require consideration of whether a proposed project may conflict with goals that support sustainable communities. The following analysis has been provided by SMUD, as a proactive evaluation in excess of CEQA requirements, to identify any localized existing conditions to which the project, as proposed, may worsen adverse conditions and negatively impact the local community, and identify the need for implementation of additional site or local considerations, where necessary.

Environmental justice issues are being considered in this CEQA document to help inform decision makers about whether the project supports SMUD’s goal of helping to

advance environmental justice and economic vitality to all communities in SMUD's service area with special attention to historically underserved neighborhoods.

## 4.2 Regulatory Context

California legislation, state agency programs, and guidance have been issued in recent years that aim to more comprehensively address EJ issues, including SB 1000 (2016), SB 535 (2012) and AB 1550 (2016), AB 617 (2017), the California Department of Justice Bureau of Environmental Justice, the California Communities Environmental Health Screening Tool (CalEnviroScreen), and the Governor's Office of Planning and Research's (OPR's) 2020 General Plan Guidelines, Environmental Justice Element. In particular, SB 1000 has provided an impetus to more broadly address EJ; coupled with the existing requirements of CEQA, it is now time to elevate the coverage of significant environmental impacts in the context of EJ in environmental documents. These other bills have also provided the necessary policy direction to address EJ under CEQA.

### 4.2.1 Senate Bill 1000

SB 1000, which was enacted in 2016, amended California Government Code Section 65302 to require that general plans include an EJ element or EJ-related goals, policies, and objectives in other elements of general plans with respect to disadvantaged communities (DACs) beginning in 2018. The EJ policies are required when a city or county adopts or revises two or more general plan elements and the city or county contains a DAC. EJ-related policies must aim to reduce the disproportionate health risks in DACs, promote civic engagement in the public decision-making process, and prioritize improvements that address the needs of DACs (CCR Section 65302[h]). Policies should focus on improving the health and overall well-being of vulnerable and at-risk communities through reductions in pollution exposure, increased access to healthy foods and homes, improved air quality, and increased physical activity.

### 4.2.2 Senate Bill 535 and Assembly Bill 1550

Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the cap-and-trade program is one of several strategies that California uses to reduce GHGs that cause climate change. The state's portion of the cap-and-trade auction proceeds are deposited in the Greenhouse Gas Reduction Fund (GGRF) and used to further the objectives of AB 32. In 2012, the California Legislature passed SB 535 (de Leon), directing that 25 percent of the proceeds from the GGRF go to projects that provide a benefit to DACs. In 2016, the legislature passed AB 1550 (Gomez), which now requires that 25 percent of proceeds from the GGRF be spent on projects located in DACs. The law requires the investment plan to allocate (1) a minimum of 25 percent of the available moneys in the fund to projects located within and benefiting individuals living in DACs; (2) an additional minimum of 5 percent to projects that benefit low-income households or to projects located within, and benefiting individuals living in, low-income communities located anywhere in the state; and (3) an additional minimum of 5 percent either to projects that benefit low-income households that are outside of, but within 0.5

mile of, DACs, or to projects located within the boundaries of, and benefiting individuals living in, low-income communities that are outside of, but within 0.5 mile of, DACs.

#### **4.2.3 Assembly Bill 617**

AB 617 of 2017 aims to help protect air quality and public health in communities around industries subject to the state's cap-and-trade program for GHG emissions. AB 617 imposes a new state-mandated local program to address nonvehicular sources (e.g., refineries, manufacturing facilities) of criteria air pollutants and toxic air contaminants. The bill requires ARB to identify high-pollution areas and directs air districts to focus air quality improvement efforts through the adoption of community emission reduction programs in these identified areas. Currently, air districts review individual stationary sources and impose emissions limits on emitters based on best available control technology, pollutant type, and proximity to nearby existing land uses. This bill addresses the cumulative and additive nature of air pollutant health effects by requiring communitywide air quality assessment and emission reduction planning, called a community risk reduction plan in some jurisdictions. ARB has developed a statewide blueprint that outlines the process for identifying affected communities, statewide strategies to reduce emissions of criteria air pollutants and toxic air contaminants, and criteria for developing community emissions reduction programs and community air monitoring plans.

#### **4.2.4 California Department of Justice's Bureau of Environmental Justice**

In February 2018, California Attorney General Xavier Becerra announced the establishment of a Bureau of Environmental Justice within the Environmental Section at the California Department of Justice. The purpose of the bureau is to enforce environmental laws, including CEQA, to protect communities disproportionately burdened by pollution and contamination. The bureau accomplishes this through oversight and investigation and by using the law enforcement powers of the Attorney General's Office to identify and pursue matters affecting vulnerable communities.

In 2012, then Attorney General Kamala Harris published a fact sheet, titled "Environmental Justice at the Local and Regional Level," highlighting existing provisions in the California Government Code and CEQA principles that provide for the consideration of EJ in local planning efforts and CEQA. Attorney General Becerra cites the fact sheet on his web page, indicating its continued relevance.

#### **4.2.5 California Communities Environmental Health Screening Tool**

CalEnviroScreen Version 4.0 is a mapping tool developed by the Office of Environmental Health Hazards Assessment (OEHHA) to help identify low-income census tracts in California that are disproportionately burdened by and vulnerable to multiple sources of pollution. It uses environmental, health, and socioeconomic information based on data sets available from state and federal government sources to produce scores for every census tract in the state. Scores are generated using 20 statewide indicators that fall into four categories: exposures, environmental effects,

sensitive populations, and socioeconomic factors. The exposures and environmental effects categories characterize the pollution burden that a community faces, whereas the sensitive populations and socioeconomic factors categories define population characteristics.

CalEnviroScreen prioritizes census tracts, based on their combined pollution burden and population characteristics score, from low to high. A percentile for the overall score is then calculated from the ordered values. The California Environmental Protection Agency has designated the top 25 percent of highest scoring tracts in CalEnviroScreen (i.e., those that fall in or above the 75th percentile) as DACs, which are targeted for investment proceeds under SB 535, the state's cap-and-trade program.

#### **4.2.6 Governor's Office of Planning and Research's 2020 Updated EJ Element Guidelines**

OPR published updated General Plan Guidelines in June 2020 that include revised EJ guidance in response to SB 1000. OPR has also published example policy language in an appendix document along with several case studies to highlight EJ-related policies and initiatives that can be considered by other jurisdictions. Section 4.8 of the General Plan Guidelines contains the EJ guidance. The guidelines offer recommendations for identifying vulnerable communities and reducing pollution exposure related to health conditions, air quality, project siting, water quality, and land use compatibility related to industrial and large-scale agricultural operations, childcare facilities, and schools, among other things. It provides many useful resources, including links to research, tools, reports, and sample general plans.

### **4.3 Sensitivity of Project Location**

#### **4.3.1 Community Description**

As part of its Sustainable Communities Initiative, SMUD created and maintains the Sustainable Communities Resource Priorities Map 2.0,<sup>1</sup> which reflects several data sets related to community attributes that SMUD uses to identify historically underserved communities. One of the key components of the map is the California Communities Environmental Health Screening Tool (CalEnviroScreen Version 4.0), which identifies communities facing socioeconomic disadvantages or health disadvantages such as multiple sources of pollution. The Sustainable Communities Resource Priorities map provides an analysis of current data sets to indicate areas ranging from low to high sensitivity and can be used to describe the relevant socioeconomic characteristics and current environmental burdens of the project area. This map analyzes current data to indicate the local areas most likely to be underserved or in distress from environmental burdens, lack of community development, income, housing, employment opportunities,

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<sup>1</sup> The Sustainable Communities Resource Priorities Map is Available: <https://smud.maps.arcgis.com/apps/MapJournal/index.html?appid=1a42c034497c47b0b3c3c84f10c7d541>.

transportation, and more. SMUD has determined that it would evaluate EJ effects for projects located in, adjacent to, or proximate to (e.g., within 500 feet of) a high-sensitivity area as shown on the Sustainable Communities Resource Priorities Map or located in a census tract with a CalEnviroScreen score of 71 percent or greater. The map was launched in 2020 and updated in December 2022.

The project site is located in a medium-low (on a scale of low, medium-low, medium, medium-high, and high) sensitivity area per the Sustainable Communities Resource Priorities Map (SMUD 2022). The nearest high-sensitivity area is located more than 5 miles south of the project site in Del Paso Heights.

The project site is located within the census tract of 6067007206, which received an overall CalEnviroScreen score of 35, indicating that the area is not substantially burdened by vulnerabilities due to environmental pollutants. The results for each indicator range from 0-100 and represent the percentile ranking of census tract 6067007206 relative to other census tracts.

The CalEnviroScreen score is driven by environmental conditions such as multiple potential exposures to pollutants and adverse environmental conditions caused by pollution, and high health and socioeconomic vulnerability to pollution. The pollution burden of the project census tract received a score of 19, with the most significant indicators being ozone and pesticides. These exposures and consequent environmental conditions caused by pollution are expected in this area due to the current land uses which includes agricultural fields. The population characteristics of the project census tract that contribute to the community's pollution burden and vulnerability received a score of 49, with the most significant indicators being cardiovascular disease, asthma, and low birth weight.

Additional indicators were utilized by the Sustainable Communities Resource Priorities Map in identifying and targeting communities with a greater sensitivity to social, economic, and environmental vulnerabilities. These other sources, which are used as tools for targeting economic development, indicated that the project site is not located in an Opportunity Zone, a Sacramento Promise Zone, or designated as a Disadvantaged Community by state Senate Bill 535. Additionally, the project site is not designated as an area with consistent high rates of poor health outcomes on the Health Equity index by Be Healthy Sacramento and the Healthy Sacramento Coalition, or designated by the Health Resources & Services Administration (HRSA) as a Medically Underserved Area or as having a Medically Underserved Population.

The project site is located in a medium sensitivity area for social vulnerability as designated by the Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry (CDC/ATSDR) Social Vulnerability Index (SVI), which identifies areas with a population that is highly vulnerable and susceptible to harm from exposure to a hazard, and its ability to prepare for, respond to, and recover from hazards. The medium sensitivity is driven by a relatively higher percentage of institutionalized persons and outdoor workers, as well as a lower percentage of tree canopy cover and households with air conditioning.

### 4.3.2 Environmental Conditions

This discussion references the analysis conducted in the Environmental Checklist of the IS/MND and provides additional detail with respect to the current environmental conditions in the project area. The focus of this discussion is on environmental justice issues relevant to the project.

- **Aesthetics:** The visual characteristics of the project site and adjacent uses are an existing substation, rural residential, undeveloped agricultural, and some industrial land uses. The area immediately surrounding the project site is relatively flat and open. The project area does not include a scenic vista or designated scenic highway.
- **Air Quality:** The project site is located in Sacramento County, which is currently designated as nonattainment for both the federal and state ozone standards, the federal PM<sub>2.5</sub> standard, and the state PM<sub>10</sub> standard. The region is designated as in attainment or being unclassifiable for all other NAAQS and CAAQS (ARB 2023). Air quality in Sacramento County is influenced by a variety of factors, including topography, local and regional meteorology. The project site is located in an area with nearby industrial uses, including the ABC Ready-Mix concrete batch plant.
- **Cultural Resources:** There are no known cultural resources on or immediately adjacent to the project site.
- **Energy:** The project area is served by SMUD, which offers the Greenergy program with electricity generated by 100 percent renewable and carbon free resources.
- **Greenhouse Gas Emissions and Climate Change Vulnerabilities:** GHG emissions in the region are associated primarily with transportation (passenger vehicles and heavy-duty vehicles are top contributors), followed by industrial/manufacturing activities, electricity generation and consumption, residential and commercial on-site fuel use, and agriculture (including livestock) (ARB 2022). As the climate changes, the project area would likely be subject to increased heat stress and increased risk of flooding.
- **Hazards and Hazardous Materials:** A historical release of PCBs with potential soil contamination at the WAPA-operated substation adjacent to the project site was cleaned up and closed in 1992, and a release of gasoline with potential groundwater contamination occurred at the adjacent WAPA-operated maintenance facility and was cleaned up and closed in 2017 following extensive groundwater testing and reporting. Based on the age of the buildings located onsite, the potential exists for ACM and LBP. Existing industrial operations in the vicinity of the project site are conducted in accordance with applicable regulations related to on-site operations and transport and storage of materials.

- **Noise:** Noise sources in the project area include vehicle and rail traffic, as well as noise associated with nearby industrial operations. Sensitive receptors (i.e., residences) are located adjacent to the south of the project site, across El Rio Avenue to the east of the project site, and across Elverta Road to the northwest of the project site.
- **Public Services:** Public services such as police and fire protection are available in the area.
- **Recreation:** The project site is within the Rio Linda Elverta Recreation and Park District. The park nearest to the project site is Westside Park, located at 6601 West 2<sup>nd</sup> Street, Rio Linda, California, approximately 1.9 miles from the project site. Babe Best Park is also located approximately 1.9 miles from the park at 7525 10<sup>th</sup> Street, Rio Linda, California. The Sacramento Northern Bike Trail is located approximately 0.7 mile east of the project site.
- **Transportation:** The project area includes paved roads, but no bicycle facilities, pedestrian sidewalks, or directly accessible public transit access points (e.g., light rail, bus, and train). Public transportation is not available in the project area.
- **Tribal Cultural Resources:** There are no known Tribal cultural resources on or immediately adjacent to the project site.
- **Utilities:** The project area is serviced by SMUD for electricity and water is provided by the RLECWD or private water wells. No sewer service is available in the project area.

#### 4.4 Evaluation of the Project's Contribution to a Community's Sensitivity

The project consists of constructing and operating a new 230-115-69kV substation that would replace the existing Elverta Substation. Following installation of all project features and decommissioning and removal of the existing substation, the new substation would operate in a manner substantially similar to existing conditions. The project's contributions to the community's sensitivity are as follows:

- **Aesthetics:** Direct public views of the proposed substation development would be limited to Elverta Road and El Rio Avenue, with more distant and/or indirect views from East Levee Road and the Union Pacific Railroad. There would be temporary and minor modification of views in the project area during construction activities due to the presence of construction equipment. The replacement substation and associated transmission towers would not introduce a new substantial visual element and would not change the character and quality of existing views. Impacts to public viewers is considered less than significant.
- **Air Quality:** Excavation and general construction activities would be required during project construction. This would result in emissions of DPM and fugitive

dust at the project site, as discussed in Section 3.3., Air Quality. Considering the highly dispersive properties of diesel PM, the relatively low mass of diesel PM emissions that would be generated at any single place during project construction, and the relatively short period during which diesel-PM-emitting construction activities would take place, construction-related TACs would not expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in one million. Soil stabilization and dust suppression activities would be used as part of the SWPPP and would satisfy the requirements of Fugitive Dust Rule 403, set forth by SMAQMD, which would minimize emissions of PM<sub>10</sub> and PM<sub>2.5</sub>. These measures would be consistent with the best management practices and best available control technology practices required by SMAQMD. Demolition activities have the potential for negative air quality impacts, including issues surrounding the proper handling, demolition, and disposal of ACM and LBP. A survey to identify ACM and LBP would be conducted prior to demolition activities, and if present, the materials would be remediated prior to any renovation or demolition consistent with state and local regulations.

- **Cultural Resources:** The project would not affect known cultural resources. Mitigation measures identified in Section 3.5 would be implemented to reduce, to the extent feasible, significant impacts to any inadvertent discoveries.
- **Energy:** The project would not affect access to electricity because electrical service would be maintained throughout construction. Temporary use of grid-sourced energy and other fuel consumption would be associated with construction and decommissioning work. Operation and maintenance of the substation would require a negligible amount of on-site electricity and periodic utilization of fuels.
- **Greenhouse Gas Emissions and Climate Change Vulnerabilities:** Project operation would not generate substantial GHG emissions. The project would generate less-than-significant volumes of GHGs during construction from the use of heavy-duty off-road construction equipment and vehicle use for worker commutes. The project would not worsen the area's flooding vulnerabilities because it would not affect the area's topography or levee system.
- **Hazards and Hazardous Materials:** The use and handling of hazardous materials during construction would be conducted in a manner consistent with existing regulations, including CCR Title 27. All old equipment would be decommissioned properly to prevent emissions of SF<sub>6</sub> and the contained SF<sub>6</sub> gas would be either recycled or destroyed (USEPA 2018). Similar to the existing substation, limited amounts of SF<sub>6</sub> would be used in the operation of the new substation. Usage of SF<sub>6</sub> would comply with recordkeeping, reporting, and leakage emission limit requirements in accordance with ARB regulations for reduction of SF<sub>6</sub> emissions.

- **Noise:** Noise would be generated during construction, but it would be temporary. No substantial increases in ambient noise levels at sensitive receptors in the area would occur.
- **Public Services:** As the majority of construction activities would occur on private property, the project would not interrupt or otherwise affect the provision of public services to the area. The project would not increase the demand for fire or police protection services.
- **Recreation:** The project would not affect any parks or recreational opportunities.
- **Transportation:** The project would not affect existing roadways, public transit access points, or bike lanes.
- **Tribal Cultural Resources:** The project would not affect known Tribal cultural resources. Mitigation measures identified in Sections 3.18 would be implemented to reduce, to the extent feasible, significant impacts to any inadvertent discoveries.
- **Utilities:** The project would not adversely affect provision of utilities to existing and future uses in the project area. The project is intended to ensure continued and reliable electrical service within the Elverta/Rio Linda area, and no interruption or reduction in service capacity would occur as a result of the project.

As described for each environmental resource area, the project would not contribute to the community's current sensitivity.

#### 4.5 Summary of Environmental Justice Assessment

Per SMUD's Sustainable Communities Resource Priorities Map which reflects several data sets related to community attributes that SMUD uses to identify historically underserved communities, the project site is located in a medium-low sensitivity area (SMUD 2022). The project does not have the potential to affect the community and/or worsen existing adverse environmental conditions. Therefore, ***no existing environmental justice conditions would be worsened*** as a result of the project.

Although the project would not worsen existing environmental justice conditions, as a leader in building healthy communities, one of SMUD's Sustainable Communities goals is to help bring environmental equity and economic vitality to all communities. By investing in underserved neighborhoods and working with community partners, SMUD is part of a larger regional mission to deliver energy, health, housing, transportation, education and economic development solutions to support sustainable communities. The following Sustainable Communities programs sponsored by SMUD serve the project area.

- **Sierra Nevada Journeys:** With an investment from SMUD's Sustainable Communities, Sierra Nevada Journeys is conducting a community needs

assessment in order to develop culturally relevant education materials. This information will be shared with SMUD and other local partners and will be used to develop curriculum that is pertinent to historically marginalized communities as well as inclusive of Black, Indigenous, and People of Color. The new curriculum will be deployed through Sierra Nevada Journeys' Classroom Unleashed Program. More than 50 percent of the students they serve are from low-income families and 61 percent are students of color. This program is available to students in the nearby Twin Rivers Unified School District which encompasses Rio Linda.

- Sacramento Food Bank (Rio Linda Site): As a recipient of SMUD's Shine Award, the Sacramento Food Bank plans to install a Pelican wireless system to support the food bank site located and serving the Rio Linda community. The Pelican wireless system is an energy management tool that would allow the food bank to control the climate of their facility.
- SMUD is a community partner with the Community Resource Project which provides health-related services, energy and weatherization housing improvements, and utility assistance to those in need throughout Sacramento County with a location in North Highlands. Community Resource Project improves opportunities for people in need through energy efficiency, health education, and career development.
- SMUD partners with the Sacramento Tree Foundation to provide free shade trees to beautify neighborhoods and improve air quality throughout Sacramento County.
- SMUD offers Energy HELP to assist qualified customers who cannot pay their bill due to financial hardship and who are at risk of having their power turned off. 100 percent of contributions go directly to pay a recipient's electric bill through partnerships with community charities.
- SMUD offers the Energy Careers Pathways program which brings education, workforce development and renewable energy to underserved communities in Sacramento County.

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**RESOLUTION NO. \_\_\_\_\_**

**WHEREAS**, this Board has adopted policies stating this Board is committed to meeting customers' electrical energy needs (SD-4); demonstrating energy reliability and environmental leadership (SD-7); and ensuring high levels of customer satisfaction (SD-5); and

**WHEREAS**, SMUD's primary purpose is to supply electrical energy to customers in the Sacramento area; and

**WHEREAS**, SMUD proposes the **EI Rio Substation Project (Project)** to construct and operate a new substation and decommission and remove outdated equipment at the existing **Elverta Substation**; and

**WHEREAS**, the **Project** would include new transformers and circuit breakers, a control building, paved access, fencing, lighting, stormwater drainage, stormwater retention basin, and utilities; and

**WHEREAS**, north of the **Project**, two existing electrical towers carrying 230 kilovolt (kV) transmission lines would be replaced with two or three steel monopoles (also known as tubular poles) to tie the substation into the existing grid; and

**WHEREAS**, following energization of the proposed **EI Rio Substation**, the existing **Elverta Substation** would be decommissioned and the outdated equipment dismantled and removed from the site; and

**WHEREAS**, **Project** construction is anticipated to be during the first quarter of 2025 and would be completed by late 2026, involving active construction for approximately 24 months, and three months to decommission the **Elverta Substation**; and

**WHEREAS**, SMUD prepared an **Initial Study/Mitigated Negative Declaration (IS/MND)**, and **Mitigation Monitoring and Reporting Program** for the **Project** that incorporated environmental avoidance, mitigation and improvement measures; and

**WHEREAS**, the draft **Initial Study, Mitigated Negative Declaration**, and **Mitigation Monitoring and Reporting Program** were distributed to members of the Board, interested persons and organizations, public agencies, and landowners and occupants of adjacent parcels; notice was published in the *Sacramento Bee*, inviting public comment; the comment period was open from September 5, 2023, through October 5, 2023; a hybrid virtual/in-person public meeting was held on September 26, 2023, which was attended by five members of the public; and four public comment were received; and

**WHEREAS**, all comments received during the public review period have been responded to as appropriate and incorporated into the **Initial Study, Mitigated Negative Declaration** and **Mitigation Monitoring and Reporting Program**; and

**WHEREAS**, the **Initial Study, Mitigated Negative Declaration** and **Mitigation Monitoring and Reporting Program** are located in the records of SMUD under the custody of the Environmental Services Department; **NOW THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

**Section 1.** This Board has reviewed and considered information in the **Initial Study, Mitigated Negative Declaration** and **Mitigation Monitoring and Reporting Program**, together with comments received during the public review period; finds that the **Initial Study, Mitigated Negative Declaration** and **Mitigation**

**Monitoring and Reporting Program** as set forth in **Attachment \_\_\_\_** hereto have been completed in compliance with the **California Environmental Quality Act (CEQA)**, the State Guidelines for implementation of **CEQA**, and Board Resolution No. 13-11-03 (Procedures for Implementation of **CEQA**); and finds that the **Initial Study, Mitigated Negative Declaration** and **Mitigation Monitoring and Reporting Program** reflect the independent judgment and analysis of this Board.

**Section 2.** This Board finds, on the basis of the **Initial Study, Mitigated Negative Declaration** and **Mitigation Monitoring and Reporting Program**, and comments received during the public review period, that there is no substantial evidence that the **EI Rio Substation Project (Project)** may have a significant effect on the environment.

**Section 3.** Based on the **Initial Study, Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program**, and the findings made by this Board, this Board adopts the **Mitigated Negative Declaration** and **Mitigation Monitoring and Reporting Program** and approves the **Project**. The Environmental Services Department is directed to file with the County Clerk of Sacramento County, a Notice of Determination, which shall set forth the information required by **CEQA**.



SSS No. BOD 2023-014
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# BOARD AGENDA ITEM

## STAFFING SUMMARY SHEET

Committee Meeting & Date Policy – 11/15/23
Board Meeting Date November 16, 2023

TO				TO							
1.	Jennifer Davidson	6.									
2.	Suresh Kotha	7.									
3.	Brandy Bolden	8.									
4.	Farres Everly	9.	<b>Legal</b>								
5.		10.	<b>CEO &amp; General Manager</b>								
<b>Consent Calendar</b>		<b>Yes</b>	<input checked="" type="checkbox"/>	<b>No</b> <i>If no, schedule a dry run presentation.</i>		<b>Budgeted</b>	<input checked="" type="checkbox"/>	<b>Yes</b>	<b>No</b> <i>(If no, explain in Cost/Budgeted section.)</i>		
FROM (IPR) Karen Wilfley for Dave Tamayo				DEPARTMENT Board Office				MAIL STOP B304	EXT. 6154	DATE SENT 10/22/23	

**NARRATIVE:**

**Requested Action:** Allow the Board of Directors an opportunity to discuss Board Officer positions for 2024.

**Summary:** The directors will discuss and make recommendations for Board President and Vice President for January through December of the upcoming year.

**Board Policy:** *(Number & Title)* Governance Process GP-5, Election of the Board President and Vice President states that “[t]he Board shall elect each year a president and vice president to preside over it...” This discussion supports the governance process.

**Benefits:** Having this discussion will allow the directors a forum to voice their choices for President and Vice President for the upcoming year.

**Cost/Budgeted:** N/A

**Alternatives:** Not select Board Officers at this time.

**Affected Parties:** Board of Directors

**Coordination:** Crystal Henderson, Special Assistant to the Board

**Presenter:** Heidi Sanborn, Board President

**Additional Links:**

SUBJECT <b>Board Officers for 2024</b>	ITEM NO. (FOR LEGAL USE ONLY) <b>13</b>
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

**RESOLUTION NO. \_\_\_\_\_**

**WHEREAS**, President Sanborn called for the election of the President of the Board of Directors for the year 2024; and

**WHEREAS**, Director \_\_\_\_\_ nominated \_\_\_\_\_ for the position of President of the Board of Directors for 2024; and

**WHEREAS**, hearing no other nominations, the President closed the nominations and proceeded to a vote; **NOW, THEREFORE**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby elects \_\_\_\_\_ to serve as President of the Board of Directors for the 2024 term commencing January 1, 2024, through December 31, 2024.

**RESOLUTION NO. \_\_\_\_\_**

**WHEREAS**, President Sanborn called for the election of the Vice President of the Board of Directors for the year 2024; and

**WHEREAS**, Director \_\_\_\_\_ nominated \_\_\_\_\_ for the position of Vice President of the Board of Directors for 2024; and

**WHEREAS**, hearing no other nominations, the President closed the nominations and proceeded to a vote; **NOW, THEREFORE**

**BE IT RESOLVED BY THE BOARD OF DIRECTORS  
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby elects \_\_\_\_\_ to serve as Vice President of the Board of Directors for the 2024 term commencing January 1, 2024, through December 31, 2024.