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Description:	This section describes the potential affects the construction and operation of the project may have on soil resources at and in the vicinity of the project site.
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3.11 Soils

This section describes the potential affects the construction and operation of the Project may have on soil resources at and in the vicinity of the Project site. The information presented is based on a site-specific geotechnical evaluation and readily available resources provided online. This evaluation of soils includes the following elements:

- Section 3.11.1 describes the existing environment that could be affected, including existing soil uses, wetlands, soil mapping, erosion, and other significant soil characteristic;
- Section 3.11.2 provides an overview of the regulatory setting related to soils;
- Section 3.11.3 identifies potential environmental impacts that may result from Project construction, operation, maintenance, and decommissioning;
- Section 3.11.4 discusses cumulative effects;
- Section 3.11.5 identifies mitigation measures that should be considered during Project construction, operation, maintenance, and decommissioning;
- Section 3.11.6 presents laws, ordinances, regulations, and standards applicable to soils;
- Section 3.11.7 identifies regulatory agency contacts;
- Section 3.11.8 describes permits required for the Project related to geologic resources; and
- Section 3.11.9 provides references used to develop this section.

The following environmental setting and impact evaluation is based in part on the following Project-specific technical reports, included as an appendix to this EIR:

1. Appendix 3.4A – Geotechnical Considerations Report, prepared by Terracon, December 2023
2. Appendix 2A – Project Design Layout and Elevations, prepared by Coffman Engineers, December 2023
3. Appendix 3.5A – Phase I Environmental Site Assessment, prepared by Tetra Tech, August 2023
4. Appendix 3.2A – Biological Technical Report, prepared by Dudek, February 2024

3.11.1 Affected Environment

This subsection describes on-site soils with respect to U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil map units, potential for soil loss and erosion, and other significant soil characteristics.

3.11.1.1 NRCS Soil Map Units

A description of the surficial soils within the proposed Project site was developed using the USDA NRCS Web Soil Survey (USDA NRCS 2023a). As illustrated in Figure 3.11-1, Soils Map, the Project site is underlain primarily by Linne clay loam (LaC), on 3% to 15% slopes, with lesser amounts of Rincon clay loam (RdA), on 1% to 3% slopes. The Linne clay loam, which is found on hills, is derived from residuum weathered from sandstone and shale. Typically, the upper 36 inches consist of clay loam, underlain by bedrock. These soils are well-drained, have medium runoff, have very low (0.00 inches per hour) capacity to transmit water, and are not prone to flooding. These soils are used for range, with some areas farmed to small grains, related crops, and almonds, and are considered farmland of statewide importance. The Linne clay loam has an irrigated land capability classification of 3e, soils with severe limitations that restrict the choice of plants or that require special conservation practices, or both; and

a non-irrigated land capability classification of 4e, soil with very severe limitations that restrict the choice of plants or that require very careful management, or both.

The Rincon clay, which is found on valley floors and alluvial fans, is derived from alluvium from sandstone and shale. Typically, the upper 16 inches consists of clay loam, which is underlain by 36 inches of sandy clay and then 8 inches of stratified sandy loam and clay loam. These soils are well-drained, have medium runoff, have moderately low to moderately high (0.06 to 0.20 inches per hour) capacity to transmit water, and are not prone to flooding. The Rincon clay is used for irrigated citrus, deciduous fruits, row crops, and alfalfa, with some dry farming for grain and pasture, and is considered farmland of statewide importance. The Rincon clay has an irrigated land capability classification of 2s, soils with moderate limitations that restrict the choice of plants or that require moderate conservation practices; and a non-irrigated land capability classification of 4s, soil with very severe limitations that restrict the choice of plants or that require very careful management, or both (USDA NRCS 2023a).

3.11.1.2 Potential for Soil Loss and Erosion

Soil loss and erosion potential are greatly affected by the presence of vegetation, slope grades, soil composition and gradation, and weather patterns. Regions with sparse to no vegetation exhibit erosion more readily than areas with grasses, shrubbery, and other plants as they help in slowing the overland flow and holding the soil together. Areas with steeper slopes typically experience higher rates of erosion and soil loss than level slopes due to the higher flow velocity at which the stormwater run-off will travel. Erosion presents hazards to structures because it removes soils, which can undermine foundational elements, and transports and deposits the eroded material at other locations, which could cover roads, fill in reservoirs, and cause other impairments to infrastructure.

The soil erodibility factor, or K-value, of the Universal Soil Loss Equation (USLE) and Revised Universal Soil Loss Equation (RUSLE), was used to assess the Project site's vulnerability to erosion by surface water run-off (sheet and rill erosion). The K-value is a measure of the susceptibility of soil particles to detach and transport by rainfall and runoff. K-values range from 0.05 to 0.69, and other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by surface water flows (USDA NRCS 2023b). Soil erodibility and the associated K-factor ranges are presented in Table 3.11-1 below.

Table 3.11-1 Soil Erodibility and K-Factor Ranges

K-Factor	Erodibility
0.05 – 0.2	Low
0.25 – 0.4	Moderate
0.45 – 0.69	High

Source: Institute of Water Research 2002.

As previously discussed in Section 3.11.1.3, the Project site is underlain primarily by Linne clay loam (LaC), on 3% to 15% slopes, with lesser amounts of Rincon clay loam (RdA), on 1% to 3% slopes. Estimated average k-factor of clay loams ranges from 0.21 to 0.28 (PNNL 2023), which indicates on-site soils have a low to moderate erosion potential.

3.11.1.3 Other Significant Soil Characteristics

Other significant soil characteristics that could affect the Project site include expansive soils, perched groundwater, shallow bedrock, and soil contamination.

3.11.1.3.1 Expansive Soils

Expansive soils have the potential to shrink and swell with variations in saturation, which could cause ground instability in the form of differential settlement, which can damage building and structural foundations. Expansive soils are typically clay-rich or clay-dominant soils. Section 1803.5.3 of the California Building Code describes the standards for classifying expansive soils. Soils meeting all four of the following provisions shall be considered to be expansive, except that tests to show compliance with Items 1, 2, and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D4318.
2. More than 10% of the soil particles pass a No.200 sieve (75 μm), determined in accordance with ASTM D422.
3. More than 10% of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D422.
4. Expansion index greater than 20, determined in accordance with ASTM D4829.

USDA NRCS mapping indicates some on-site soils have a moderate to high shrink-swell potential. These soils may not be suitable for reuse as structural fill where deep fills are required. Depending on planned fill quantities required for earthwork, the import of fill meeting specifications for structural fill may be required (Appendix 3.4A, Geotechnical Considerations Report).

3.11.1.3.2 Liquefaction Risk

Please see the liquefaction discussion included in Section 3.4, Geologic Hazards and Resources.

3.11.1.3.3 Potential for Shallow Groundwater

Seasonal perched groundwater is anticipated at relatively shallow depths in portions of the site. Water seepage in excavations is possible and dewatering of excavations should be considered in Project development (Appendix 3.4A, Geotechnical Considerations Report).

3.11.1.3.4 Potential for Shallow Bedrock

NRCS mapping indicates bedrock may be encountered at 3 to 4 feet below the existing ground surface (bgs). Bedrock with varying degrees of weathering have been encountered as shallow as 1.5 feet bgs in the Project vicinity. Bedrock elevations can vary greatly over short distances. In localized areas, excavations for foundations and utilities may encounter very dense soil and/or bedrock. Contractors, especially those digging utilities and working in planned cut areas, should consider “hard dig” conditions may exist in some areas of the site. Excavations advanced within the bedrock may require the use of pneumatic breakers to excavate to the desired depth. However, blasting is not anticipated (Appendix 3.4A, Geotechnical Considerations Report).

3.11.1.3.5 Soil Contamination

A June 2023 Phase I Environmental Site Assessment (Appendix 3.5A, Phase I ESA) indicated that historical agricultural activities at the Project site may have been subject to the application of pesticides and herbicides, which potentially could contain a number of hazardous substances. No other current or historic site uses were considered to be recognized environmental conditions.

3.11.2 Regulatory Setting

Federal, state, and local laws, ordinances, regulations, and standards (LORS) related to visual resources were reviewed for applicability to the Project. These are detailed in Section 3.11.6, Laws, Ordinances, Regulations, and Standards.

3.11.3 Impact Analysis

The following sections describe the potential environmental effects on soils near the Project site during the construction and operation of the proposed Project.

3.11.3.1 Methodology

The information presented is based on a site-specific geotechnical evaluation, engineering plans, Phase I Environmental Site Assessment, Biological Technical Report, and readily available resources provided online. Potential direct and indirect Project impacts related to soils were evaluated against the California Environmental Quality Act (CEQA) significance criteria and are discussed below. The impact analysis evaluates potential Project impacts during Project construction, operation, and decommissioning.

3.11.3.2 Impact Evaluation Criteria

The potential for impacts related soils were evaluated using the relevant criteria described in the CEQA Environmental Checklist (Appendix G of the CEQA Guidelines). Specific to soil resources, the CEQA Checklist asks, would the project:

Result in substantial soil erosion or the loss of topsoil;

Be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code, creating substantial direct or indirect risks to life or property;

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use;
- Have a substantial adverse effect on state or federally protected wetlands?

3.11.3.3 Impact Evaluation

Impact 3.11-1 Would the project result in substantial soil erosion or the loss of topsoil?

Construction and Decommissioning

Less than Significant Impact. Project grading would include 588,018 cubic yards of cut, 344,900 cubic yards of fill, and 243,118 cubic yards of soil export. Construction of the BESS enclosures, power inverters/transformers, substation, telecommunication facilities, perimeter fencing, access roads, laydown yard, and gen-tie line would require grading, soil excavation, trenching, and soil stockpiling, which could increase the risk of water and wind erosion or sediment transport. Similarly, ground disturbance as a result of Project decommissioning (e.g., removal of foundations) would potentially result in soil erosion and associated siltation of downstream water bodies. The

magnitude of construction impacts related to soil erosion and topsoil loss depends on the soil erodibility, construction methods, construction schedule, and proximity of construction activities to nearby sensitive receptors, such as downstream water bodies. (See Section 3.15, Water Resources, for additional information.) The use of heavy equipment during construction of the Project would also potentially result in soil compaction. Compacting the soil would result in increased density and would reduce the soil's ability to absorb precipitation. Therefore, soil compaction may result in increased surface water run-off, erosion, and sedimentation.

As defined in Table 3.11-1, the predominant soils present across the Project site have a low to moderate erosion potential. The Applicant would be required to apply for coverage under a National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, NPDES No. CAS000002 (Construction General Permit). The Construction General Permit requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which requires implementation of best management practices (BMPs) to control stormwater run-on and runoff from construction work sites. BMPs may include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures to be identified by a qualified SWPPP developer that would substantially reduce or prevent erosion from occurring during construction.

The California Energy Commission (CEC) would also require the Applicant to implement a drainage, erosion, and sediment control plan (DESCP) to reduce the impact of run-off during construction, operation, maintenance, and decommissioning. As illustrated in Appendix 2A, Engineering Plans, erosion control facilities to be shown on the final grading plan would control and contain erosion-induced silt deposits and provide for the safe discharge of silt free stormwater into existing and proposed storm drain facilities after rough grading has been completed. All erosion control measures would be maintained until disturbed areas are stabilized. Grading would be completed in conformance with the Alameda County Grading Ordinance and recommendations in the geotechnical report (Appendix 3.4A). Site monitoring would involve inspections to ensure that the BMPs required by the Project-specific SWPPP and DESCP are properly maintained to reduce the risk of run-off to an adequate level. Implementation of the Project-specific SWPPP and DESCP would ensure that downstream water bodies are not affected by sediment transport.

Fine grained soils have the potential for wind erosion. Wind erosion is greatest when dry, fine sandy material is exposed at the ground surface. However, as discussed in Section 3.1, Air Quality, the Project would be required to comply with the Bay Area Air Quality Management District Regulation 6, Rule 1 – General Requirements and Regulations, and Rule 6 – Prohibition of Trackout. Therefore, with adherence to existing regulations and implementation of the Project-specific SWPPP, and DESCP, impacts related to water and wind erosion, and soil compaction would be less than significant.

Operation

Less than Significant. As described above, soils associated with the BESS, substation, gen-tie line ROW, and related infrastructure would have a low to moderate erosion potential. However, operation and maintenance activities are not anticipated to involve grading, excavations, or soil movement that would cause a substantial loss of topsoil. As described above, the Applicant would be required to comply with measures included in the DESCP to minimize soil erosion, pending stabilization of soils following mass grading. Following construction, much of the site would consist of impervious surfaces in areas of equipment installation, resulting in no erosion potential in those areas. However, access roads and areas between equipment would consist of gravel, which would be susceptible to wind and water erosion. As discussed in Section 3.1, Air Quality, the Project would be required to comply with the Bay Area Air

Quality Management District Regulation 6, Rule 1 – General Requirements and Regulations, and Rule 6 – Prohibition of Trackout. Therefore, with adherence to existing regulations and implementation of the Project-specific DESCP, impacts during operation of the Project would be less than significant.

Impact 3.11-2. Would the project be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code, creating substantial direct or indirect risks to life or property?

Less than Significant with Mitigation. NRCS mapping indicates some on-site soils have a moderate to high shrink-swell potential. These soils may not be suitable for reuse as structural fill where deep fills are required, as expansive soils could cause ground instability in the form of differential settlement, which can damage building and structural foundations. As such, the Project would require implementation of Mitigation Measure (MM) SOIL-1, which requires on-site soils shall be tested for soil expansion, in accordance with Section 1803.5.3 of the California Building Code per the recommendations of the Project-specific Geotechnical Considerations Report (Appendix 3.4A). In the event that on-site soils are expansive, proposed building pads shall be constructed to accommodate expansive soils without causing damage to the pads, such as through construction on post-tension slabs or support on structural piles. Therefore, impacts resulting from Project implementation would be **less than significant** with implementation of Mitigation Measure MM-SOIL-1.

Impact 3.11-3. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use?

Less than Significant. The Project site was used for agricultural purposes (i.e., row and/or field crops) from approximately 1940 to 1958 and has been open space since at least 1965 (Appendix 3.5A). The impacts of farmland conversion are considered **less than significant**. Refer to Section 3.6, Land Use, for further information and detailed analysis of this topic.

Impact 3.11-4. Would the project have a substantial adverse effect on state or federally protected wetlands?

Less than Significant. The Project has been designed to avoid cut or fill within jurisdictional wetlands. The impacts related to state or federally protected wetlands are considered **less than significant**. Refer to Section 3.2, Biological Resources, and Appendix 3.2A, Biological Technical Report, for further information and analysis on jurisdictional wetlands.

3.11.4 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Public Resources Code §21083; Title 14, California Code of Regulations, §15064[h], 15065[c], 15130, and 15355).

Risks related to soils are typically localized in nature because they tend to be related to on-site conditions or conditions caused by a project's construction. Cumulative projects that would have the potential to be considered in a cumulative context with the proposed Project's incremental contribution, and that are included in the analysis of cumulative impacts relative to soils, are identified in Chapter 3, Environmental Analysis, Table 3-1, Cumulative Projects. Cumulative projects were chosen based on proximity to the proposed Project. Other projects include residential, commercial, and industrial development. The majority of the cumulative projects would involve both

construction and operational activities. Nearby cumulative projects are appropriate in the context of soils cumulative impacts because generally there needs to be a direct nexus and similar soil conditions for a synergistic impact to occur, such as site modifications at nearby projects combining to destabilize soils. Currently, there is not a known existing significant cumulative impact related to soils within this geographic scope.

Although construction and decommissioning activities have the potential to result in erosion on the Project site, adherence to the construction SWPPP, DESCP, recommendations in the geotechnical report (Appendix 3.4A), and County of Alameda grading and building requirements would mitigate erosion impacts to less-than-significant levels. Other cumulative scenario projects would be required to adhere to similar requirements, thereby minimizing cumulative scenario erosion impacts. Specifically, all planned projects in the vicinity of the proposed Project would be subject to environmental review and would be required to conform to the Alameda County grading ordinance. With implementation of mitigation measures and other grading and building requirements, the proposed Project would not contribute to cumulative impacts for soils. Impacts of the proposed Project would be cumulatively considerable if the Project, in combination with related projects, would result in significant cumulative impacts. However, the effects of the cumulative projects are not of a nature to cause cumulatively significant effects from soils impacts, because such impacts are site-specific and would only have the potential to combine with impacts of the proposed Project if they occurred in the same location. As a result, cumulative impacts related to soils would be **less than significant**.

3.11.5 Mitigation Measures

The following mitigation measure would reduce potential impacts related to soils to less than significant during construction and operation of the proposed Project:

MM-SOIL-1 On-site soils shall be tested for soil expansion, in accordance with Section 1803.5.3 of the California Building Code and the results submitted to the California Energy Commission prior to the issuance of building or grading permits. In the event that on-site soils are expansive, proposed building pads shall be constructed to accommodate expansive soils without causing damage to the pads, such as through construction on post-tension slabs or support on structural piles. Import of non-expansive soil shall not be an option, as potentially unforeseen environmental impacts (e.g., traffic, air quality) would occur as a result of that option.

3.11.6 Laws, Ordinances, Regulations, and Standards

Federal, State, and local Laws, Ordinances, Regulations, and Standards (LORS) applicable to soils are discussed and summarized in Table 3.11-2.

Table 3.11-2, LORS Applicable to Soils

Jurisdiction	LORS	Applicability	Opt-In Application Reference	Project Conformity
Federal	CWA/Water Pollution Control Act. 1972, amended by Water Quality Act of 1987 P.L. 100-4	Regulates stormwater and non-stormwater discharges from construction and industrial activities	Impact 3.11-1	Project grading and construction would be completed in compliance with the NPDES Construction General Permit, which would fulfill CWA requirements with respect to erosion and water quality.
Federal	USDA NRCS National Engineering Handbook, Sections 2 and 3	Provides standards for soil conservation during planning, design, and construction activities	Impact 3.11-1 Impact 3.11-2	Project grading of 70 acres of the 232-acre parcel would result in permanent loss of topsoil. Implementation of MM-SOIL-1 would mitigate any impacts of Project development resulting from expansive soils.
State	Section 1803.5.3 of the California Building Code	Regulations for soils and foundations, including standards for defining expansive soils	Impact 3.11-2	Implementation of Mitigation Measure MM-SOIL-1, which requires testing and structural design with respect to potentially expansive soils, would fulfill the requirements of the California Building Code (former Uniform Building Code).
Local	California Building Standards Code (CCR Title 24, Part 2, Chapters 18 and 18A) (2022)	Sets the requirements for general building design and construction	Impact 3.11-2	Implementation of Mitigation Measure MM-SOIL-1, which requires testing and structural design with respect to potentially expansive soils, would fulfill the requirements of the California Building Code (former Uniform Building Code).
Local	Alameda County Code of Ordinances, Chapter 15.36-Grading Erosion and Sediment Control	Standards for grading and water quality, including permit requirements	Impact 3.11-1	Project grading and construction would be completed in compliance with the NPDES Construction General Permit, which would fulfill Alameda County requirements with respect to erosion and water quality.

3.11.6.1 Federal LORS

NRCS (1983), National Engineering Handbook Sections 2 and 3

Sections 2 and 3 of the USDA NRCS National Engineering Handbook provide standards for soil conservation during planning, design, and construction activities. Section 2 describes soil properties, including derivation of sediments, particle characteristics, size distribution of sediments, bulk properties, and texture. Section 3 emphasizes problems affecting the evaluation of erosion and sediment-storage damages, formulation of programs for reducing these damages, and sediment-storage design criteria for structural works of improvement for the beneficial use, control, and conservation of soil and water resources.

3.11.6.2 State LORS

California Environmental Quality Act

CEQA requires state and local government agencies to inform decision makers and the public about the potential environmental impacts of the Project and to reduce environmental impacts to the extent feasible. Appendix G of the CEQA Guidelines includes criteria for evaluating potential impacts related to soils.

Department of Water Quality, Stormwater Construction General Permit

The five-member SWRCB allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine RWQCBs in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters. Effective September 1, 2023, Construction Stormwater General Permit Order 2022-0057-DWQ, also known as the Construction General Permit, supersedes SWRCB Order No. 2009-009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ. The order requires that, prior to beginning any construction activity, the permit applicant obtain coverage under the CGP by preparing and submitting to the SWRCB a Permit Registration Document that includes a Notice of Intent, SWPPP, and other compliance related documents required by the Construction General Permit. Regulating many stormwater discharges under one general permit greatly reduces the administrative burden associated with permitting individual stormwater discharges. Construction activities subject to the NPDES Construction General Permit include clearing, grading, and disturbances to the ground (e.g., stockpiling or excavating), which result in soil disturbances of at least 1 or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than 1 acre of land surface.

Table 18-1-B of the Uniform Building Code (International Code Council, 1994)

Chapter 18 of the International Building Code and Table 18-1-B of the Uniform Building Code described the allowable soil bearing capacity of different types of soils, including expansive soils. However, the Uniform Building Code has been superseded by the California Building Code (CBC), which establishes minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The CBC is based on the International Building Code published by the International Code Conference. The CBC contains California amendments based on the American Society of Civil Engineers Minimum Design Standards 7-05. Expansive soils are addressed in Chapter 18, Soils and Foundations, of the CBC.

California Building Standards Code

The California Building Standards Code (CCR Title 24, Part 2, Chapters 18 and 18A) sets the requirements for general building design and construction. State regulations protecting structures from geo-seismic hazards are contained in the California Code of Regulations, Title 24, Part 2 (the CBC). The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures throughout California.

3.11.6.3 Local LORS

Alameda County Grading Ordinance

The Alameda County Code of Ordinances, Chapter 15.36-Grading Erosion and Sediment Control, establishes standards for grading and water quality, including permit requirements, for work on private property within the unincorporated area of Alameda County. Chapter 17.54.570-Grading requires the applicant to assure stable ground forms and adequate surface drainage.

3.11.7 Agencies and Agency Contacts

Applicable permits and agency contacts for soils are shown in Table 3.11-3. Building and grading permits from the Alameda County Public Works Agency would be superseded by CEC approval of the Project under the opt-in program.

Table 3.11-3. Permits and Agency Contacts

Permit or Approval	Agency Contact	Applicability
Alameda County Public Works Agency*	Alameda County Public Works Agency 399 Elmhurst Street, Room 141 Hayward, California 94544 510.567.5868	Building and Grading Permits

Note:
* Building and grading permits from the Alameda County Public Works Agency would be superseded by CEC approval of the Project under the opt-in program.

3.11.8 Permits and Permit Schedule

The NPDES permit is evaluated in Section 3.15, Water Resources.

3.11.9 References

California Energy Commission. July 2021. California Code of Regulations, Title 20. Public Utilities and Energy, Division 2. State Energy Resources Conservation and Development Commission. Available: https://www.energy.ca.gov/sites/default/files/2021-07/Title%2020%20Updated%20July%2023%2C%202021.pdf.

Institute of Water Research. 2002. “K Factors.” RUSLE. On Line Soil Erosion Assessment Tool. Michigan State University. http://www.iwr.msu.edu/rusle/kfactor.htm.

PNNL (Pacific Northwest National Laboratory). 2023. Soil Erodibility Factor. Accessed December 7, 2023. https://mepas.pnnl.gov/.

San Francisco Bay RWQCB. 2023. Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin. Accessed December 10, 2023. https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html.

USDA NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service). 2023a. Web Soil Survey. Accessed December 7, 2023. https://websoilsurvey.nrcs.usda.gov/app/.

USDA NRCS. 2023b. Soil Properties and Qualities Information. Accessed December 7, 2023. https://efotg.sc.egov.usda.gov.

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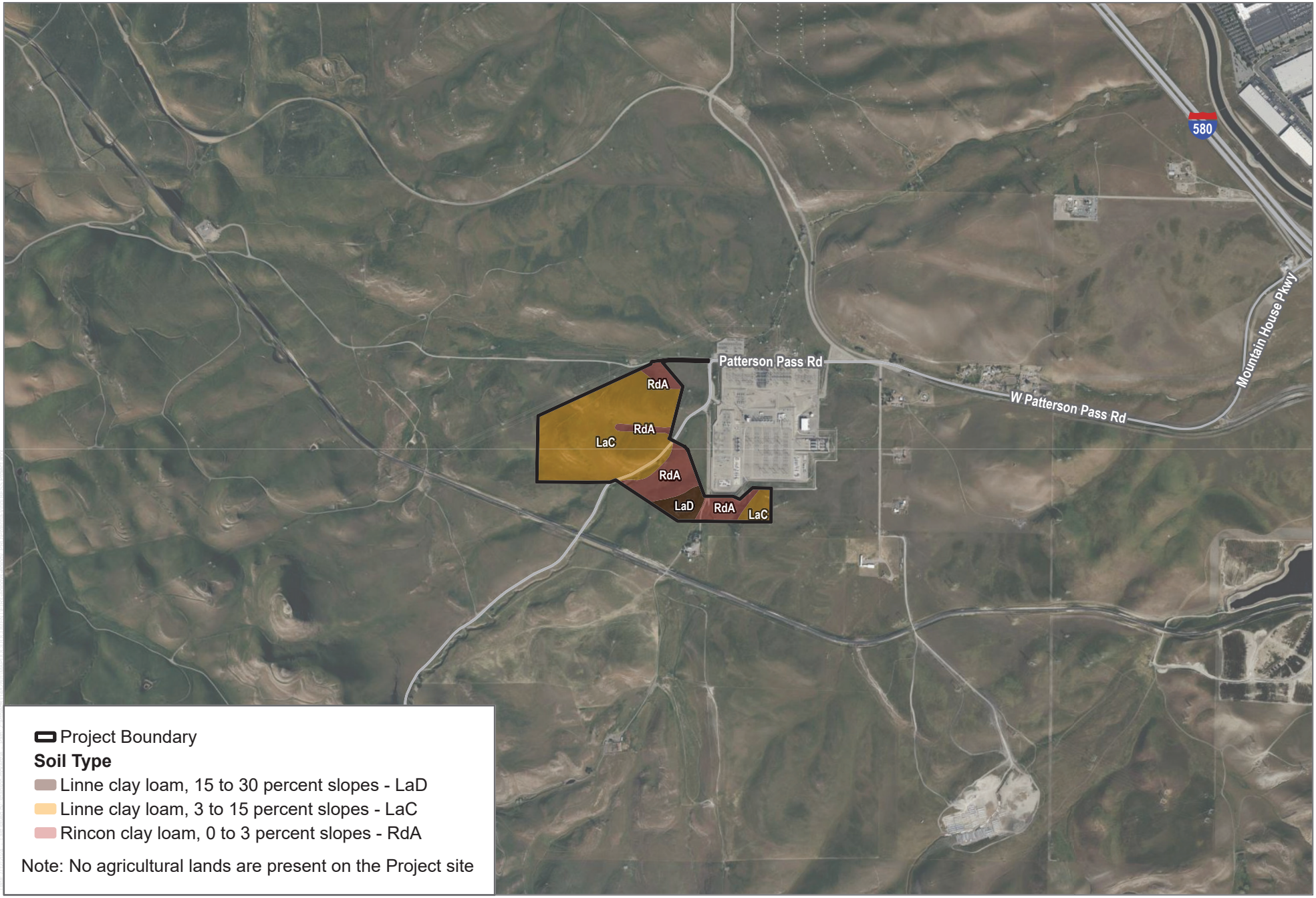

SOURCE: Bing Maps (accessed 2023); , USDA SSURGO 2019; Open Streets Map 2019

DUDEK

0 500 1,000 Feet

FIGURE 3.11-1

Soils Map

Potentia-Viridi BESS Project

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