



**Seneca Healthcare District  
Mitigated Negative Declaration**

**Seneca Healthcare District Facility Replacement Project  
General Plan Amendment, Zone Change, and LAFCO Annexation**

**Chester, Plumas County, CA**

**Filed:**

**March 7, 2023**

**Review Period:**

**March 7, 2023 through April 6, 2023**

**MITIGATED NEGATIVE DECLARATION**

The CEQA Lead Agency finds that this project, as mitigated, would not have a significant impact on the environment. A copy of the Initial Study, which provides the evidence supporting this finding, is attached.

*Determination by:*

Shawn McKenzie  
Chief Executive Officer  
Seneca Healthcare District

*Prepared by:*

Steven Towers, Ph.D.  
Senior Project Manager  
Sequoia Ecological Consulting, Inc.

Date: March 6, 2023

Date: March 6, 2023



## Initial Study

- 1. Project Title:** Seneca Healthcare District Facility Replacement Project, General Plan Amendment, Zone Change, and LAFCO Annexation (Project)
- 2. Date of Initial Study Preparation:** Completed March 6, 2023
- 3. Lead Agency Name and Address:**  
Seneca Healthcare District  
130 Brentwood Drive  
PO Box 737  
Chester, CA 96020
- 4. Prepared By:**  
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- 5. Project Location:**  
Assessor's Parcel Numbers (APN): APN 100-230-028 and APN 100-230-029 (proposed hospital facilities), APN 100-230-026 and APN 100-470-003 (heliport flight path), and APN 100-230-025 (potential primary access road and potential secondary emergency access).  
  
Address: Adjacent to Reynolds Road and Wildwood Lane (future street address to be determined), Chester, CA 96020, unincorporated Plumas County; T28N/R7E/Sec. 6 & 7, MDM; Latitude: 40.306954, Longitude: -121.236558
- 6. Project Sponsor:** Seneca Healthcare District
- 7. General Plan Land Use Designations:** The property is currently designated Resort and Recreation, Rural Residential, Single-Family Residential, Multiple-Family Residential, and Commercial.



- 8. Zoning Districts:** Single-Family Residential (7-R), Multiple-Family Residential (M-R), Periphery Commercial (C-2), Recreational-Open Space (Rec-OS), Recreation (R-10), and Prime Recreation (Rec-P). The Rec-P portion of APN 100-230-028 also has a Limited Combining Zone (Ltd).
- 9. Project Description:** The proposed General Plan Amendment would replace the existing Plumas County 2035 General Plan (2035 General Plan) designations of *Resort and Recreation, Rural Residential, Single Family Residential, and Multiple Family Residential* with *Commercial* and *Multiple Family Residential*. The proposed Zone Changes would replace the existing *7-R, M-R, C-2, Rec-OS, R-10, and Rec-P* designations with *C-2* (health services and parking lots) and *M-R* (dwelling units). In the Plumas County Code, Title 9, Planning and Zoning, Chapter 2 Zoning, *health services and parking lots* are allowable uses within the C-2 zone, and *dwelling units* is an allowable use the M-R zone.

The proposed Project area totals 11.8 acres. The Option 1 helipad flight path area outside the Project area entails approximately 6 acres.

Seneca Healthcare District (SHD; District) proposes to provide for the continuing care of their Plumas County and Chester area community through the construction of a new acute-care hospital and skilled nursing facility building to replace their existing aged facilities (**Exhibits A 1-2**). Primarily built in the 1950s and 1970s, SHD's current hospital buildings present a challenge to continued high-quality care in the size, accessibility, and environment of the current facilities. Considering the financial implications associated with the potential SB-1953 mandated seismic compliance upgrades of the existing buildings, SHD has elected to build new facilities and expand upon the current services offered by SHD. The existing facilities will be repurposed for non-acute care uses that have yet to be determined, with preliminary candidate uses including outpatient behavioral health or expanded physical therapy. The existing facilities compared with proposed facilities are summarized in **Table 1**.

**Table 1. Existing and Proposed Facilities**

Existing	Proposed
<ul style="list-style-type: none"><li>10-bed acute care, no negative pressure</li></ul>	<ul style="list-style-type: none"><li>10-bed acute care, 2 of those with isolation capabilities</li></ul>



Existing	Proposed
<ul style="list-style-type: none"><li>▪ 2-bed open-bay emergency room</li></ul>	<ul style="list-style-type: none"><li>▪ 3-bed private emergency room and Trauma/procedure room within ED</li></ul>
<ul style="list-style-type: none"><li>▪ 16-bed skilled nursing facility</li></ul>	<ul style="list-style-type: none"><li>▪ 26-bed skilled nursing facility</li></ul>
<ul style="list-style-type: none"><li>▪ Imaging including x-ray, CT outside hospital in portable building, MRI via trailer</li></ul>	<ul style="list-style-type: none"><li>▪ Imaging to include x-ray, CT, ultrasound, and MRI via trailer</li></ul>
<ul style="list-style-type: none"><li>▪ Operating room &amp; 2-bed patient recovery</li></ul>	<ul style="list-style-type: none"><li>▪ Operating room, procedure room, &amp; 3-bed patient recovery</li></ul>
	<ul style="list-style-type: none"><li>▪ All spaces right-sized to allow for improved workflow, updated/improved infrastructure, updated medical equipment, and ADA accessibility per current code</li></ul>

The proposed facilities would entail two different building types, all under one roof: an acute-care replacement hospital (OSHDP-1), and an expanded skilled nursing facility (OSHDP-2). The intent of the design is to provide the units as separate building types with differing functions, but connected with the required seismic and building separations, so that there is seamless flow between each unit, built-in efficiencies for circulation of staff and patients, and shared use of spaces. There is also a proposed non-California Department of Health Care Access and Information (HCAI) support services building, detached, which would support the entire facility, and employee housing.

In planning for the proposed Project, SHD acquired 10 acres of land on parcels adjacent to their existing campus (APN 100-110-030) and completed a lot line adjustment. The additional land was purchased from Collins Pine, an adjacent landowner within the timber operations industry. SHD plans to use the surrounding forested habitat to provide restorative and healing views of this scenery for the residents and patients, and to also maintain timber as appropriate in public areas to honor the neighboring industry. Secondary access is anticipated to be provided via the existing clinic's rear parking lot,





through to Brentwood Drive. Alternatively, a secondary access road may established at the northwest corner of the proposed Project area through the Wildwood Senior Community.

SHD's goals are to create a facility that will provide improved healthcare services to the community for another 70 years or more, continue to support the well-being and security of the community, and be able to grow and progress as both healthcare and the community advance into the future.

The region surrounding Chester has recently been previously impacted by forest fires, primarily the 2021 Dixie Fire. It is the desire of SHD to create a new facility that responds to the evolving requirements of wildland fire safety, allowing staff to continue to provide care to patients during emergencies. Further, final design of the Project will integrate access, disaster staging, infrastructure resiliency, and fire-resistant building materials.

To fund this construction effort, SHD is pursuing US Department of Agriculture (USDA) funding as well as other funding sources, including a public bond measure (Measure B, passed in the November 8, 2022 election) and philanthropic offerings by the community. USDA funding will require compliance with the National Environmental Policy Act (NEPA), which will be completed as a parallel process.

The new facility is intended to provide current state-of-the-art healthcare technology in a new, clean, modern building. The cumulative square footage of the facilities will total 45,000 square feet, plus up to 3,000 square feet of out/support services structures, and up to 10,000 square feet of employee housing. The basic functions of the three primary buildings are as follows:

#### **OSHPD-1 Building/Hospital**

- Nursing Services/Med-Surg – 8 semi-private and 2 private/isolation, total 10 beds
- Basic Emergency Services – 3 exam rooms, a trauma room that can be converted to 2 exam rooms, and 4 low-acuity waiting areas
- Pharmaceutical Services – a drug room for supply and distribution
- Laboratory Services
- Dietary Services – kitchen and dining
- Imaging Services – X-Ray, CT Scanner, Ultrasound, and mobile MRI
- Ambulatory Surgery



- Physical Therapy
- Retail Pharmaceutical (kiosks in entry Mall)

### **OSHPD-2 Building/Skilled Nursing Facility**

- Skilled Nursing Beds – 24 semi-private and 2 private/isolation, total 26 beds
- Occupational Therapy

### **Non-OSHPD Support Services Buildings**

- Maintenance, Materials Management, Laundry Services
- Employee Housing

In addition to the healthcare facilities described above, SHD plans to construct employee housing in the southwest corner of the site. The conceptual plan includes construction of up to ten (10) 1,000-square-foot residential units that will house up to ten employees of SHD and their families.

The facility will typically have a staff of about 48 employees on site at peak hours. An onsite surface parking lot containing 102 parking spaces is proposed to serve the needs of the facility, per Plumas County Code parking and loading requirements (Section 9-2.414). The proposed use of the property as a skilled nursing facility would be complementary to the existing hospital to provide a full spectrum of quality health services for Plumas County residents.

The proposed Project will require the following discretionary decisions by SHD, Plumas County, Plumas Local Agency Formation Commission (LAFCO), and the California Department of Forestry and Fire Protection (CAL FIRE):

- A. Proposed Project:** SHD will need to approve the proposed healthcare facilities Project, including the acute-care hospital, skilled nursing facility, support buildings, employee housing, parking lots, access roads (including a main entrance and potential secondary emergency access across the adjacent Wildwood retirement home parcel), and related items.
- B. Option 1: Heliport and Flight Path Element:** As an optional element of the proposed Project, SHD will consider approving construction of a heliport to accommodate helicopter ambulance services, including the landing pad, flight path modifications (tree removal), and pathways connecting the pad to the medical buildings.



- C. General Plan Amendment and Zone Change:** Plumas County will need to approve a General Plan Amendment for land use designations and a Zone Change for zoning districts to accommodate the proposed Project.
- D. LAFCO Annexation:** The proposed Project will require LAFCO annexation of parcels 100-230-028 and 100-230-029 into Chester Public Utilities District for provision of water and sewer services and for fire protection. Well and septic for the parcel would currently come from County Environmental Health Department permits, and wildland fire protection is provided by CAL FIRE.
- E. CAL FIRE:** Tree removal on-site is a timberland conversion permit, needing CAL FIRE Timber Harvest Plan (THP) approval prior to tree removal permit issuance (see **Exhibits A3, B**). CAL FIRE's approval of the THP is subject to their parallel, CEQA-equivalent process. Approval for tree removal at the Collins Pine property for the Option 1 Helipad and Flightpath Element is anticipated to be a utility right-of-way exemption.

At its discretion, SHD may approve the proposed Project (medical and housing facilities) with or without Option 1 (heliport and flight pathway). Option 1 is dependent upon SHD approval of the proposed Project, but the proposed Project has independent utility and is not dependent upon approval of Option 1.

**10. Surrounding Land Uses and Setting:** The Project site is a flat to gently sloped, approximately 10-acre site comprising Assessor's Parcel Numbers 100-230-028 and 100-230-029 (proposed hospital facilities), and 100-230-026 and 100-470-003 (heliport flight path) near the intersection of Brentwood Drive and Riverwood Drive in Chester. The Project site is directly adjacent to the existing Seneca Healthcare District hospital and clinic located immediately southeast of the proposed Project at 130 Brentwood Drive and 199 Reynolds Road, respectively.

To the east of the proposed Project site is Wildwood Village, an apartment complex for senior citizens, zoned Periphery Commercial (C-2). To the immediate south are resident-occupied properties on Maywood Drive and neighboring streets, zoned Single-Family Residential (7-R). Collins Pine headquarters and lumber mill are located to the west and southwest of the Project site, zoned Heavy Industrial (I-1). The parcels north of the Project site are vacant and zoned Recreation-Open Space (Rec-OS) and Prime Recreation (Rec-P).

The proposed Project site is undeveloped open space. Historically, the site has been used for timber production and placer mining. Stover Ditch is located adjacent to the northern



boundary of the Project parcels and associated wetland/riparian habitat encroaches slightly into the northwest corner of the Project site.

**11. Relationship to Other Projects:** The Project and Option 1 are independent of any other known or foreseeable projects in the Chester area.

**12. Other Public Agencies Whose Approval is Required: Entitlements and Approvals:**

***Plumas County***

Plumas County and Plumas LAFCO will act as Responsible Agencies under the California Environmental Quality Act (CEQA). The County's discretionary decisions will entail a General Plan Amendment and Zone Change for parcels 100-230-028 and 100-230-029 to accommodate the proposed Project. See **Exhibit C 1-2** for existing and proposed zoning. The proposed Project will also require LAFCO annexation of the same parcels into Chester Public Utilities District (for water, sewer, and fire protection). See **Exhibit D** for available adjacent water, sewer, and electrical services.

The Airport Land Use Compatibility Plan sets forth land use compatibility policies applicable to future land use and development at and in the vicinity of Rogers Field Airport in Chester. Plumas County, prior to enacting actions that affect land uses within the Area of Influence (AIA), or that may affect the viability of the Airport or the compatibility of the Airport with surrounding land uses, must refer such actions to the Airport Land Use Commission (ALUC) for evaluation of the effects on existing and potential land uses in the vicinity. County actions that would trigger such a referral include general plan amendments and amendments to zoning. The ALUC may approve, disapprove, or recommend changes to such referred actions. Further, the ALUC reviews new individual development projects that require a County building permit, such as the proposed hospital facilities and housing, and that affect land use within the AIA, and specifically uses that are to be "avoided" such as hospitals in Safety Compatibility Zone 6, must be submitted to the ALUC for review and action. ALUC Policies and Procedures for mandatory and advisory review and action are stated in the Plumas County Airport Land Use Commission Policies, Rules, and Regulations document adopted by the ALUC. The existing SHD hospital facilities are in Zone 6, and it is anticipated that the repurposed existing facilities and the proposed new facilities will integrate medical and administrative functions that will benefit from proximity to one another.



When Project plans are submitted to the Plumas County Building Department, the Plumas County Planning Department's review will include consideration of the Limited Combining Zone (Ltd) to permit and mitigate uses which have the potential to have significant adverse social, economic, or environmental effects. The uses permitted by the zone to which the Ltd is applied are permitted subject to a ministerial Site Development Review process to determine if the uses may have a significant effect on the environment. All other uses are permitted subject to the requirements of the zone to which the Ltd is applied. The Planning Department would utilize this Initial Study/Mitigated Negative Declaration as part of the Site Development Review process.

Proposed food service and food service facilities to serve the needs of the building occupants will require applicable permits and inspections from Plumas County Environmental Health.

Design and construction of required driveway, drainage, and pedestrian access improvements will require review and approval from the Plumas County Department of Public Works. Encroachment permits will be required for any work within the road right-of-way of Reynolds Road.

The hospital campus will consist of several structures, some under HCAI jurisdiction, and the rest inclusive of support services and employee housing and various site improvements such as parking and landscaping will be under the jurisdiction of Plumas County. Plumas County's confirmation of project compliance with the site requirements will need to be provided to HCAI for HCAI to approve the HCAI structures (as required by HCAI CAN 2-0).

### ***State of California***

HCAI is responsible for enforcing the building standards for acute care and skilled nursing facilities. Proposed structures planning and construction falls under the jurisdiction of HCAI under the 2019 California Administrative Code, Chapter 7. As the Project will be submitted after January 1, 2023, the 2022 California Building Code (CBC) will apply.

Construction of the proposed Project would require the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (CGP) as approved by Regional Water Quality Control Board, Central Valley Region (RWQCB). Although a small portion of a wetland area exists at the far northwest corner of the Project site (see



*Biological Resources Report, Exhibit E*), no impacts to waters of the State regulated by RWQCB are anticipated. A buffer of at least 50 ft will be established during construction to ensure there are no impacts to this wetland.

CAL FIRE will need to authorize a Timber Harvest Plan and a Timberland Conversion Permit to accommodate removal of trees for the healthcare facilities and a utility right-of-way exemption to accommodate removal of trees for the helicopter flight path.

### ***Other Agency Approvals***

Alterations of public water system or sewage disposal system improvements fall under the jurisdiction of the Chester Public Utility District.

A Dust Control Plan will be submitted to and approved by the Northern Sierra Air Quality Management District. Any operation of emission-generating equipment such as an on-site generator would require issuance of permits to construct and operate.

**13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

California Native American tribes traditionally and culturally affiliated with the Project area were notified as part of the outreach performed during the Cultural Resources Investigation, pursuant to Assembly Bill 52 (see **Tribal Cultural Resources** section). None of the California Native American tribes traditionally and culturally affiliated with the project area have requested consultation pursuant to Public Resources Code section 21080.3.1. However, two local tribes requested that tribal monitors observe archaeological investigations. No tribal cultural resources or sacred sites were identified on the Project site or in the vicinity.

As the local county government agency, Senate Bill 18 consultations with local tribes will be carried out by Plumas County.



The environmental factors checked below would be potentially affected by this Project, involving at least one (1) impact that is a “Potentially Significant Impact” and subject to mitigation as indicated by the checklist below.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality               |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Energy                               |
| <input type="checkbox"/> Geology/Soils                   | <input type="checkbox"/> Greenhouse Gas Emissions           | <input type="checkbox"/> Hazards and 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                     | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems       | <input type="checkbox"/> Wildfire                           | <input type="checkbox"/> Mandatory Findings of Significance   |



## DETERMINATION

- ☐ Based on this Initial Study, Seneca Healthcare District finds that the proposed Project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- ☒ Based on this Initial Study, Seneca Healthcare District finds that although the proposed Project could have a significant effect on the environment, there will not be a significant effect because revisions in the Project have been made by or agreed to by the District. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- ☐ Based on this Initial Study, Seneca Healthcare District finds that the proposed Project may have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** will be prepared.



Shawn McKenzie  
Chief Executive Officer  
Seneca Healthcare District  
March 6, 2023





## INITIAL STUDY AND CHECKLIST

### Purpose of Initial Study

After a project is determined not to be exempt from the CEQA, an Initial Study is to be prepared and completed according to CEQA Guidelines Section 15063 to determine if the project will have a significant effect on the environment. All phases of project planning, implementation, and operation will be considered within this Initial Study. The information, analysis, and conclusions contained in this Initial Study will be utilized to determine whether to prepare an Environmental Impact Report (EIR), Mitigated Negative Declaration, or Negative Declaration. If the Initial Study reveals that an EIR should be prepared, the information contained in the Initial Study will be used to focus the EIR on the effects determined to be potentially significant.

### 1. AESTHETICS

**Environmental Setting:** Plumas County is located within the Sierra Nevada Range of California. The County comprises a variety of aesthetic characteristics; rural, natural, and historic qualities are predominant throughout the County. Scenic resources within the County include mountains, valleys, diverse vegetation, streams and lakes, and picturesque travel routes. Historic and cultural resources also contribute to the aesthetics of the County. These resources include buildings and other structures, historic and prehistoric sites, and historic features and objects. Also included are properties of nationwide, statewide, or local significance having architectural, engineering, scientific, economic, agricultural, educational, social, political, military, and cultural values. Examples of historical and cultural resources are historic buildings and neighborhoods, ceremonial and/or sacred sites, quarries, mills, ranch homes and barns, and cemeteries.

The history of the valleys and towns of Plumas County has influenced the built environment and, therefore, contributes to community character. Historic resources are visible from many local scenic roads and highways, including State Routes (SRs) 49, 70, 89, and 284. There are no state-designated scenic highways in Plumas County. However, the 2035 General Plan designates scenic roads, including some state highways, and applies design standards to those County-designated scenic roads. None of the state or County roads accessing the Project site are designated scenic highways or considered scenic roadways in the 2035 Plumas County General Plan.



Scenic areas throughout the County play a major role in the character of the County. The scenic areas identified by the 2035 General Plan are designed to maintain the County's natural and rural characteristics, preserve historic lifestyles, and attract tourists. In addition, the 2035 General Plan sets forth requirements to protect and preserve cultural and historic resources. The Project site is not located within any designated scenic area.

The Project site is located outside of the Chester Design Review Area and thus is not subject to the Chester Design Review Guidelines.

<b>Would the project:</b>	<b>Potentially Significantly Impact</b>	<b>Less than Significant Impact with Mitigation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
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 point.) 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"/>



### **Impacts of Proposed Project:**

The proposed Project site is located within the community of Chester adjacent to existing Seneca Healthcare District facilities. The footprint of the hospital campus will be enlarged from the existing facilities as the new facilities are constructed.

The proposed project will have no impact on a scenic vista. Although the visual character of the Project site would be altered due to construction of healthcare facilities, parking lots, and associated features, existing open space and vegetation will be maintained on the peripheries of the site as evidenced by the proposed Project site plan.

The 2035 General Plan identifies scenic areas and roads, which are designed to maintain and preserve the rural character, representative qualities of historic lifestyles, qualities that attract tourists, and to provide standards for scenic highways. The proposed project is not located along a designated scenic highway nor in a designated scenic area.

The 2035 General Plan contains policies that are mitigating policies designed to minimize potential impacts.

An applicable mitigating policy includes:

#### **Conservation and Open Space (COS) 7.2.14 -- Natural Landscapes in Site Design**

The County shall encourage the integration of natural landscapes, such as rivers, streams, lakes, ponds, wetlands, and riparian areas, into new development in such a way as to enhance the aesthetic and natural character of individual sites while avoiding the destruction, disturbance, and fragmentation of these natural landscapes.

The proposed Project has been designed to avoid the adjacent stream, wetland and riparian areas on site, while retaining these features as a natural component of the site design.

No significant impacts to scenic resources are anticipated to occur because of this Project. The Project will require some modification of scenic resources, including tree removal, but not sufficient to create a significant impact on the surrounding visual setting, as forested habitat is abundant in the vicinity. The Project site is not located within the boundaries of a designated scenic area.

Project construction would likely include the addition of new light sources (i.e., interior and exterior building lighting) that would introduce additional nighttime lighting to the Project



site and vicinity. The introduction of light from the new building could be noticeable to viewers in the surrounding area, but this impact will be less than significant. Plumas County Code Section 9-2.411 requires that all lighting be installed to focus away from adjoining properties.

The Project will have no impact on a state-designated scenic highway, and will not significantly degrade a scenic vista, the scenic character of the Project vicinity, or produce substantial light or glare.

**Impacts of Option 1:** Same visual impact as with the proposed Project, with additional tree removal to accommodate the helicopter flight path totaling approximately 5.5 acres, and lighting of the heliport to accommodate occasional nighttime flights.

Operation of the heliport during helicopter transport of patients will involve the use of temporary lighting of the heliport during ingress and egress of helicopters. Helicopter transfers historically have averaged about 6-7 transports per month, with peak numbers of transports in summer months with fewer dark/dusk/dawn hours per day. Few flights other than to transfer the most critically and acutely ill or injured patients would be expected to occur at night. Heliport lighting will be pilot controlled though a radio frequency (similar to the runway lights at Rogers Field) and/or facility controlled. The helipad will have outline lighting and windsock lighting, but it is designed to minimize light splash and is directional for inflight visibility. This will be similar to runway and taxiway lighting at an airport but used infrequently as discussed above. Other lighting will include path lighting of the transitional walkway, and motion-sensing lights facing away from the helipad. This lighting will be focused downward on a small area on the ground and will produce very minimal light pollution.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on aesthetics, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.



**Determination:** The proposed Project, Option 1, the General Plan Amendment and Zone Change, and LAFCO Annexation will have *less-than-significant impacts* to **Aesthetic Resources**.

## 2. AGRICULTURE/FOREST RESOURCES

**Environmental Setting:** Agriculture and forest resource lands comprise the majority of Plumas County's 1.7 million acres. The total acreage dedicated to agriculture and forest lands are approximately 159,200 acres and 1.4 million acres, respectively. Agriculture is a significant part of the economy in Plumas County. Livestock grazing and forage production comprise most of the agricultural land uses, with other agricultural uses including nurseries; apiaries; and seed, fruit, potato, and grain production. Of the approximately 159,200 acres used for agriculture, approximately 109,658 acres are under Williamson Act contracts and designated Important Agriculture Areas. Agricultural areas throughout the state, and those in Plumas County, may be studied by the California Department of Conservation to determine the land classification under the Farmland Mapping and Monitoring Program. Currently, Plumas County is not mapped under the Farmland Mapping and Monitoring program, except for Sierra Valley.

All lands designated Agricultural Preserve are indicated as Farmland of Local Importance on the Plumas County map prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.

The 1.4 million acres of forest lands in the County are comprised of private, state, and federal lands. Of those 1.4 million acres of forest land, approximately 1.0 million acres are National Forest System lands. Timber production is the primary forest product generated on private and public lands. Public lands in the County include the Plumas, Lassen, Toiyabe, and Tahoe National Forests.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** Plumas County is not mapped as part of the Farmland Mapping and Monitoring Program, except for Sierra Valley. The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. It would not involve changes in the existing environment which, due to their location or nature, could result in the conversion of farmland to non-agricultural use.

The Project would not conflict with existing zoning for, or cause rezoning of, forest land as defined by Public Resources Code 12220(g). The Project property is zoned for Single-Family Residential (7-R), Multiple-Family Residential (M-R), Periphery Commercial (C-2), Recreation-Open Space (Rec-OS), Recreation (R-10), and Prime Recreation (Rec-P). The rezone will replace these designations with Periphery Commercial (C-2) for the health services facilities and parking lots, and Multiple-Family Residential (M-R) for the housing units. Tree removal for construction of the facility and to accommodate the helipad flight path is subject to the regulatory processes of CAL FIRE, in accordance with state law.

The proposed Project will have no impact on important farmland, land zoned for agriculture or timberland, or cause secondary conversion of timberland. The conversion of forested land associated with both the Project and Option 1 will be less than significant.

**Impacts of Option 1:** Same impact as with the proposed Project, with additional conversion of approximately 5.5 acres of forested land to accommodate the helicopter flight path.

**Impacts of General Plan Amendment and Zone Change:** The proposed zone change will not involve rezoning Agricultural Preserve (AP) or Timberland Production (TPZ). Because the



General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on recreation, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The proposed Project, Option 1, the General Plan Amendment and Zone Update, and LAFCO Annexation will have *less-than-significant impacts* to **Agriculture and Forest Resources**.

### 3. AIR QUALITY

**Environmental Setting:** Plumas County's mountainous topography considerably influences its climate, which results in disparate levels of precipitation throughout the County. Commonly known as the rain shadow effect, the Sierra Nevada crest acts as a barrier to storm systems between the western and eastern portions of the County. Consequently, while the western side of the Sierra Nevada receives over 90 inches of rain annually, areas east of the Sierra Nevada crest receive only 11 inches, with most of the precipitation on both sides occurring from October to April. Average monthly temperatures, as measured at Portola, can range from over 80 degrees Fahrenheit (°F) during the summer months to 18 °F during the winter months.

Plumas County is located within the Mountain Counties Air Basin, a relatively large air basin located entirely within the Sierra Nevada range. The Northern Sierra Air Quality Management District (NSAQMD) regulates air quality conditions within the Mountain Counties Air Basin. The majority of Plumas County is in attainment or unclassified for all National Ambient Air Quality Standards (NAAQS). However, the Greater Portola Area has been designated by the United States Environmental Protection Agency (EPA) as a federal "non-attainment" area for PM<sub>2.5</sub> (dust/particulate matter 2.5 microns in diameter or smaller), meaning that air pollution exceeds National Ambient Air Quality Standards (NAAQS) for fine particulate matter (PM<sub>2.5</sub>) in the Greater Portola Area. In response, the Northern Sierra Air Quality Management District issues both outdoor and indoor wood burning prohibitions, which includes use of wood stoves, fireplaces, fire pits, and cookstoves. EPA-certified wood burning devices are exempt from this prohibition. The City





of Portola also has an ordinance prohibiting open burning of yard waste within city limits. The Greater Portola Area non-attainment area covers approximately 13 percent of Plumas County and is located approximately 50 miles southeast of Chester on the east (opposite) slope of the Sierra Nevada. Prevailing winds in the region are north-to-south and west-to east.

Plumas County is currently designated as non-attainment for  $PM_{2.5}$  and  $PM_{10}$  based on California Ambient Air Quality Standards (CAAQS) administered by California Air Resources Board (CARB). Trends are likely to continue because the primary causes of  $PM_{10}$ , such as road dust and wildfires, are not expected to decrease in the foreseeable future. These non-attainment designations are based on annually collected data from air quality monitoring stations located in Chester, Quincy, and Portola. The County's largest sources of particulate matter are unpaved road dust, wildfires, prescribed burning, residential heating with wood fuels, residential burning, windblown dust, and vehicle exhaust. Lack of air mixing and dispersal in valleys also contributes to localized air quality issues.

NSAQMD is responsible for the preparation of plans for the attainment and maintenance of AAQS goals, adoption and enforcement of rules and regulations for sources of air pollution, and issuance of permits for stationary sources of air pollution. NSAQMD enforces the Rules and Regulations of Northern Sierra Air Quality Management District (Rules and Regulations). The clean air strategy of NSAQMD includes developing and implementing air quality plans that identify the amount of pollution in the air, its source(s), and strategies to control air pollution. Further, NSAQMD conducts preliminary review of proposed projects in Plumas County to identify potential concerns regarding project effects on air quality. The significance criteria established by the air quality management district may be relied upon to make the significance determinations, where available.

Sensitive receptors are locations where individuals are more sensitive to the adverse effects of pollutants. The sensitivity to air pollution can be caused by health problems, prolonged exposure to air pollutants, or increased susceptibility due to factors such as age. Sensitive receptors are considered residences, day care providers, hospitals, schools, elderly housing, and convalescent facilities. The existing and proposed hospital and nearby retirement facility are considered sensitive receptors. The hospital's emergency generator will be located approximately 500 feet from the retirement facility to the west and approximately 300 ft from the nearest residences to the south.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** The Project would not obstruct or conflict with the implementation of any known applicable air quality plan. Vehicle emissions would increase during facility construction and maintenance, and from staff and visitors accessing the facility site during hospital operation, but this impact is expected to be a minimal increase over the existing condition, as discussed in more detail below.

The dry, windy climate throughout the County during summer months creates a potential generation of dust when soil is disturbed. Dust caused by soil disturbance during construction would potentially contribute to levels of PM<sub>2.5</sub> for which a portion of Plumas County (Greater Portola Area) is non-attainment, based on state standards administered by CARB and federal standards administered by the EPA.



Pollutant concentrations would temporarily increase during the construction and occasional maintenance of the facility. Increase in vehicle trips may increase emissions slightly from current usage. However, the construction contractors would be subject to and comply with all statewide regulations regarding diesel equipment and vehicles, which control for construction vehicle emissions. Given the conformance with applicable requirements for diesel equipment and vehicles are anticipated to be sufficient to adequately limit short-term air quality impacts on sensitive receptors during construction.

The proposed Project would increase SHD's healthcare facilities from 26 to 36 beds, representing a 38% increase in capacity and potential increase in use of energy (**Table 1**). (Full capacity of both current facilities and proposed facilities are likely to be rare.) SHD's staff size is predicted to increase by 20% following the replacement Project. Daily vehicle miles traveled (VMT) by commuting staff are estimated to increase by approximately 7% (see **Transportation** section). It is expected that increased emission-producing energy usage will scale up with the above percent increases in bed capacity, staff, and commute VMT quantities. Additional energy consumption caused by the proposed Project resulting in impacts to air quality would be less than significant.

The proposed Project would not result in emissions, such as those producing noxious odors, adversely affecting a substantial number of people. The biggest contributor of the proposed Project to localized emissions will be ingress and egress of vehicles, and the occasional use of the emergency generator.

The proposed Project would comply with NSAQMD requirements and conditions that would satisfy the County's goal of coordinating with relevant agencies for the improvement of air quality (**COS 7.9.1**).

In addition to COS 7.9.1, the 2035 General Plan contains other policies that are designed to minimize potential impacts to Air Quality:

#### **COS 7.9.2 – Air Quality and Sensitive Receptors**

The County shall ensure that new facilities in which sensitive receptors are located, such as schools, childcare centers, playgrounds, retirement homes, and hospitals, are sited away from significant sources of air pollution and no new sources are sited near sensitive receptors.



### **COS 7.9.3 – Dust Suppression Measures**

The County shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities as required by the NSAQMD.

### **COS 7.9.4 – Vehicle Trip Reduction Measures**

The County shall encourage new developments that reduce the length and frequency of vehicle trips through land use and transportation decisions that encourage mix-use developments and compact development patterns in areas served by public transit and alternative modes of travel.

**Mitigation Measures:** The Project has the potential to expose sensitive receptors in the neighborhood to fugitive dust during construction and airborne pollutants during construction and operation. Implementation of the following mitigation measures will reduce the potential degradation of air quality.

#### ***AQ-1 – Dust Control during Construction***

The District shall prepare a dust control plan pursuant to NSAQMD Rule 226 (Dust Control) and submit the dust control plan to NSAQMD for review and approval.

#### ***AQ-2 – Vegetation Disposal during Site Clearing***

Due to the Project's proximity to sensitive receptors (the existing medical facility, senior care facility, and private residences), vegetation will not be piled and burned on-site. Slash from harvested trees, non-commercial trees, and shrubs shall be chipped and left in place or disposed of off-site.

#### ***AQ-3 – Exhausts Generated during Facility Operations***

If any source of air contaminants (such as a diesel generator or an ethylene oxide sterilizer) is proposed as part of the Project, the applicant shall contact NSAQMD to determine if an Authority to Construct/Permit to Operate is required.

**Impacts of Option 1:** Same impact as with the proposed Project, with additional impact of equipment exhaust to clear 5.5 acres of trees to accommodate the helicopter flight path and additional exhaust emissions from the takeoff/landing of the helicopters.



**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on air quality of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on air quality, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** With the implementation of **Mitigation Measures AQ-1, AQ-2, and AQ-3**, the General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 would result in *less-than-significant impacts* to **Air Quality**.

#### 4. BIOLOGICAL RESOURCES

**Environmental Setting:** A *Biological Resources Report (Exhibit E)* was prepared for the Project by Sequoia Ecological Consulting, Inc. (Sequoia). Please see that report for greater detail regarding biological resources associated with the proposed Project area and Option 1 area.

##### **Habitat Suitability Assessment**

Sequoia conducted surveys on the Project site on June 3, 2022, and September 30, 2022, to record biological resources and to assess the limits of areas potentially regulated by resource agencies (i.e., preliminary hydrology analysis). Surveys involved searching all habitats on the site and recording all plant and animal species observed. Sequoia cross-referenced the habitats occurring on the Project site with the habitat requirements of regional special-status species to determine if the proposed Project could directly or indirectly impact these species. Any special-status species or suitable habitat was documented. In addition, Sequoia biologists mapped limits of potential jurisdictional features.

**Tables 1-4 in Exhibit E** present the potential for occurrence of special-status plant and animal species known to occur in the vicinity of the Project site, along with their habitat requirements, occurrence classification, and basis for occurrence classification.



No special-status wildlife or plants were observed in during the biological survey. Protocol-level presence/absence surveys for wildlife and a complete floristic survey for plants were not conducted. The impact analysis is based primarily on habitat suitability.

## **Wetland Assessment**

### Healthcare Facility Replacement Project

There is a wetland area, identified as “Forest/Shrub Wetland” per the National Wetlands Inventory (NWI), that extends into the extreme northwestern corner of the Project area and is associated with a linear hydrologic feature mapped in the California Streams database labeled as “Stover Ditch” in **Exhibit E**. The wetted area itself extends into the Project area by approximately 7 feet. The dominant plant in this area is woolly sedge (*Carex pellita*). Soils were black, with few faint mottles, and there was a pooled area with slow moving water—likely small tributaries from the riverine system identified on NWI. The wetland is on a low, streamside terrace, with the adjacent Jeffrey pine forest approximately 1 foot higher in elevation. The woody riparian vegetation (*Salix sp.*) extends into the Project area in three locations along the northern border—at the extreme northwest corner, the extreme northeast corner, and toward the middle of the northern boundary.

Also located in the northwest corner is a transitional zone between Jeffrey pine forest and riparian habitat associated with the wetland area, as indicated by the presence of willows and several black cottonwoods that could be included as a regulated riparian feature if a Streambed Alteration Agreement was deemed necessary for the associated wetland area.

A dried swale is located on the extreme western edge of the Project area. Several willows were located off the Project area, and several black cottonwoods were located just within the Project boundary, but with no other evidence of wetland. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities based on location.

A constructed ditch/basin is present along the southeastern boundary of the Project area, adjacent to the paved medical clinic driveway. This feature does not possess wetland characteristics, but it may hold precipitation or snowmelt at certain times of the year, and therefore may meet the RWQCB’s definition of surface water.

It is not anticipated that work activities will impact the wetted area, the transition zone, or the dried swale, but Sequoia recommends that they be designated as an environmentally sensitive areas to aid in avoidance. The constructed ditch is in an area where construction is



anticipated to occur, but it does not meet the definition of “waters of the State” and is also exempt as per the Procedures, and thus should not require additional permitting. If the potentially jurisdictional features (wetted area, transition zone, and dried swale) cannot be avoided, additional permitting may be required to satisfy the USACE and the California Department of Fish and Wildlife (CDFW).

Within the Project area, no additional potentially jurisdictional features were observed during the reconnaissance-level assessment on June 3, 2022.

#### Helipad and Flight Path Option

A dried swale continues from the proposed Project area into the adjacent Collins Pine parcel, starting in the middle of the extreme northeast edge of the parcel and continuing throughout the entirety of the property to the southwest, where the swale splits off in two directions—one that continues southwest and one that travels approximately due west. There is also a swale near the northern end of the Project area that may be associated with the larger swale mentioned above—where the swale continues northwest and then splits again in two—one end which continues northwest and the other that continues southwest before abruptly tapering off. No wetland-associated vegetation was noted throughout either swale area. Toward the southern end, the swale began to look more like a seasonal waterway, with some very minor bank cutting in some areas, and medium-sized smoothed cobble at the bottom of the potential waterway. However, piles of cobble are also present throughout the Collins Pines property, likely due to previous mining activities. The swale ultimately runs through a culvert, which is outside the Project area. No black soils are present—only sand and cobble. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities based on location.

Within the Project area, no additional potentially jurisdictional features were observed during the reconnaissance-level assessment on September 30, 2022.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 Game or 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, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>





Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
e. 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"/>

#### Impacts of Proposed Project:

The Plumas County 2035 General Plan contains policies that are mitigating policies designed to minimize potential impacts:

#### Conservation and Open Space (COS) 7.2.1 – Habitat Protection

The County shall protect areas that have significant habitat and wetland values, including riparian corridors, wetlands, grasslands, and creeks and rivers, from incompatible rural development. The County shall also support their protection as a method to provide carbon sequestration for greenhouse gas (GHG) emissions under applicable state programs.

#### COS 7.2.2 – Species and Habitat Avoidance

The County shall require new development projects to avoid or minimize adverse impacts to threatened, rare, or endangered species and critical, sensitive habitat, as defined by appropriate local, state, and federal agencies, through proper project location and design. In the event that avoidance is not feasible, the County shall require a “no-net-loss” of these sensitive natural plant or habitat communities.

Wildlife habitat will be preserved and managed in a manner that will not lead to the listing of additional species as threatened and endangered or negatively impact listed threatened or endangered species.



#### **COS 7.2.6 – No Net-Loss of Wetland Habitats**

The County shall require new development that is subject to review under the CEQA to achieve a “no-net-loss” of wetland habitat through avoidance or appropriate mitigation in consultation with the appropriate resource protection agencies.

The Project would not have a substantial adverse impact, directly or indirectly, on any species, habitat, or community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (USFWS). According to conclusions in the *Biological Resources Report (Exhibit E)*, no special-status plant species would be directly or indirectly affected by Project implementation. Except for bats, Project implementation has no potential for significant adverse impacts to special-status wildlife species.

#### **Impact BIO-1. Special-Status Plants**

No special-status plant species are expected to occur on the Project site due to marginally suitable habitat, anthropogenic disturbance, or the lack of specialized habitats and/or substrates such species require. However, without a formal floristic survey, the presence of special-status plant species cannot be excluded. Impacting special-status plant species would be considered a significant impact. To confirm absence of the listed special-status plant species, pre-construction floristic surveys during the flowering season will be conducted prior to initiation of work activities.

**Level of Significance before Mitigation:** Potentially Significant

#### **Mitigation Measures:**

##### ***BIO-1 – Floristic Surveys***

Appropriately timed surveys for special-status plants shall be conducted in compliance with all CDFW (2018), USFWS (1996), and California Native Plant Society (CNPS; 2001) published survey guidelines prior to initiation of work activities. Project commencement shall not be initiated until special-status plant pre-construction surveys are completed and subsequent mitigation, if necessary, is implemented. If no special-status plant species are found to inhabit the site, no further mitigation measures would be necessary.

If special-status plant species are detected, individuals shall be clearly marked and avoided. If special-status plants detected during focused surveys cannot be avoided, consultation with



CDFW and/or USFWS (depending on listing status) shall occur. As part of this consultation, a mitigation plan shall be developed and approved by the appropriate agencies to avoid all adverse impacts. The mitigation plan will include methodology of transplanting and/or on-site replanting at a 1:1 (mitigation to impacts) ratio, a 5-year monitoring program, success criteria (e.g., 70 percent survivorship threshold), and annual reporting requirements. In addition, this plan shall include worker education and development of appropriate avoidance and minimization measures.

**Level of Significance after Mitigation:** Less than Significant

#### **Impact BIO-2. Nesting Birds (Including Osprey and Bald Eagle)**

Based on the database and literature review conducted during the desktop review for the proposed Project, thirteen (13) special-status wildlife species have been previously documented in the vicinity of the Project area (see **Exhibit E, Table 3, Figure 14**). Due to lack of suitable habitat and/or lack of recent occurrences in the vicinity of the Project site, eleven (11) special-status wildlife species are not expected to occur and are dismissed from further analysis in the *Biological Resources Report*: Sierra Nevada red fox, northern goshawk, greater sandhill crane, southern long-toed salamander, Sierra Nevada yellow-legged frog, California red-legged frog, Cascades frog, delta smelt, western bumblebee, obscure bumblebee, and monarch butterfly.

Project activities implemented without implemented Avoidance and Mitigation Measures do have the potential to impact nests of both migratory birds and special-status raptor species, including osprey and bald eagle. Potential constraints associated with each remaining resource with potential to occur on-site are provided below.

**Level of Significance before Mitigation:** Potentially Significant

#### **Mitigation Measures:**

##### ***BIO-2a – Environmental Training***

Each year prior to the commencement of Project-related activities, a qualified biologist will provide an environmental awareness training program to educate Project personnel on relevant special-status species and their habitats, sensitive/regulated habitats, and applicable environmental laws and permits. The training shall include a description of the



species and their habitats, importance of preserving species and habitats, penalties for unauthorized take, and the Project limits.

***BIO-2b – Migratory Birds and Raptors (Osprey and Bald Eagle)/Nest Avoidance***

Tree and vegetation clearing (removal, pruning, trimming, and mowing) shall be scheduled to occur outside of the migratory bird nesting season (February 1 through August 31). If clearing and/or construction activities will occur during the migratory bird nesting season, pre-construction surveys to identify active migratory bird and/or raptor nests shall be conducted by a qualified biologist within 14 days of construction initiation on the Project site and within 300 feet (i.e., zone of influence) of Project-related activities. The zone of influence includes areas outside of the Project site where birds could be disturbed by construction-related noise or earth-moving vibrations.

If active nest or roost sites are identified within the Project site, no-disturbance buffers shall be established for all active nest sites prior to commencement of any proposed Project-related activities to avoid construction or access-related disturbances of migratory bird nesting activities. A no-disturbance buffer constitutes a zone in which proposed Project-related activities (e.g., vegetation removal, earth moving, and construction) cannot occur. A minimum buffer size of 50 feet for passerines and 300 feet for raptors will be implemented; sizes of the buffers shall be determined by a qualified biologist based on the species, activities proposed near the nest, and topographic and other visual barriers. Buffers shall remain in place until the young have departed the area or fledged and/or the nest is inactive, as determined by the qualified biologist. If work is required within a buffer zone of an active bird nest, work may occur under the supervision of a qualified avian biologist. The qualified avian biologist monitoring the construction work will have the authority to stop work and adjust buffers if any disturbance to nesting activity is observed.

***BIO-2c – Bald Eagle and Golden Eagle***

In accordance with the Bald and Golden Eagle Protection Act (BGEPA) (USFWS, last amended 1978), pre-construction surveys for eagles shall be conducted on the Project site and within 0.5 miles of Project site boundaries. If an active eagle nest is detected within this survey area, the Project proponent shall implement a 0.5-mile no-disturbance buffer around the nest until a qualified biologist determines the nest is no longer active.



**Level of Significance after Mitigation:** Less than Significant

**Impact BIO-3. Riparian Habitat and Waters of the United States/State**

The bed, bank, and channel and associated riparian vegetation of Stover's Ditch to the north of the Project site are potentially subject to CDFW jurisdiction under Section 1600 of the California Fish and Game Code (CFGF). Stover Ditch may also be considered waters of the United States by USACE and the RWQCB, respectively, pursuant to the Clean Water Act (CWA). In addition, other signs of aquatic features, namely a swale and constructed ditch, were located within the Project area. Prior to Project impacts, these areas should be designated as environmentally sensitive areas (ESAs) and monitored. If impacts to these features are anticipated, verification by USACE will need to occur, in addition to authorization from the CDFW, USACE, and RWQCB prior to any impact.

**Level of Significance before Mitigation:** Potentially Significant

**Mitigation Measures:**

***BIO-3 – Implementation of ESAs and Monitoring for Waters of the United States and Associated Riparian Zones***

Prior to Project implementation, any waters of the United States, potential waters of the United States, and associated riparian zones shall be established as ESAs and marked off with fencing as directed by a qualified biologist. Monitoring by a qualified biologist should occur for any required work near the ESAs.

The proposed Project would not 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.

The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

**Impacts of Option 1:** Same impact as with the proposed Project, with additional conversion of approximately 5.5 acres of forested land to accommodate the helicopter flight path.



**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts of adopting the General Plan Amendment and Zone Change on cultural resources are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on biological resources, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the Project and Option 1 possible.

**Determination:** With the implementation of **Mitigation Measures BIO-1, BIO-2a-c and BIO-3**, the General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project and Option 1 would result in *less-than-significant impacts* to **Biological Resources**.

## 5. CULTURAL RESOURCES

**Environmental Setting:** The primary inhabitants of Plumas County prior to European settlement were the Mountain Maidu. The Mountain Maidu people have lived in the County from hundreds to thousands of years ago, and still live here. Other tribes, such as the Washoe and the Paiute most likely utilized the area while not settling permanently. It is likely that the Mountain Maidu people existed in small, scattered, familial groups in the valleys of Plumas County. While maintaining permanent villages in the lower elevations of the glacial valleys, during the spring and fall, smaller groups traveled to higher elevations such as the ridge tops and valleys of the Sierras and set up open brush shelters. During the winter months, villages remained occupied and relied mostly on stored and preserved food.

Peter Lassen and Isadore Meyerwitz were among the first Euromerians to enter Plumas County in the 1840s. Lassen established a ranch on the lower reaches of Deer Creek in 1844 and pioneered a new wagon trail in 1848. The trail passed from the headwaters of the Pit River near Goose Lake, heading south to Lassen Peak, west across Mountain Meadows and Big Meadows, and ending at the lower end of Deer Creek. After Lassen's Road was established, hundreds of immigrants passed through Big Meadows during the 1849 gold rush. With reports of a gold-bearing lake in the area, hundreds of gold seekers started working the streams of Plumas County.

In 1874, Plumas County was divided into eight townships: Seneca, Rich Bar, Mineral, Goodwin, Quartz, Beckwourth, Indian, and Plumas. Prattville, the first town established,



was near the center of Big Meadows. William Pratt constructed a residence and hotel in 1867 and a post office in 1868 (Frickstad 1955). The Pratt Hotel drew visitors during the summer months, and by the 1880s, a small community had been developed at Prattville. During this period, dairying was the chief industry of the Big Meadows area (Fariss and Smith 1988).

Chester is near the northern shoreline of Lake Almanor, at the inlet of the North Fork Feather River. The 1878 US Army survey map shows “Martins” at the location of the modern-day town of Chester (Wheeler 1878). In the early 1900s, the town was named reportedly in honor of Chester, Vermont (Gudde 1969:62). However, government records indicate that a post office established in the area in April 1894 was officially given the name “Chester” (Frickstad 1955:123).

In 1914, after Great Western Power completed the construction of a hydroelectric dam across the North Fork Feather River, the town of Prattville and the surrounding lands within Big Meadows were abandoned to create Lake Almanor. Lake Almanor is fed primarily by both the North Fork and Hamilton branches of the Feather River and covers an area of approximately 26,000 acres (Kowta 1980). To establish the lake, a dam was built to flood the meadow-filled valley and a longstanding Yamani Maidu village site, displacing Maidu families residing in the area (Dixon 1905).

PaleoWest LLC (PaleoWest) prepared a Cultural Resources Technical Report for the Project. The report was prepared to satisfy requirements of Section 106 of the National Historic Preservation Act of 1966, implementing regulations of 36 CFR Part 800, and the CEQA of 1970, all as amended. The purpose of the effort was to identify any pre-contact and historic cultural resources that might exist within the Area of Potential Effects (APE). The Inventory Report is confidential and not included with this document.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in § 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 § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** SHD contracted PaleoWest to assess whether the Project may affect historic properties/historical resources, pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 USC 300101), and the CEQA. The NHPA defines “historic properties” as cultural resources listed in or eligible for listing in the National Register of Historic Places (NRHP), while CEQA defines “historical resources” as “any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.” This definition includes historical resources listed or identified as eligible for listing in the California Register of Historical Resources (CRHR) and NRHP.

In compliance with CEQA and Section 106 of the NHPA, PaleoWest completed architectural history and archaeological surveys and evaluated identified archaeological and historic-era resources for NRHP and CRHR eligibility. Per Section 106, the APE is defined by the geographic area where the Project may directly or indirectly alter the character or use of historic properties. This report presents findings of the eligibility evaluations of the historic-era cultural resources in the APE. This assessment was conducted in conformance with National Park Service (NPS) National Register Bulletin 15 How to Apply the National Register Criteria for Evaluation (2016), the California Office of Historic Preservation (OHP) Technical





Assistance Series #7 How to Nominate a Resource to the California Register of Historical Resources, and OHP's Instructions for Recording Historical Resources. Investigations and evaluations were performed by architectural historians and archaeologists who meet or exceed the Secretary of the Interior's (SOI's) Professional Qualification Standards (PQS) for Architectural History, History, and Archaeology.

The APE includes the existing Seneca Hospital Campus on APN 100-230-028, which consists of a clinic building, historic-era hospital (Main Hospital Building), nine associated ancillary medical buildings (APN 100-110-029), 17.5 acres of undeveloped land proposed for new development (APN 100-230-028, owned by SHD, and a portion of APN 100-470-003, owned by the Collins Pine Lumber Company), and a one-parcel buffer where indirect effects (such as visual or vibration effects) could be reasonably anticipated. The vertical limits of the APE extend from a maximum of 5 feet below ground surface to a maximum height of 35 feet above ground surface. The width and height of the buffer for indirect effects are proportionate to the proposed height of the new building, the landscape, and planned subterranean activities.

On June 3, 2022, PaleoWest completed an architectural history survey of the APE which involved the identification and documentation of 36 buildings in two potential historic districts requiring evaluation for NRHP/CRHR eligibility. The Maywood Drive Residences district contains 20 single-family residences built during the 1950s–1970s, and the Seneca Hospital Campus district contains 16 buildings, 3 of which date to the original construction of the hospital (1950). All built environment and archaeological resources were documented in California Department of Parks and Recreation (DPR) 523 forms and evaluated for historical significance and eligibility under NRHP and CRHR criteria.

PaleoWest recommends the Maywood Drive Residences not eligible as a district, and no evidence was found to suggest the residences individually possess historical significance under any NRHP or CRHR criteria. PaleoWest also recommends the Seneca Hospital Campus not eligible for listing in the NRHP or CRHR as a district, nor are any of its buildings or structures individually recommended eligible. While the Seneca Hospital Campus and Main Hospital Building do possess historical significance under Criterion A/1 for their association with the early development of the California Local Hospital (later Health Care) Districts, they do not retain sufficient historical integrity to convey this significance.

Archaeological survey of the undeveloped portion of the APE identified multicomponent site 21-415-KH-001/H, which contains historic-era remains of logging activities and a Pre-



contact locus consisting of obsidian flakes and cobble tools. To determine if the locus contains subsurface deposits, PaleoWest excavated test units throughout the site. Results of testing did not identify a substantial subsurface component, and due to the lack of significant or diagnostic data identified within the site, PaleoWest recommends site 21-415-KH-001/H not eligible for listing on the NRHP or CRHR under any criteria.

In summary, the cultural resource investigation did not identify any built-environment or archaeological resources within the APE that are considered historic properties or historical resources for the purposes of CEQA or the NHPA. As such, the Project, as proposed, will have No Impact to historical resources in accordance with CEQA Section 15064.5(b).

As per California Health and Safety Codes Section 7050.5 and 5097.98, as amended by AB 2641, of the Public Resources Code, in the event that human remains are encountered during construction, certain requirements are triggered. Sequoia recommends the following be made conditions of approval of the proposed Project and that these should be included on Project construction and design plans:

- a. If any human remains are encountered during any phase of construction, all earth-disturbing work shall stop within 50 feet of the find. The County coroner shall be contacted to determine whether investigation of the cause of death is required as well as to determine whether the remains may be Native American in origin. Should Native American remains be discovered, the county coroner must contact the Native American Heritage Commission (NAHC). The NAHC will then determine those persons it believes to be most likely descended from the deceased Native American(s). Together with representatives of the people of most likely descent, a qualified archaeologist can assess the discovery and recommend/implement mitigation measures as necessary.
- b. If any previously unevaluated cultural resources (i.e., burnt animal bone, midden soils, projectile points or other human-modified lithics, historic artifacts, etc.) are encountered, all earth-disturbing work shall stop within 50 feet of the find until a qualified archaeologist can assess the discovery and recommend/implement mitigation measures as necessary. Depending on the type and significance of the find, subsequent monitoring by an archaeologist or Native American may be warranted. This stipulation does not apply to those cultural resources evaluated and



determined not Historical Resources/Historic Properties in the Cultural Resources Technical Report prepared for the Project.

If Project plans change to include areas not surveyed, additional archaeological reconnaissance may be required. If cultural resources are encountered, the archaeologist shall recommend/implement additional mitigation measures as necessary, which may include subsequent monitoring by an archaeologist or Native American.

As currently planned, the proposed Project would not affect any sites or structures on or eligible for listing on the NRHP or CRHR.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts of adopting the General Plan Amendment and Zone Change on cultural resources are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on cultural resources, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will result in ***no impact*** to **Cultural Resources**.

## 6. ENERGY

**Environmental Setting:** The main source of energy production and use in Plumas County is electricity. Depending upon the location in Plumas County, electricity may be provided by Pacific Gas & Electric (PG&E), Plumas-Sierra Rural Electric Cooperative, or Liberty Utilities.

There are 10 power plants in Plumas County, California, serving a population of 18,724 people in an area of 2,553 square miles, and producing approximately 880,000 megawatt hours (MWh) of electrical energy. The County consumes approximately 125,000 MWh of generated electrical energy, with the remainder available for export. The power plants include two biomass plants, one oil/gas plant, and seven hydroelectric plants. Energy consumption in Plumas County is primarily electricity use because there are no natural gas



service lines within the County, although some residents and businesses use propane tank services.

Potential for additional hydroelectric power generation in Plumas County may be limited because of the 30 MW capacity limit for small hydroelectric plants and the requirement that the water travel through existing man-made conduits, in addition to water quality (temperature) concerns in the Feather River drainage. The County has potential for additional solar energy production. According to the California Energy Commission staff paper *California Solar Resources*, the photovoltaic potential of Plumas County is estimated to be about 72,000 MW. Much of the growth of solar power generation in the County is likely to be in the form of private homeowner and landowner investment to offset the relatively high cost of utility-provided electricity.

A report from the Center for Economic Development indicates that Plumas County has little potential for large-scale geothermal production. Plumas County's greatest asset for renewable energy production lies in the County's forests, where vegetation management for fire hazard reduction has potential to create an ongoing source of fuel for biomass power generation plants. Development of wind energy is expected to remain a minor contributor.

Other types of energy consumption in Plumas County are use of propane, heating oils, and other petroleum-based fuels. Propane and heating oils are used as a significant source of heat and are provided by companies such as Suburban Propane, High Sierra Propane, and ER Energy. Other petroleum fuels include gasoline and diesel used for the operation of equipment, vehicles, and generators.

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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"/>
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**Impacts of Proposed Project:** The Project consists of the replacement of Seneca Healthcare District facilities in Chester, California. The state-of-the-art hospital facility will incorporate energy-saving design features, and solar power. The proposed Project would increase SHD's healthcare facilities from 26 to 36 beds, representing a 38% increase in capacity and potential increase in use of energy (see **Table 1**). (Full capacity of both current facilities and proposed facilities is likely to be rare.) The additional use of energy required by the Project would not be a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. The Project would not conflict with a state or local plan to for renewable energy or energy efficiency. Therefore, be less than significant.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts of adopting the General Plan Amendment and Zone Change on energy are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on energy, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will result in *less-than-significant impacts* to **Energy**.

## 7. GEOLOGY AND SOILS

**Environmental Setting:** Geologic hazards pose a potential danger to property and human safety and are present in the form of naturally occurring geologic events and processes that can adversely affect human development. The Lake Almanor Fault, Butt Creek Fault Zone, Indian Valley Fault, and the Mohawk Valley Fault are four of the several faults mapped by the California Geologic Survey in Plumas County. In addition, the County is surrounded by



faults; two of the closer, more active faults are the Honey Lake and Fort Sage Faults. Although the County is surrounded by and contains faults, the County is not located within a delineated Alquist-Priolo Earthquake Fault Zone. The faults located within and near the County have the potential to result in seismic activity causing an impact on County residents and property, but seismic hazard mapping indicates a low seismic hazard potential for Plumas County. Most of the County consists of denser granular soils and bedrock at shallow depths; therefore, liquefaction potential during seismic activity is low.

The County is in an area with varying topography and slopes. Areas with steep slopes could be prone to landslides, mud slides, and avalanches. Landslide risk is dependent upon slope, geology, rainfall, excavation, and seismic activity. The volcanic soils in the eastern portion of the Plumas National Forest and the areas along the North and Middle Forks of the Feather River are susceptible to landslides. Mudslides are predominantly caused by heavy rainfall saturating soils. Areas that have recently been damaged by wildfire are particularly vulnerable to mudslides. Avalanches consist of a rapid flow of snow down steep slopes. They often reoccur in the same areas and can be triggered by varying snow types, weather conditions, and human activity. Slab avalanches are particularly common and dangerous in the Sierra Nevada range.

The rate of erosion is influenced by a range of variables, such as rainfall, runoff, slope gradient, vegetation, physical soil characteristics, and human activity. Human activities such as timber harvesting, water diversion, irrigation practices, road and railroad construction, grazing, and mining have all contributed to in-stream water quality issues, such as sediment transport, that impact aquatic life and riparian vegetation. Approximately 70 percent of the County has moderate potential for soil erosion, while less than 1 percent has a high potential for soil erosion. The remaining portion of the county has either low erosion potential or is not mapped. High erosion potential occurs primarily at higher elevations in the County.

Expansive soils change with the moisture content within the soil—expansive soils shrink when dry and expand or swell when wet. The swelling and shrinking can cause damage to homes, foundations, roads, utilities, and other structures. The California Building Code and Uniform Building Code (1994) Table 18-1-B both set forth the classifications of expansive soils. The expansion index ranges from 0-130, with 0-20 being a very low potential expansion, 91-130 being a high expansion potential, and greater than 130 being a very high expansion potential. Highly expansive soils are undesirable for use as engineered fill or



subgrade directly underneath foundations or pavement and must be replaced with non-expansive engineered fill or require treatment to mitigate their expansion potential.

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 because 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 type="checkbox"/>	<input checked="" type="checkbox"/>



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** A geotechnical report for the proposed Project is provided as **Exhibit H**. The Project consists of the replacement of hospital and related facilities by Seneca Healthcare District. The Project would not expose people or structures to substantial adverse effects due to impacts from earthquakes or seismic shaking. Like most of California, the Project site can be expected to be subjected to seismic ground shaking at some future time. However, according to the Alquist-Priolo Earthquake Fault Zoning Map, the Project is not located on or near active faults.

The Project would not expose people or structures to significant risk due to seismic-related ground failure, including liquefaction. Liquefaction is a phenomenon where loose, saturated, granular soils lose their inherent shear strength due to excess water pressure that builds up during repeated movement from seismic activity. Factors that contribute to the potential for liquefaction include a low relative density of granular materials, a shallow groundwater table, and a long duration and high acceleration of seismic shaking. Liquefaction usually results in horizontal and vertical movements from lateral spreading of liquefied materials and post-earthquake settlement of liquefied materials. Liquefaction





potential is greatest where the groundwater level is shallow, and submerged loose, fine sands occur within a depth of approximately 50 feet or less. Only localized amplification of ground motion would be expected during an earthquake. Liquefaction potential in the general vicinity of the Project exists in the low-lying areas and meadows that are composed of loose-medium-dense sandy soils. The proposed facilities would be designed and installed in accordance with the California Building Standards Code requirements, including seismic standards, as well as HCAI rules for hospital facilities, skilled nursing facilities, and intermediate care facilities.

Senate Bill 1953 (SB 1953) was signed into law in 1994. The bill was an amendment to the Alfred E. Alquist Hospital Seismic Safety Act of 1983 (Alquist Act). SB 1953 (Chapter 740, 1994) is now chaptered into statute in Sections 130000 through 130070 of the Alfred E. Alquist Hospital Facilities Seismic Safety Act, and part of the California Health and Safety Code. The regulations developed because of this statute are deemed to be emergency regulations and became effective upon approval by the California Building Standards Commission in 1998. The Project will be compliant with these regulations intended to provide higher standards of earthquake safety for hospital facilities, ensuring higher likelihood of both structural and functional integrity in the event of an earthquake.

The Project would not be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code. Although it is not anticipated that the Project would be located on expansive soils, the proposed facilities will be constructed subject to building permits and required to meet all the applicable requirements of the California Building Code as adopted.

The Project would not expose people or structures to significant risk due to landslides. There are no steep slopes located in the Project vicinity. Likewise, the Project area is not vulnerable to landslides or mudflows because the Project site and surrounding area are relatively flat.

Development of the Project's type typically results in soil disturbance from access road construction, building pad and parking lot preparations, underground utilities, drainage improvements, and landscaping. Project construction activities will disturb more than 1 acre of the site, so the Project will be subject to the National Pollutant Discharge Elimination System (NPDES) General Construction Activities Storm Water permit program. This program requires implementation of erosion control measures during and immediately after construction that are designed to avoid significant erosion caused by construction disturbance of soils and vegetation. Construction activity resulting in a land disturbance of



1 acre or more, or less than 1 acre but part of a larger common plan of development or sale must obtain the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). Construction activity subject to this permit includes clearing, grading and 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 must be obtained from the State Water Resources Control Board prior to construction.

No Project-related impacts owing to seismic activity, landslides or avalanches, and liquefaction or expansion of soils are anticipated. Erosion potential during construction is minimal owing to the relatively flat topography. All applicable local, state, and federal statutory permitting requirements will be followed during implementation of the Project.

**Impacts of Option 1:** Same as proposed Project, with the addition of potential additional soil erosion during vegetation clearing of 5.5 acres to accommodate the flight path. The Project SWPPP would apply to Option 1 in addition to the proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on geology and soils of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on geology and soils, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will result in *less-than-significant impacts* relating to **Geology and Soils**.

## 8. GREENHOUSE GAS EMISSIONS

**Environmental Setting:** GHGs comprise a variety of gases, including carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), and fluorinated gases. According to the [EPA's 2020 Overview of Greenhouse Gases](#), the greenhouse gases emitted in the United States are approximately 79 percent carbon dioxide, 11 percent methane, 7 percent nitrous oxide, and 3 percent fluorinated gases/GHG, along with other naturally occurring processes, have been



shown to have a significant impact on the warming of the atmosphere and oceans. The rise in temperature is due to GHGs trapping radiant heat from the sun. Some of the solar radiation reflected from Earth's surface is absorbed by GHGs, causing the rate at which solar radiation reflects into space from Earth's surface to decrease.

GHGs are expelled from a variety of sources. The three largest human-generated sources are electricity generation, transportation, and industrial processes, primarily through the combustion of fossil fuels. According to the EPA, transportation contributes approximately 34 percent of CO<sub>2</sub> emissions.

To combat increases in GHG emissions, various forms of legislation have been implemented. Some of the major initiatives have been Executive Order (EO) S-3-05 and EO B-30-15, Assembly Bill (AB) 32, Senate Bill (SB) 32, SB100, AB 1279 and SB 1020. The first major initiative that set emissions reduction targets was EO S-3-05, signed by Governor Arnold Schwarzenegger. EO S-3-05 established the target to reduce GHG emissions to below 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. On September 27, 2006, Governor Schwarzenegger signed into law AB 32, also known as the California Global Warming Solutions Act. AB 32 gave authority to the CARB to implement and enforce the targets set forth in EO S-3-05. In 2015, Governor Jerry Brown signed EO B-30-15, which was an expansion of AB 32. The expansion set the goal to have a 40 percent reduction in GHGs by 2030. On September 8, 2016, to further empower CARB to institute regulations to meet the aggressive target set by EO B-30-15, SB 32, also known as the California Global Warming Solutions Act of 2006, was signed into law by Governor Brown. To ensure the goals of EO S-3-05 and EO B-30-15 are met, AB 32 established mandatory GHG emissions reporting, verification, and other requirements for operators of certain facilities that directly emit GHGs.

Officially titled "The 100 Percent Clean Energy Act of 2018," SB 100, sets a 2045 goal of powering all retail electricity sold in California and state agency electricity needs with renewable and zero-carbon resources — those such as solar and wind energy that do not emit climate-altering greenhouse gases, and updated the state's Renewables Portfolio Standard to ensure that by 2030 at least 60 percent of California's electricity is renewable.

Several additional climate bills were adopted in September 2022. AB 1279 requires California to achieve "net zero greenhouse gas emissions" as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. It also requires that statewide anthropogenic GHG emissions be reduced to at least 85% below



1990 levels. Senate Bill (SB) 1020—referred to as the Clean Energy, Jobs, and Affordability Act of 2022—amends California’s previous target of having renewable and carbon neutral energy resources supply 100% of all retail sales of electricity in 2040 with binding interim targets: 90% of all retail sales to California end users by 2035, 95% by 2040, 100% by 2045, and 100% of all state agency electricity by 2035.

The legislature directed the California Air Resources Board (ARB) to adopt a roadmap for achieving these reductions. The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve: significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>

**Impacts of Proposed Project:** The proposed Project would increase SHD’s healthcare facilities from 26 to 36 beds, representing a 38% increase in capacity and potential increase in use of energy (**Table 1**). (Full capacity of both current facilities and proposed facilities are likely to be rare.) SHD’s staff size is predicted to increase by 20% following the replacement Project. Daily vehicle miles traveled (VMT) by commuting staff are estimated to increase by approximately 7% (see **Transportation** section). It is expected that increased emission-



producing energy usage will scale up with the above percent increases in bed capacity, staff, and commute VMT quantities. Additional energy consumption caused by the proposed Project resulting in impacts to GHG emissions would be less than significant.

As discussed earlier, the ARB Scoping Plan will implement a number of measures to achieve carbon neutrality. The Project will be subject to measures of the scoping plan and would not conflict with them. As such, the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, nor does it conflict with any 2035 General Plan policy or goal designed to reduce GHG emissions.

**Impacts of Option 1:** Same as proposed Project, with the additional short-term generation of GHG produced by equipment during the clearing of 5.5 acres to accommodate the flight path, the long-term decomposition of additional chipped vegetative material, and the additional exhaust emissions from the takeoff/landing of the helicopters.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on greenhouse gas emissions of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on greenhouse gas emissions, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will result in ***less-than-significant impacts*** to **Greenhouse Gas Emissions**.

## 9. HAZARDS AND HAZARDOUS MATERIALS

**Environmental Setting:** Hazardous wastes can be liquids, solids, or gases. Throughout Plumas County, hazardous wastes exist and are transported in a variety of ways. The EPA defines hazardous wastes as hazardous materials that are discarded, abandoned, or recycled. The EPA groups hazardous wastes in three categories: Listed Wastes, Characteristic Wastes, and Mixed Radiological and Hazardous Wastes. Examples of the most common types of hazardous materials that are routinely transported and used throughout the County are diesel, gasoline, oils, cleaning materials, and propane.



Transportation-related public health and safety issues have the potential to occur along the major thoroughfares of the County. The highest potential for transportation-related incidents exists along the County's main east-west thoroughfare, SR 70, and along SRs 36 and 89. Most of the hazardous materials shipped through and within the County consist of petroleum products such as heating fuels, gasoline, diesel, and propane. The County's railroad corridors, both Union Pacific Railroad and Burlington Northern Santa Fe Railway, are an additional public safety concern since freight trains also carry bulk containers of hazardous materials such as petroleum and fertilizers.

Plumas County Environmental Health Department (PCEH) manages the County's hazardous materials management program. PCEH maintains the Hazardous Materials Business Plan and Inventory Program. The program enforces the State "right-to-know" laws passed in 1984 and requires local businesses to provide public access to information about the types and amounts of chemicals being used on their property. Businesses must plan and prepare for a chemical emergency through the preparation of a Hazardous Materials Inventory that is certified annually and an inventory of hazardous updates annually. PCEH also regulates the use, storage, and treatment of hazardous materials and wastes, and above-ground and underground storage tanks.

Wildland fires are a major hazard in Plumas County. Wind, steepness of terrain, and naturally volatile or hot-burning vegetation contribute to wildland fire hazard potential. The principal ingredients of wildland fires—fuel, topography, and weather—combine to make highly hazardous fire conditions throughout much of the County. Fire protection is categorized in three ways: Local Responsibility Areas (LRA), State Responsibility Areas (SRA), and Wildland Urban Interface Fire Areas (WUIFA). Applicable building standards serve to address potential health and safety impacts within the LRA. Wildland Urban Interface Building Standards (WUIBS) serve to address potential health and safety impacts within an SRA, Local Agency Very-High Fire Hazard Severity Zone, or WUIFA.

Upon approval of the proposed annexation by LAFCO, structural fire protection service would be provided by the Chester Fire Protection District as the Project parcels are located within District boundaries.

Located within Plumas County are three public-use airports: Rogers Field Airport in Chester, Gansner Airport in Quincy, and Nervino Airport in Beckwourth. The airports serve approximately 44,000 operations (takeoffs plus landings) annually. Potential safety issues associated with airports include aircraft accidents and noise impacts to surrounding land



uses. Airport operation hazards include the development of incompatible land uses, power transmission lines, wildlife hazards, such as bird strikes, existing obstructions such as timbered hillsides, and tall structures in the vicinity of these airports. Airport safety zones are established to minimize the number of people subjected to noise and potential aircraft accidents through limitations on the type of development allowed around airports. Local Airport Land Use Compatibility Plan zoning regulations provide specific details for the established airport safety zones.

In addition to the airports, the Plumas District Hospital in Quincy, the Indian Valley Health Care District in Greenville, and the Eastern Plumas Hospital in Portola have heliports. The closest commercial airport is Reno/Tahoe International Airport in Reno, Nevada. Option 1 of the proposed Project entails construction and operation of a heliport associated with the new hospital facilities.

The Plumas County Office of Emergency Services (OES) is responsible for coordinating the County government's role in preparation and response to a disaster or large-scale emergency within Plumas County. The Office of Emergency Services works closely with other emergency management operations in the City of Portola and various special districts, authorities, and joint-power authorities within County boundaries. In the event of an emergency, the Office of Emergency Services is charged with responding to the unincorporated areas of Plumas County, providing support to jurisdictions within Plumas County.

Emergency evacuation is an integral component of the County emergency management system. The Office of Emergency Services also conducts ongoing evaluation of potential evacuation routes, including capacity and condition of roadways and potential barriers to the use of roadways, such as flooding. There are no set evacuation routes; rather, they are established in real time for events based on circumstances existing at the time. The focus is on three operational concerns: 1) Local/community evacuation; 2) Area-wide evacuation; and 3) Large-scale traffic management during regional evacuations. Primary state and local arterial and secondary ground transportation routes have been identified and are included in general preparedness and response planning efforts.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>





Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Impacts of Proposed Project:** Due to the nature of construction and operation of the facility, the routine transport, disposal, or use of hazardous materials is expected to increase above current levels roughly commensurate with the increased capacity of the SHD's healthcare facilities from 26 to 36 beds, representing a 38% increase in capacity and potential increase in generation of hazardous materials (see **Table 1**). (Full capacity of both current facilities and proposed facilities is likely to be rare.) The proposed facilities are not expected to cause a reasonably foreseeable increase in the likelihood of an upset or accident release of hazardous materials. Hazardous biomaterials will be disposed of onsite as is currently done. Addition of ultrasound to imaging services will not generate additional hazardous materials. The additional hazardous waste produced by the Project will be less than significant.

Chester Elementary School is located within one-quarter mile of the proposed Project site (0.2 mile from the southeast corner of the Project area).

Plumas County has a minimal number of sites considered to be hazardous materials sites pursuant to Government Code Section 65962.5. The Project site is not located on or near a hazardous materials site pursuant to Government Code Section 65962.5.

The closest airport to the Project site is Rogers Field Airport in southwest Chester. The nearest airport feature is the north terminus of the north-south runway, located 1.1 miles southwest of the proposed Project facilities. This runway is approximately 6,300 feet in length, making it a "Long General Aviation Runway," according to the Plumas County



Airport Land Use Compatibility Plan (ALUCP). As defined by the ALUCP, the Project site is located within the 6,000-foot buffer around the runway referred to as Safety Compatibility Zone 6: Traffic Pattern Zone. *“Risk Factors/Runway Proximity: Generally low likelihood of accident occurrence at most airports; risk concern primarily is with uses for which potential consequences are severe. Zone includes all other portions of regular traffic patterns and pattern entry routes.” “Basic Compatibility Qualities: Allow residential uses; allow most nonresidential uses; prohibit outdoor stadiums and similar uses with very high intensities, **avoid** children’s schools, large day care centers, **hospitals**, and nursing homes.”*

“Avoid” is defined in the ALUCP as “Use generally should not be permitted unless no feasible alternative is available.” There is no other available and feasible location adjacent to the existing Seneca HCD facilities that would not also be in Zone 6. The existing facilities would be repurposed as non-acute healthcare facilities but will be integrated with the proposed hospital facilities both functionally and administratively. Further, the economic feasibility of the proposed Project was dependent upon the donation by Collins Pine of the adjacent land on which the Project will be located. Zone 6 has a generally low likelihood of accident occurrence, and the Project is located at the extreme periphery of Zone 6. SHD must find the Project a compatible use for approval. The Airport Land Use Compatibility Plan for Rogers Field states uses that are to be “avoided” such as hospitals in Zone 6, must be submitted to the Airport Land Use Commission for review and action.

Due to the nature and location of the Project, it will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. All public access areas are served by adequate County roadways that connect with the State highway.

The Project would be subject to all applicable building and electrical standards, which will help protect the public’s health, safety, and welfare.

The Project site is located within the State Responsibility Area (SRA) for fires, in a region where there are a disproportionately high number of fires per unit of population. (Existing adjacent Seneca HCD facilities are in Chester’s Local Responsibility Area.) High fire risk is characteristic of California’s foothill and mountain regions, due to the more hazardous natural combination of dense vegetation, low precipitation, and steep topography which encourages rapid fire spread.

The Project site is designated as a Very High Fire Hazard Severity Zone on CAL FIRE’s Fire Hazard Severity Zone Maps. Risk can be reduced by establishing defensible space and



constructing with non-flammable roofs and ignition resistant materials. The WUIBS are applicable to the property. By reducing tree and shrub cover on the Project site and facilitating greater emergency access, the Project will afford neighboring residences and businesses an increased measure of defensible space.

**Mitigation Measures:** The Project has the potential to expose SHD employees and neighbors to a significant increase in risk of wildlife hazard during construction and operation. Implementation of the following mitigation measure will reduce the potential for significant hazardous impacts.

#### **HAZ-1. Fire Prevention Plan**

To reduce the risk of fire onsite, prior to construction SHD shall prepare a Fire Prevention Plan that includes the following provisions:

- a) SHD shall use fire resistant vegetation in onsite landscaping.
- b) Maintenance of the site shall include establishment of defensible space of structures onsite and the inspection of fire suppression equipment such as sprinklers.
- c) SHD shall coordinate with CPUD to determine the appropriate amount of water and fire suppression equipment to be kept onsite for fire prevention purposes during project construction and operation.
- d) SHD and/or its contractors shall have water tanks, water trucks, or portable water backpacks (where space or access for a water truck or water tank is limited) sited/available at the project site for fire protection.
- e) During construction of the project SHD and/or its contractors shall implement ongoing fire patrols during construction hours and for 1 hour after the end of daily construction and hotwork.
- f) All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational along the entire length of the approved route to allow communications with other vehicles and construction crews. All fires shall be reported immediately upon detection.



- g) All internal combustion engines, stationary and mobile, shall be equipped with spark arresters in good working order.
- h) Light trucks and cars with factory-installed mufflers shall be used only on roads where the roadway is cleared of vegetation.
- i) Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable material.
- j) SHD shall prohibit smoking in wildland areas, with smoking limited to paved areas or areas cleared of all vegetation.
- k) All construction vehicles shall carry fire suppression equipment.
- l) SHD shall ensure that all construction workers receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire.
- m) As construction may occur simultaneously at several locations, each construction site shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires.
- n) SHD shall instruct construction personnel to park vehicles within roads, road shoulders, graveled areas, and/or cleared areas (i.e., away from dry vegetation) wherever such surfaces are present at the construction site.
- o) SHD and its contractor shall cease work during Red Flag Warning events in areas where vegetation would be susceptible to accidental ignition by project activities such as welding or use of equipment that could create a spark.
- p) SHD shall coordinate the finalization of road improvements with CPUD and other emergency responders to ensure that sufficient ingress and egress exists onsite.

A copy of the Fire Prevention Plan shall be posted at all construction sites and all employees and contractors should be encouraged to sign a statement indicating that they have read and understand the Fire Prevention Plan.

**Impacts of Option 1:** Same as proposed Project, with the increased risk of wildfire during tree clearing, and the benefit of providing approximately 5.5 additional acres of defensible space post-clearing.



**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts owing to hazardous materials of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact owing to hazardous materials, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** With the implementation of **Mitigation Measure HAZ-1**, the General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project and Option 1 would result in *less-than-significant impacts* associated with Hazards and Hazardous Materials.

## 10. HYDROLOGY AND WATER QUALITY

**Environmental Setting:** Water quality may be impacted by a variety of factors, including erosion of soil by natural physical forces. Erosion is due to and accelerated by precipitation, water flow, and wind. The rate of erosion is influenced by a myriad of variables such as rainfall, runoff, slope gradient, vegetation cover, physical soil characteristics, and human disturbance of soil and vegetation. Human activities such as timber harvesting, water diversion, irrigation practices, road construction, grazing, mining, and use of herbicides and pesticides have all contributed to in-stream water quality issues, such as sediment transport and water pollution, that impact aquatic life and riparian vegetation. Approximately 70 percent of the County has a moderate potential for soil erosion, while less than 1 percent has a high potential for soil erosion. The remaining portion of the County has either low erosion potential or is not mapped. High erosion potential occurs at higher elevations in the County.

Flooding can occur either naturally due to excessive amounts of water in flood zones, or due to inundation by water following dam or levee failure. Plumas County has been mapped by the Federal Emergency Management Agency (FEMA) to determine the locations of the Special Flood Hazard Areas, such as the 100-year flood hazard area. FEMA has identified the seven areas located in, or in the vicinity of, Chester, Greenville, Crescent Mills, Taylorsville, Quincy, Vinton, and the City of Portola as being in the 100-year flood hazard area. The proposed Project facilities are located approximately 1,500 feet southwest of the nearest mapped 100-year flood hazard area associated with North Fork Feather River.



Flooding can occur due to a partial or complete failure of a levee or dam, causing water to flood the adjoining area. In Plumas County, there are approximately 28 dams impounding reservoirs, with the smallest being 50 acre-feet and the largest being 1,208,000 acre-feet. The dams located within Plumas County that FEMA has identified as having inundation areas are along the North and Middle Forks of the Feather River, Indian Creek between Taylorsville and Antelope Lake, Sierra Valley, and Indian Valley. The inundation areas also closely coincide with the flood zones identified by FEMA.

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water 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 type="checkbox"/>	<input checked="" 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 erosion or siltation on- or off-site?	<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 off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** Typical development of the Project's scale results in soil disturbance from road construction, building pad and parking lot preparations, drainage improvements, and landscaping. If Project construction activities disturb more than 1 acre of the site, the project will be subject to the NPDES General Construction Activities Storm Water permit program. This program requires implementation of erosion control measures during and immediately after construction that are designed to avoid significant erosion during the construction period. In addition, the Project operation is subject to State Water Resources Control Board if the Project results in a disturbance, including clearing, excavation, filling and grading, of one or more acres. Construction activities that result in a land disturbance of less than 1 acre, but which are part of a larger common plan of development, must obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (CGP). The Permit must be obtained from the State Water Resources Control Board prior to construction.

Site preparation and grading will expose bare soil to the elements, potentially causing erosion and stormwater runoff. Construction buffers and appropriate Best Management Practices (BMPs) would serve to address possible impacts. Because the Project will disturb more than 1 acre, preparation of a SWPPP will be required. The Project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.



The wetland determination documented in the *Wetland Screening for the Seneca Healthcare District Hospital Replacement/Expansion Project (Exhibit F)* identified aquatic/wetland: an herbaceous riparian wetland and a constructed roadside ditch. Additional dry swales were identified in the *Biological Resources Report (Exhibit E)* on the adjacent parcel on which a portion of Option 1 would be subject to tree and vegetation removal.

A wetland is a sensitive natural community. The herbaceous wetland habitat extends into the northern edge of the Project site in one location, about 145 feet west of the northwestern corner of the site. However, the apparent wetland extends only about 3 feet south of the site boundary and is no more than about 6 feet in length. The dominant plant is a sedge (*Carex* sp.); although the sedge could not be identified to species level, nearly all local sedges are wetland indicators (FAC or wetter). Soils were black (7.5YR 2.5/1) with few, faint mottles. Evidence of wetland hydrology was observed only in the form of drainage patterns (a secondary indicator), but a high-water table is likely present during the spring growing season. The apparent wetland is on a low streamside terrace, with the adjacent Jeffrey pine forest being about a foot higher in elevation.

A constructed ditch/basin is present adjacent to the paved medical clinic driveway and parking area, along the southern boundary of the study area. The western end of the feature (at the northwestern corner of the parking area) is at the same elevation as the paved parking area and deepens to the east. No outlet was observed. Although the feature does not possess wetland characteristics, it may hold precipitation or snowmelt at certain times of the year. Accordingly, it may meet the Water Boards' definition of a surface water. For similarly created waters of the state, the Water Board typically waives its permit authority.

Neither the on-site herbaceous wetland nor the roadside ditch appear to be subject to federal jurisdiction under the Navigable Waters Protection Rule. Neither feature has direct connectivity to federally regulated waters. The ditch is constructed wholly in uplands and, except during infrequent floods, receives only sheet-flow from adjoining uplands. The State of California claims jurisdiction over all surface waters, which would include both the wetland and the roadside ditch.

The extent of federal jurisdiction is typically determined by USACE staff in accordance with the Navigable Waters Protection Rule, or other rules that are in effect at the time of determination. The extent of state jurisdiction is typically determined by staff of the Water





Board in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State. SHD does not anticipate having to obtain these determinations from either agency owing to its commitment to avoidance under mitigation measure **Bio-3**.

The overstory in the extreme northwestern corner of the Project site consists of Jeffrey pines (UPL) with a few black cottonwoods (FAC) intermixed and is a transitional zone between the Jeffrey pine forest and the riparian habitat associated with the off-site stream/ditch. If work were proposed in the stream/ditch requiring issuance of a Streambed Alteration Agreement, CDFW could include this transition zone as a regulated riparian feature. However, if work affected the transitional habitat only, it is unlikely that CDFW would require a Streambed Alteration Agreement for the work.

Site plans have been designed to fully avoid the wetland. Potential indirect effects on the wetland would be avoided by the implementation of a SWPPP, which would specify site-specific measures to reduce erosion and minimize the potential for spills of hazardous materials. If any future on-site activities affect the wetland, USACE or Water Board permits may be needed.

The proposed Project will not 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. Detention basin(s) capable of retaining the 25-year (24-hour) design storm event have been included in the onsite Project area. Any changes to the design of the detention basin are not expected to substantially change the Project footprint, potentially increasing environmental impacts.

The facility would not deplete groundwater supplies or interfere with groundwater due to not utilizing substantial amounts of groundwater.

Seiche is a possibility for any lake or partially enclosed body of water. A medical care facility would not increase the likelihood of a seiche in a nearby lake or reservoir.

Due to the location and nature of the Project, pollutants are not at risk of release due to inundation of the Project and the Project is not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.



According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 06063C0175E, effective March 2, 2005), the proposed facility would not be located within a 100-year flood hazard area. The proposed Project facilities are located approximately 1,500 feet southwest of the nearest mapped 100-year flood hazard area associated with North Fork Feather River (NFFR). FEMA has not mapped a 500-year floodplain for NFFR in the project vicinity. However, the Project sits on a terrace at an elevation a few feet above NFFR's broad floodplain. The proposed Project improvements, even if within the NFFR's 500-year floodplain, are not expected to significantly change the elevation of the property or alter the area's ability to convey floodwater. The Project therefore will not significantly contribute to loss of life, injury to persons, or damage to property owing to flooding.

**Impacts of Option 1:** Same as proposed Project. No fill of dry swales would occur during the removal of trees on the adjacent parcel.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on hydrology and water quality of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on hydrology and water quality, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will result in *less-than-significant impacts* to **Hydrology and Water Quality**.

## 11. LAND USE AND PLANNING

**Environmental Setting:** The proposed General Plan Amendment would replace the existing 2035 General Plan designations of *Resort and Recreation*, *Rural Residential*, *Single Family Residential*, and *Multiple Family Residential* with *Commercial* and *Multiple Family Residential*. The proposed Zone Change would replace the existing *7-R*, *M-R*, *C-2*, *Rec-OS*, *R-10*, and *Rec-P* designations with *C-2* (health services and parking lots) and *M-R* (dwelling



units). Additionally, the Limited Combining Zone (Ltd) on the existing Rec-P zoned portion of the property is proposed to be expanded and include the entire property. See **Exhibits C 1-2** for existing and proposed zoning. **Table 3** contrasts existing and proposed Zone District acreages resulting from the Proposed Zone Change.

**Table 3. Existing and Proposed Zone Districts**

Existing Zone Districts	Acres
Recreation-Open Space	2.2
Prime Recreation	4.3
Rural Zone	1.6
Single-Family Residential	1.9
Multiple-Family Residential	1.5
Periphery Commercial	0.3
Total	11.8

Proposed Zone Districts	Acres
Multiple-Family Residential	3
Periphery Commercial	8.8
Total	11.8

Allowable uses for Peripheral Commercial (C-2) under Plumas County Code Section 9-2.2002(a)(1) include: Building supply, business offices, child day care homes, limited child day care homes, child day care facilities, gas stations, health services, heavy equipment sales, heavy equipment services, lodging facilities, personal services, places of assembly, postal services, prefabricated building sales, recreation facilities, restaurants, retail stores, self-service facilities, taverns, vehicle sales, vehicle services, wholesale commercial supply,



and parking lots. The proposed Project falls under the *health services* and parking lots as allowable uses.

Allowable uses for Multiple-Family Residential (M-R) under Plumas County Code Section 9-2.1402(a)(1) include: Dwelling units and manufactured homes, at the ratio of up to one dwelling unit or manufactured home for each 1/21.8 acre of lot area; and accessory dwelling units. The proposed ten (10) dwelling units would be sited on the proposed 1.4-acre M-R zoned area in the Southwest corner of the proposed Project site.

The primary uses of the parcel proposed to be designated C-2 will be the proposed hospital buildings (health services) and parking lots. The most extensive uses of the parcel proposed to be designated M-R are the proposed housing units (dwelling units) for hospital employees.

The Ltd is defined by Plumas County Code as follows:

**Purpose (Ltd.) – Sec. 9-2.2701**

*The purpose of the Limited Combining Zone (Ltd) is to mitigate uses which have the potential to have significant adverse social, economic, or environmental effects, and to implement the General Plan Diagram Directive for Limited Industrial areas. The potential adverse effects shall be identified based on General Plan requirements and shall be specified in the ordinance which zones the property.*

**Uses (Ltd.) – Sec. 9-2.2702**

*(a) The uses permitted by the zone with which the Ltd is applied shall be permitted subject to Site Development Review.*

*(b) All other uses shall be permitted subject to the requirements of the zone with which the Ltd is applied.*

When Project plans are submitted to the Plumas County Building Department, the Planning Department would conduct a Site Development Review to determine if the Project has the potential to have significant adverse social, economic, or environmental effects. This process would involve review of this Initial Study/Mitigated Negative Declaration.



### **Site Development Review – Sec. 9-2.1132**

*When the Planning and Development Agency rules on whether or not a proposed building for a use permitted subject to site development review complies with the provisions of this chapter, the Planning Director shall determine if the use may have a significant effect on the environment. Such determination shall be made in compliance with the Environmental Review Guidelines of the County.*

*If the Planning Director determines with certainty that there is no possibility that the use may have a significant effect on the environment, the Planning and Development Agency shall rule that the proposed building complies with the provisions of this article.*

### **Site Development Permit – Sec. 9-2.1133**

*If the Planning Director determines that the proposed use may have a significant effect on the environment, the Planning and Development Agency shall rule that the proposed building does not comply with the provisions of this article unless a Site Development Permit is issued.*

*The Site Development Permit process entails submittal of a permit application by the project proponent. Upon completion of the application, the Planning Director investigates the application to ensure that the proposal consistent with the intent and purposes of the provisions of Ltd designation. The Zoning Administrator then schedules a public hearing on the permit application.*

*The Zoning Administrator considers the information provided by the application, the environmental document, the Planning Director's investigation, and facts provided by any person appearing at the hearing or by written communications relative to the application. The Zoning Administrator has forty (40) days after the close of the hearing to decide, unless an extension is granted for good cause or with the mutual consent of the applicant.*

*In granting a site development permit, the Zoning Administrator must come to the following findings:*

- *The use will not be detrimental to the health, safety, or welfare of persons residing in the vicinity of the use.*



- *The use is appropriate for the site, general surroundings, and environmental setting.*

*The Zoning Administrator, in granting a Site Development Permit, may impose conditions which ensure that the use will not be detrimental to the health, safety, and welfare of the persons residing in the vicinity of the use and which ensure that the use is appropriate for the site, general surroundings, and environmental setting. These conditions are imposed to remedy shortcomings in the environmental document identified by the Planning Department.*

The predominant land use designation in Plumas County is open space, with most of the land, approximately 94 percent of the total County area, dedicated to timberland or other managed resource uses. Consequently, many of these lands are managed for a combination of resource values, including, but not limited to timber production, recreation, mining, agriculture, and cultural and historic resources. The remaining 6 percent of the land area is used for purposes such as residential, commercial, industrial, and public service.

Natural resources and people have had significant roles in defining Plumas County. Communities originally developed and evolved on the landscape based on proximity to the resources that provided a livelihood. The Mountain Maidu established villages in the valleys of the County where there was shelter from winter storms and access to good hunting and plant-gathering. Upon the arrival and settlement of Europeans in the mid-1800s, towns first grew up around mining activities, then log mills. Transportation routes, including stagecoach trails and railroads, later connected these settlements and tied them to greater California.

The land use patterns across the County today reflect this historical settlement process prior to the automobile. Today many counties and cities across California and the United States are trying to institute smart growth, transient-oriented design, and form-based development, and are attempting to re-focus their communities into walkable places. Plumas County has mostly maintained its rural character with its compact and walkable communities.

The Land Use Element of the 2035 General Plan defines the goals, policies, and implementation measures that will facilitate appropriate growth and development. Between the years of 1981 and 2012, Plumas County experienced an approximate 13 percent increase in population. In more recent years, between 2000 and 2010, Plumas County experienced a 4 percent decline in population. The California Department of Finance



predicts that Plumas County's population growth will be approximately 1 percent per decade between 2010 and 2050.

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>

**Impacts of Proposed Project:** A new medical facility could conceivably divide an established community by creating a physical barrier where one did not previously exist. The proposed Project is located on a parcel that would not physically divide the Town of Chester.

The proposed Project would not 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. The Plumas County 2035 General Plan contains policies that are mitigating policies designed to minimize potential impacts:

#### **General Land Use (LU) 1.1.1. – Future Development**

The County shall require future residential, commercial and industrial development to be located adjacent to or within existing Planning Areas; areas identified on Plumas County's General Plan Land Use Maps as Towns, Communities, Rural Areas or Master Planned Communities, in order to maintain Plumas County's rural character with compact and walkable communities. Future development may also be approved within areas for which Community Plans or Specific Plans have been prepared. Small, isolated housing tracts in outlying areas shall be discouraged as they disrupt surrounding rural and productive agricultural lands, forests, and ranches and are difficult and costly to provide with services. Land division may be allowed outside of Planning Areas only



when the resulting development complies with all applicable General Plan Policies and County Codes.

#### **LU 1.1.2 – Infill Development**

The County shall plan to concentrate new growth both within and contiguous to existing Towns and Communities and require expansion of existing infrastructure as needed to efficiently and safely serve the new growth.

#### **LU 1.5.1 – Use of Existing Infrastructure**

The County shall require the use of existing infrastructure for new development whenever feasible.

#### **LU 1.5.2 – Cost Effective Land Use Pattern**

The County shall develop a land use pattern that, to the maximum extent feasible, will facilitate the delivery of community services in the most cost-effective manner for water, sewer, flood control, public safety services, and road construction and maintenance.

#### **LU 1.5.3 – Provision for Fire and Life Safety Services**

The County shall require development to be located adjacent to, or within, areas where fire and life safety services exist, or can be efficiently and economically provided.

#### **LU 1.5.4 – Maintain Existing Levels of Services**

The County shall ensure new growth and developments do not create adverse impacts on existing County-owned and operated facilities.

#### **LU 1.6.1 – Land for Commercial and Industrial Uses**

The County shall provide adequate amounts of land in and adjacent to identified Towns and Communities and within Rural Places to be designated and zoned to allow for and support commercial and industrial development.

#### **LU 1.8.1 – Land for Large-scale Commercial and Industrial Uses**

The County shall require that sites for moderate-to large-scale industrial and commercial development be located within or near the Town and Community areas; within areas for which Specific Plans or Master Plans have been prepared; or within areas that contain, or are capable of containing, infrastructure adequate to support the





use of the property for more intensive non-residential purposes, such as abandoned mill sites. Additionally, the County shall consider the location of such land uses where appropriate to reduce travel and commute times.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** The purpose of the current Rec-OS zoning is to provide for open space and open space recreation uses to maintain the natural environment. The General Plan Amendment/Zone Change proposes removal of the area zoned Rec-OS, which under the Plumas County 1974 General Plan was zoned Green Belt District and intended to serve as a protected natural area. Under the Plumas County 1985 General Plan the area was zoned Rec-OS which included the constraint of being designated as an “Important Fish & Wildlife Habitat and Recreation Water Area.” Removal of the Rec-OS zoning and conversion to C-2 in the northwest approximate 2.7 acres of the property will result in the removal of natural area protections associated with Rec-OS zone and make allowable development for health services use under C-2 zoning. Adjacent lands zoned Rec-OS include approximately 11.5 acres, the balance of which would remain natural areas. The Project property subject to rezone, formerly a pine plantation, is not a particularly valuable example of a local natural area. The conversion of Rec-OS acreage to C-2 is considered less than significant.

In compliance with the Ltd, and when Project plans are submitted to the Plumas County Building Department, the Planning County will conduct a Site Development Review to ensure that the Project will not have significant and unmitigated social, economic, or environmental adverse effects. The Planning Department would utilize this Initial Study/Mitigated Negative Declaration as part of the Site Development Review process.

Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on land use and planning of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on land use and planning, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.



**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will result in *less-than-significant impacts* to **Land Use and Planning**.

## MINERAL RESOURCES

**Environmental Setting:** Since the 1800s, mineral resources were a major contributor to the economy of Plumas County. Gold, copper, silver, and aggregate are some of the mineral resources that have been mined in and exported from the County. Aggregate mining occurs primarily for concrete and gravel production. Although the significance of the mining industry has declined over the past several decades, aggregate, gold, and copper mining continue to contribute minimally to the County's economy (less than 1 percent of the total economy).

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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"/>

**Impact Discussion:** The proposed Project is not located in an area with known mineral resources, and it is not anticipated that any mineral resources will be discovered during construction.

The Project would not result in the loss of availability of a locally important mineral resources recovery site delineated on a local general plan, specific plan, or other land use plan.



**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on mineral resources of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on mineral resources, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will result in ***no impact*** on **Mineral Resources**.

## 12. NOISE

**Environmental Setting:** The dominant sources of noise in Plumas County are mobile, related to vehicle (including truck traffic), aircraft, and train transportation. Common stationary sources in the County include lumber mills, aggregate mining, and processing facilities. To a lesser extent, construction sites are also considered a stationary source of short-term, or temporary, noise in the County. Common noise sources within Plumas County are the main roadways, railroads, stationary industrial activities, and airports.

Traffic contributes to noise within the County. The primary factors that determine roadway noise levels are traffic volumes, the percentage of heavy trucks and buses on individual roadways, average vehicle speed, and presence of natural or human-made noise attenuation features such as walls and landscaping. Given the predominantly rural nature of the County, roadway noise impacts are those associated with the larger regional, or Statewide, network.

The traffic volumes on County roadways are relatively low, with most roadways experiencing fewer than 3,000 vehicles per year. The 24-hour average decibel (dB) level associated with most of the County's roadways is typically between 65 dB and 70 dB.

The second contributor to noise within the County are railroads. Plumas County has two active rail lines used by the Union Pacific Railroad (UPRR) and the Burlington Northern Santa Fe Railway (BNSF). While both lines are primarily used for freight and local shipping, a



portion of the UPRR line through the Feather River Canyon is recognized as a scenic route, with occasional chartered passenger trains. Daily traffic on the UPRR and BNSF lines in the County consists of a limited number of trains per day. This volume creates minimal noise impacts in terms of frequency. There are no active railroads in the vicinity of Chester after the Almanor Railroad operated by Collins Pine was decommissioned in 2009.

Stationary noise sources also contribute to the noise throughout the County. One of the temporary, stationary noise sources is construction. Construction crew commutes and the transport of construction equipment and materials to construction sites incrementally increases noise levels on access roads leading to the sites. Noise is further generated during excavation, grading, and construction of structures. Construction typically occurs in discrete steps, each of which has a distinctive mix of equipment and, consequently, distinctive noise characteristics. These various sequential phases would change the character of the noise generated on each site and, therefore, the noise levels surrounding these sites as construction progresses.

Three public use airports are in the County: Rogers Field Airport in Chester, Gansner Field Airport in Quincy, and Nervino Airport in Beckwourth. Airport noise caused by aircraft depends primarily on the type of aircraft and the frequency and direction of flights, with specific noise events caused by aircraft flyovers, takeoffs, and landings. Noise from aircraft warming up early in the morning can also be a significant noise source from airports. In addition, helicopter related noise is common due to helipads being located at Rogers Field Airport, Gansner Field Airport, Nervino Airport, Indian Valley Hospital in Greenville, Eastern Plumas Health Care facility in Portola, and Plumas District Hospital in Quincy.

<b>Would the project:</b>	<b>Potentially Significantly Impact</b>	<b>Less than Significant Impact with Mitigation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
a. Generate 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 applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
b. Generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within an airport land use plan area or, where such a plan has not been adopted, within two (2) 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 checked="" type="checkbox"/>	<input type="checkbox"/>

**Impacts of Proposed Project:** Short-term (construction-related) and long-term impacts of the Project were addressed in the Noise Analysis for the Seneca Hospital Replacement Project (**Exhibit I**). The Project has the potential to expose local sensitive receptors to both short- and long-term noise impacts. The Project will not generate or expose people to excessive ground-borne vibration and noise levels or expose staff or patients to excess noise owing to proximity to an airport or other source of loud noise.

Noise is usually defined as unwanted sound. It is an undesirable by-product of normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment. Noise is measured on a logarithmic scale of sound pressure level known as a decibel.

Noise sources occur in two forms: (1) point sources, such as stationary equipment, loudspeakers, or individual motor vehicles; and (2) line sources, such as a roadway with many point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 A-weighted decibels (dB(A)) for each doubling of distance from the source to the receptor at acoustically “hard” sites and 7.5 dB(A) at acoustically “soft” sites. For example, a 60 dB(A) noise level measured at 50 feet from a



point source at an acoustically hard site would be 54 dB(A) at 100 feet from the source and 48 dB(A) at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3.0 dB(A) and 4.5 dB(A) per doubling of distance from the source to the receptor for hard and soft sites, respectively. Sound levels can also be attenuated by human-made or natural barriers.

Sensitive receptors are facilities where sensitive receptor population groups (children, the elderly, the acutely ill, and the chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The proposed Seneca HCD Hospital and the adjacent Wildwood Village retirement apartments are sensitive receptors.

*Table 3-1. Inventory of Prominent Noise Sources within the Community areas of Plumas County (2035 General Plan)* identifies the Rogers Field Airport, Collins Pine Sawmill and Chester Pit Mine (at Chester Rogers Field) as prominent noise sources in the community of Chester. The Project is located approximately 0.5 mile from Collins Pine Sawmill, 1.10 miles from Rogers Field Airport, and 1.35 miles from Chester Pit Mine.

The Project is located approximately 1.1 miles from the nearest airport, Rogers Field, within the AIA (Safety Compatibility Zone 6). Although persons residing or working in the Project area may notice airport noise from takeoffs and landings occasionally, it is not anticipated that the location of the rural county airport creates excessive noise.

Any construction noise resulting from construction of the facility would be temporary. Although Plumas County does not have an ordinance in relation to construction noise, the 2035 General Plan does contain policies for construction noise associated with discretionary approvals:

#### **3.1.4 Construction Noise**

*The County shall seek to limit the potential noise impacts of construction activities on surrounding land uses. The standards outlined below shall apply to those activities associated with actual construction of a project if such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday and 8 a.m. and 5 p.m. on weekends or on federally recognized holidays. Exceptions are allowed if it can be shown that construction beyond these times is necessary to alleviate traffic congestion and safety hazards.*



**Impacts of Option 1:** Helicopter transports from Seneca HCD Hospital typically increase during the summer months when tourism and summer residency peak. Noise generated by the most common model of helicopter ambulance servicing Seneca Healthcare District (Eurocopter EC130) will be on the order of 85.5 dBA at the source, 56 dBA at an attenuation distance of 30 feet, and 36 dBA at an attenuation distance of 300 feet. The EC130 is the quietest in its class of light-transport helicopters.

Per the 2035 General Plan, these attenuated levels of noise exposure are in the “normally acceptable” range for sensitive receptors. To ensure the noise produced by helicopters remains in the conditionally acceptable range, design features and/or mitigation measures may be incorporated with the goal of limiting noise impacts to less than 65 dBA at exterior sensitive receptors, and to less than 45 dBA or less for interior sensitive receptors (including hospital patients and staff).

**Mitigation Measures:** The Project has the potential to expose sensitive receptors in the neighborhood to significant noise during construction and helicopter noise during operation. Implementation of the following mitigation measures will reduce the potential for significant noise impacts.

#### ***NOI-1. Construction-Related Noise***

The District shall seek to limit the potential noise impacts of construction activities on surrounding land uses. Construction shall occur between the hours of 7 a.m. and 7 p.m., Monday through Friday and 8 a.m. and 5 p.m. on weekends or on federally recognized holidays. Exceptions shall be allowed if it can be demonstrated that construction outside of these time periods is necessary to alleviate traffic congestion and safety hazards.

#### ***NOI-2. Helicopter-Related Noise***

The District shall reduce noise produced by periodic helicopter ambulance incoming flights and outgoing flights by implementing the following measures.

- Preferentially contract with air ambulance services that use the Eurocopter EC130.
- Where feasible, retain trees within 50-100 feet of neighboring residential properties to soften the acoustic environment.



- Incorporate acoustic barriers in the walls of the hospital facilities facing the heliport or construct a sound-attenuation barrier next to the hospital, facing the heliport.
- Plant sound-attenuating landscaping between the helipad and sensitive receptors to soften the acoustic environment.
- Provide guidance and training to helicopter pilots in flight procedures to reduce noise impacts during ingress and egress.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts related to noise by adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact related to noise, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** With the implementation of mitigation measures **NOI-1** and **NOI-2**, impacts of the General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will be *less-than-significant impacts* on **Noise**.

### 13. POPULATION AND HOUSING

**Environmental Setting:** Plumas County is considered one of the most rural counties in California. In 2010, Plumas County had a population of 20,007, comprising only 0.05 percent of the population of California (US Census Bureau). Growth in the County was also below that experienced in the rest of the state. Between 2000 and 2010, Plumas County's population decreased at an average annual rate of 0.4 percent, while the State of California's population increased at an average annual rate of 1.0 percent (US Census Bureau). In 2020, the population dropped to 19,790 (US Census Bureau).

The California Department of Finance's prediction for Plumas County population growth is just shy of 1.0 percent per decade between 2010 and 2050. Although very slow growth is anticipated, Plumas County's blueprint for the future of land use in the County is an important tool that will facilitate recreation, community, or business opportunities on private land in areas best served by infrastructure, in existing communities, and consistent





with county residents' values in relation to open space, landscape character, and resource protection on lands adjacent to National Forest lands.

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 a substantial number of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** SHD's staff currently entails approximately 100 full-time equivalent (FTE) positions, numbering about 115 employees on payroll. The proposed replacement facilities would entail approximately 120 FTE positions, numbering about 135-140 employees. For both FTEs and total numbers of employees, these represent increases of approximately 20%. Approximately 60% of Seneca HCD's current employees reside in SHD's primary service area (Lake Almanor basin and Westwood), 20% from surrounding communities (Susanville and Greenville), and 20% from out of the area/beyond 30 miles. Any new employees would probably be distributed in a similar manner, so of 20-25 new employees, approximately 12-15 would be expected to reside locally. At approximately 2.5 people per household, this would entail an estimated 30-38 new residents in the Lake Almanor basin and Westwood area. Between 2010 and 2020, Plumas County's population declined 3.2% (261 residents), the highest decline in California.

The proposed Project included the addition of 10 housing units to house SHD staff. These units would primarily house itinerate and long-term, non-local medical staff, thus lessening SHD's contribution to the conversion of local housing to short-term rental units.



M-R zoning at the existing clinic is proposed to remain unchanged. The 7-R zoned portion of the property in the Southwest corner of the parcel is proposed to change to M-R and C-2 zoning. SHD is proposing ten (10) 1,000 square foot housing units within the proposed new 1.4-acre M-R zoned area. The R-10 zoned portion of the property is proposed to also change to M-R and C-2 zoning. **Table 3** in the **Land Use and Planning** section provides existing and proposed acreages for Zoning Districts. Zone See **Exhibits C 1-2** for existing and proposed zoning.

The proposed hospital facility would not induce substantial unplanned population growth or displace a substantial number of existing housing units necessitating the construction of replacement housing elsewhere.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts related to population and housing by adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact related to population and housing, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will have ***no impact*** to **Population and Housing**.

## 14. PUBLIC SERVICES

**Environmental Setting:** Public services are provided by a variety of service providers, including the County, special districts, and state and federal agencies. Special districts include the fire protection districts, school districts, County Service Agencies (CSAs), Community Service Districts (CSDs), and Public Utility Districts (PUDs).



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Impacts of Proposed Project:** Population growth is the driving force behind an increased demand on fire protection, police protection, schools, parks, and other facilities. The preceding Population and Housing section predicts an addition of 12-15 new local employees, and 30-38 new local residents resulting from the proposed Project. This predicted small contribution to increase in population weighs against a relatively recent 3.2% decline in Plumas County's population. The Project would add minimally to local demand on fire protection, Sheriff's Department protection, public schools and parks, and other public facilities.



The proposed Project will require LAFCO annexation of Project parcel 100-230-028 and 100-230-029 into Chester Public Utilities District (CPUD) for water, sewer, and fire protection. CPUD has provided SHD with a will-serve letter for provision of fire protection.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on public services of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation would not result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Existing providers will not be burdened to extents requiring significant expansion of facilities that in turn might cause significant environmental impacts.

LAFCO annexation will have no direct environmental impacts, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will have *less-than-significant impacts* to **Public Services**.

## 15. RECREATION

**Environmental Setting:** People utilize the various areas around Plumas County for recreation. Recreation areas within the County include public parks, trails, forest lands, lakes, waterways, and other open space areas. Recreation in Chester and its vicinity are largely focused on outdoor activities such as boating, fishing, hiking, swimming, camping, biking, golf, and soccer. The Project site's volunteer trails are used by neighbors primarily for walking and dog walking.

The Project is located within the Almanor Recreation and Park District.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Would the project 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 checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** The Project would not increase the use of existing neighborhood and regional parks or other recreational facilities. The Project does not require construction of recreational facilities.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on recreation of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1. In addition, the loss of Rec-OS and Rec-P zoning on the parcel will preclude the allowable development for recreational uses under those zoning designations.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on recreation, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the Project and Option 1 possible.



**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will have *less-than-significant impacts* to **Recreation**.

## 16. TRANSPORTATION

**Environmental Setting:** The state highway system provides the key inter-community roadway links within Plumas County. East-west access across Plumas County is provided by SR 36 in the northern portion of the county and by SR 70 in the central/southern portions of the county, while SR 89 provides north-south access across the county. SR 147 serves the east side of Lake Almanor, while SR 49 and SR 284 provide access south toward Loyalton and north to Frenchman Reservoir in the far eastern portion of the County. County roads (and city roads in Portola) also provide important access, as do Forest Service roads. In total, there are 1,823 miles of public roadway in Plumas County, including 935 miles of US Forest Service roads, 674 miles of County roadways, and 182 miles of state highways.

Due to the relatively dispersed nature of development in Plumas County, traffic congestion is not an issue, except for “bell times” at some school areas and some locations around Lake Almanor during the summer months. SR 70 in Quincy is the busiest highway in Plumas County, with a peak-month, typically August, Average Daily Traffic (ADT) volume of 12,200. Other relatively busy locations are on SR 36 in Chester (7,900 ADT) and SR 70 in Portola (7,800 ADT). Overall, peak month volumes on Plumas County state highways have declined by 12 percent over the last 10 years. The decline has been seen in all regions of the County. Caltrans counts of all trucks countywide have declined by 15 percent since 1992. However, the number of the largest trucks (5 axle and above) has climbed by 45 percent over this same period, particularly along SR 70.

Public transit is also provided in the County through several deviated fixed routes. The service carries approximately 30,000 passenger-trips annually and is available to everyone.

Plumas County does not have passenger rail service, but there are two active freight rail operations. Union Pacific Railroad operates a line connecting Roseville, CA to the west with Salt Lake City, UT to the east. Burlington Northern Santa Fe (BNSF) Railway operates track from Keddie and along Lake Almanor into Lassen County and Oregon.

While there are no commercial airports in Plumas County, there are three publicly owned airports: Rogers Field in Chester, Gansner Field in Quincy, and Nervino Airport in Beckwourth. These airports serve approximately 44,000 operations (takeoffs and landings)



annually. In addition to the airports, the Plumas District Hospital in Quincy, the Indian Valley Health Care District in Greenville, and the Eastern Plumas Hospital in Portola have heliports.

While there are many hiking trails in Plumas County, bicycle and pedestrian facilities along main travel corridors and in communities are limited. The Almanor Rail Trail is a 12-mile project, beginning in Chester and following the Collins Pine Rail Trail through the Olsen Barn Meadow, across the Causeway, along Lake Almanor and ending at Clear Creek Junction and Highway 147. Another proposed 1.4-mile proposed project would link Chester at First Avenue to the "super ditch" on the Lassen National Forest.

Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 consistent 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 design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** The Project would not conflict with a program, plan, ordinance, or policy addressing the local or County circulation system.

Following from previous discussions regarding predicted increases in staff size, patient capacity, and visitors, trip generation is predicted to increase between 20-30%. **Table 2**



provides an estimate of the likely increase in vehicle miles traveled (VMT) resulting from the proposed Project. The additional VMT attributed to visitors is expected to be nominal. The increase in VMT would not conflict with CEQA Guidelines Section 15064.3 subdivision (b).

**Table 2. Current and Anticipated Project VMT per Day**

	% Employees	Number of Employees	Median Trip Miles	Estimated VMT/Day
Current Estimated Trip Miles	60%	69	10	690
	20%	23	50	1150
	20%	23	100	2300
	Estimated Current VMT/Day			4140
Anticipated Est. Project Trip Miles (incl. housing units)	7%	10	0	0
	55%	72	10	715
	19%	25	50	1235
	19%	25	100	2470
	Estimated Proposed VMT/Day			4420
	Estimated Increase in VMT/Day			280
	Estimate % Increase in VMT/Day			6.8%

The proposed Project does not entail the development of sharp curves or a substantial increase in traffic at intersections including Reynolds Road and State Route 36 and would not increase hazards due to a design feature. All access points will be installed under encroachment permits issued by the Department of Public Works. Two access routes to the proposed Project will be established: a primary access route and a secondary emergency access route (**Exhibit J**). The proposed Project would provide for adequate emergency access.

The parking needed to accommodate the proposed Project operations will be provided on the Project site and will not affect local street parking or parking at neighboring businesses.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed





Project and Option 1 to proceed, the potential impacts on transportation of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on transportation, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will have *less-than-significant impacts* to Transportation.

## 17. TRIBAL CULTURAL RESOURCES

**Environmental Setting:** The cultural resources located throughout Plumas County can be attributed to the rich history of the County. The history of Plumas County begins from the time that the glaciers began to recede from the Sierra Nevada and Cascade Mountain ranges. Due to the glacial recession, for thousands of years, humans have been utilizing the Sierra and Cascade ranges.

The primary inhabitants of the county prior to European settlement were the Mountain Maidu. The Mountain Maidu peoples have lived in Plumas County from hundreds to thousands of years ago, and still live here. Other tribes, such as the Washoe and the Paiute most likely utilized the area while not settling permanently. It is likely that the Mountain Maidu people existed in small, scattered, familial groups in the valleys of Plumas County. While maintaining permanent villages in the lower elevations of the glacial valleys, during spring and fall, smaller groups traveled to higher elevations such as the ridge tops and valleys of the Sierras, and set up open brush shelters. During the winter months, villages remained occupied and relied mostly on stored and preserved food.

In the spring of 1850, gold-seeking miners poured into the region in search of the fabled "Gold" Lake. Mining camps throughout the County were quickly established. Rivers were turned from their beds, ditches were dug to bring water from distant sources to the diggings, and the land was turned upside down.

The Mountain Maidu adapted to the changing environment by living on portions of ranch properties. In some cases, the Mountain Maidu adopted the name of the ranching family associated with the ranch on which they resided. European settlers brought illnesses to



which the Maidu had never been exposed, causing a significant decline of the Maidu population.

### **Senate Bill 18 Consultations**

Senate Bill 18 (SB 18), enacted in 2005, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level land use decisions are made by a local government.

SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at key points in the planning process. These consultation and notice requirements apply to the adoption of a general plan, or in the case of the proposed Project, a general plan amendment.

As the local county government agency, SB 18 consultations with local tribes will be carried out by Plumas County.

### **Assembly Bill 52 Consultations**

To help preserve the rich Native American history, such as that in Plumas County, on September 25, 2014, Governor Brown signed Assembly Bill No. 52 (AB 52). AB 52 went into effect on July 1, 2015 and added tribal cultural resources to the categories of cultural resources in the California Environmental Quality Act. According to AB 52, a project has an impact on the environment if it has a substantial adverse change in the significance of a tribal cultural resource. A tribal cultural resource is considered significant if it is defined in Public Resources Code Section 21074 as either a site, feature, place, or 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 listed or eligible for listing in the California Register of Historical Resources, in a local register of historical resources, or is a resource determined to be significant pursuant to Public Resources Code Section 5024.1 subdivision I.



As part of the cultural resource inventory, PaleoWest staff contacted the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File (SLF) on September 20, 2022. The objective of the SLF search was to determine if the NAHC had any knowledge of Native American cultural resources (e.g., traditional use or gathering area, place of religious or sacred activity, etc.) within the immediate vicinity of the APE. The NAHC responded on November 8, 2022, indicating that results were positive.

PaleoWest drafted notification letters for contacts representing seven tribes and sent these to Sequoia on November 8, 2022. Tribes contacted include Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Greenville Rancheria of Maidu Indians, Mooretown Rancheria of Maidu Indians, Susanville Indian Rancheria, Tsi Akim Maidu, United Auburn Indian Community of the Auburn Rancheria, and the Washoe Tribe of Nevada and California. PaleoWest made follow-up calls to tribal contacts on November 21, 2022.

Brandi Cooper of the Susanville Indian Rancheria and Lucretia Fletcher of the Greenville Rancheria of Maidu Indians indicated that their respective tribes were interested in engaging in consultation and monitoring ground disturbance. SHD assumed tribal coordination after PaleoWest provided them these details on November 21 and 22, 2022.

PaleoWest completed test excavations of the Pre-contact loci within new multicomponent archaeological site 21-415-KH-001/H from November 29 to 30, 2022. The work was monitored by tribal representatives from the Susanville Indian Rancheria and the Greenville Rancheria. Tribal representatives expressed interest to SHD in monitoring future ground disturbance during Project construction.

<b>Would the project:</b>	<b>Potentially Significantly Impact</b>	<b>Less than Significant Impact with Mitigation</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
a. 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				



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
place, or object with cultural value to a California Native American tribe, and that is:				
i. 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. 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 I of Public Resources Code 5024.1. In applying the criteria set forth in subdivision I of Public Resources 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"/>

**Impacts of Proposed Project:** It is not anticipated that tribal cultural resources, as defined by Public Resources Code Section 21074 and listed or eligible for listing in the California Register of Historical Resources, in a local register of historical resources as defined in Public resources Code Section 5020.1(k) or determined to be significant pursuant to Public Resources Code Section 5024.1 subdivision I, would be impacted as a result of the construction and use of the facility.

California Native American tribes traditionally and culturally affiliated with the Project area have been notified as part of the outreach performed during the Cultural Resources



Inventory Report. No tribal cultural resources or sacred sites have been identified on the Project site or in the vicinity. As per California Health and Safety Codes Section 7050.5 and 5097.98, as amended by AB 2641, of the Public Resources Code, in the event that human remains are encountered during construction, certain requirements are triggered. However, inadvertent discover of cultural resources or human remains is a possibility during construction, particularly in the initial stages when grading and utility trenching earthwork occur. Such an inadvertent discovery could result in a significant impact to tribal cultural resources.

**Mitigation Measures:** The Project has the potential to cause significant impacts to tribal cultural resources owing to the possibility of inadvertent discover of human remains and/or tribal cultural resources during construction. Implementation of the following mitigation measures ensure less-than-significant impacts.

***TCR-1 – Inadvertent Discover of Human Remains***

If any human remains are encountered during any phase of construction, all earth-disturbing work shall stop within 50 feet of the find. The County coroner shall be contacted to determine whether investigation of the cause of death is required as well as to determine whether the remains may be Native American in origin. Should Native American remains be discovered, the county coroner must contact the Native American Heritage Commission (NAHC). The NAHC will then determine those persons it believes to be most likely descended from the deceased Native American(s). Together with representatives of the people of most likely descent, a qualified archaeologist can assess the discovery and recommend/implement mitigation measures as necessary.

***TCR-2 – Inadvertent Discover of Cultural Resources***

If any previously unevaluated tribal cultural resources (i.e., burnt animal bone, midden soils, projectile points or other human-modified lithics, historic artifacts, etc.) are encountered, all earth-disturbing work shall stop within 50 feet of the find until a qualified archaeologist can assess the discovery and recommend/implement mitigation measures as necessary. Depending on the type and significance of the find, subsequent monitoring by an archaeologist or Native American may be warranted. This stipulation does not apply to those cultural resources evaluated and determined not Historical Resources/Historic Properties in the Cultural Resources Technical Report prepared for the Project.

**Impacts of Option 1:** Same as proposed Project.



**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts of adopting the General Plan Amendment and Zone Change on tribal cultural resources are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on tribal cultural resources, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the Project and Option 1 possible.

**Determination:** With the implementation of **Mitigation Measures TCR-1 and TCR-2**, the General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project and Option 1 would result in *less-than-significant impacts* to **Tribal Cultural Resources**.

## 18. UTILITIES AND SERVICE SYSTEMS

**Environmental Setting:** Utilities provided within Plumas County are electricity, gas, water, and sewage disposal. Depending upon the location in Plumas County, electricity may be provided by PG&E, Plumas-Sierra Rural Electric Cooperative, or Liberty Utilities. The two ways that water and sewer treatment are provided to people in Plumas County are individual on-site systems or through special districts, Community Service Districts (CSDs), and County Service Agencies (CSAs). Propane and heating oils are used as a significant source of heat and are provided by companies such as Suburban Propane, High Sierra Propane, and Hunt & Sons, Inc.

Curbside solid waste disposal services are provided throughout the unincorporated areas of the County by Feather River Disposal, a subsidiary of Waste Management, with the City of Portola and Eastern Plumas County being served by Intermountain Disposal through contracts. Solid waste is collected at transfer stations by: (1) curbside solid waste service for residences, (2) collection from dumpsters for businesses generating larger volumes of solid waste, and (3) direct drop-off of solid wastes by residents and businesses at transfer stations. Solid wastes from the five transfer stations located in Plumas County are transferred to Lockwood Regional Landfill in Sparks, Nevada.

The Chester Public Utility District provides water and sewage disposal service to the community of Chester.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Have sufficient 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 which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Generate solid waste exceeding State or local standards, or exceeding 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"/>



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
e. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** Plumas County Code mandates regular disposal of commercial solid waste by contract hauler, in this case Feather River Disposal (Waste Management). However, some forms of medical waste generated by SHD will continue to be disposed of at facilities licensed specifically for dispose of medical waste materials including “red-bag” biohazardous waste, infectious waste and sharps bin containers, and pharmaceutical waste.

The proposed Project will require LAFCO annexation of Project parcel 100-230-028 and 100-230-029 into Chester Public Utilities District (CPUD) for water, sewer, and fire protection. CPUD has provided SHD with a will-serve letter for provision of water and sewer services, stating that the parcel has water and sewer lines available, but not yet connected at the property line. The proposed Project is likely to increase demands on CPUD and other utility services above existing SHD demands commensurate with the 38% increase in patient beds and approximately 20% increase in staff size. Plumbing fixture unit calculations are provided as **Exhibit L**. These increases are not expected to significantly increase demands on providers of water and wastewater services, solid waste disposal, stormwater drainage, electric power, or telecommunications facilities, such that providers would have to increase overall service levels or capacities in the County.

CPUD provided a will-serve letter to SHD on October 14, 2021, affirming CPUD’s ability to provide adequate service with existing infrastructure.

**Impacts of Option 1:** Same as proposed Project.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on utilities and service systems of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.





**Impacts of LAFCO Annexation:** LAFCO annexation would not result in substantial adverse environmental impacts associated with the need for and provision of new or physically altered utility facilities. Existing providers will not be burdened to the extent of requiring significant expansion of facilities that in turn might cause significant environmental impacts.

LAFCO annexation will have no direct environmental impacts, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the proposed Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will have *less than significant impacts* to **Utilities and Service Systems**.

## 19. WILDFIRE

### **Environmental Setting:**

Suppression of natural fires has allowed the forest understory to become dense, creating the potential for larger and more intense wildland fires. Wind, steepness of terrain, and naturally volatile or hot-burning vegetation contributes to wildland fire hazard potential. In reviewing fire threat mapping data provided by the California Department of Forestry and Fire Protection, it appears that a majority of the County is classified as having a “Moderate” to “High” threat of wildland fire.

More specifically, reviewing the Fire Hazard Severity Zone (FHSZ) Viewer1 on the California Department of Forestry and Fire Protection’s (CAL FIRE) website shows the location of the proposed Project as being located within the “Very High” Fire Hazard Severity Zone of the State Responsibility Area.

The Fire Hazard Severity Zones Viewer is a result of Government Code Section 51178 which requires the California Department of Forestry and Fire Protection to identify “Very High Fire Hazard Severity Zones.”

The “Very High Fire Hazard Severity Zones” map is created based on the following criteria, per the California Department of Forestry and Fire Protection website:

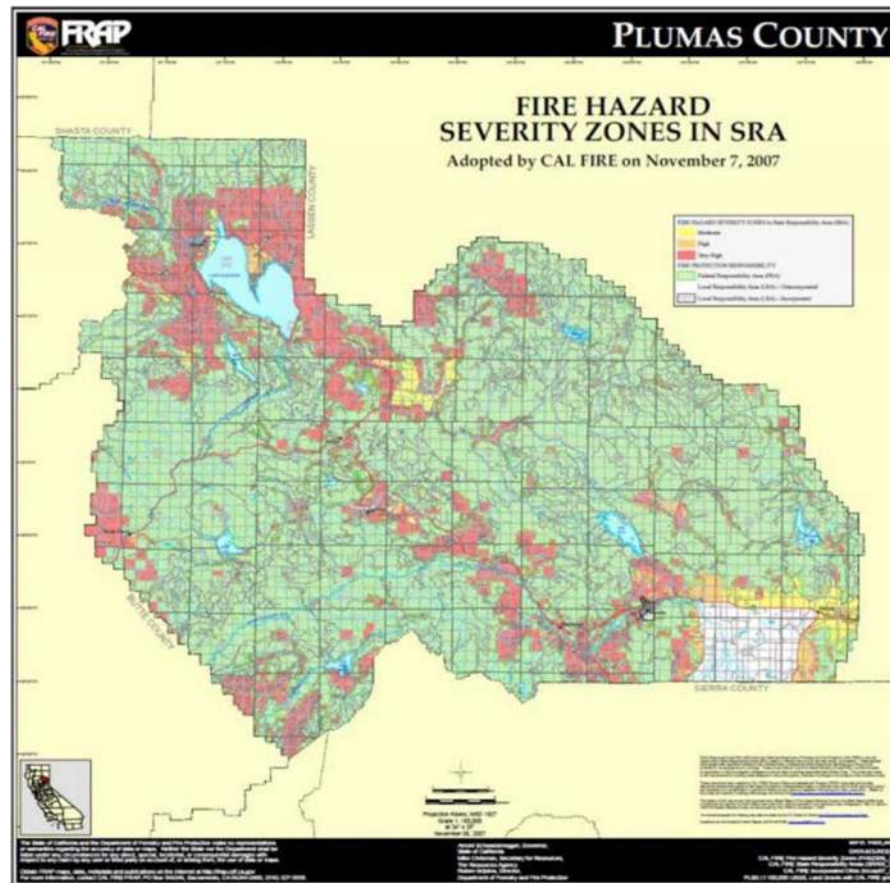
1. Vegetation – Fire hazard considers the potential vegetation over a 30- to 50-year time horizon. Vegetation is “fuel” to a wildfire and it changes over time.



2. Topography – Fire typically burns faster up steep slopes.
3. Weather – Fire moves faster under hot, dry, and windy conditions.
4. Crown fire potential – Under extreme conditions, fires burn to the top of trees and tall brush.
5. Ember production and movement – Fire brands are embers blown ahead of the main fire. Fire brands spread the wildfire and they get into buildings and catch the building on fire.
6. Likelihood – Chances of an area burning over a 30- to 50-year time period based on history and other factors.

The existing Fire Hazard Severity Zone map is from 2007 (**Figure 1**). On December 16, 2022 the CAL FIRE Office of the State Fire Marshall published a Notice of Proposed Rulemaking concerning an update to the regulations relating to Fire Hazard Severity Zones in the State Responsibility Area.

**Figure 1.** Fire Hazard Severity Zones in Plumas County, CA. (Source: CAL FIRE)



Among the varying intended uses for the Fire Hazard Severity Zone maps is guide building officials in the implementation and application of the wildland-urban interface standards for new construction.

In 2005, the Plumas County Fire Safe Council created the Plumas County Communities Wildfire Protection Plan to provide mitigations to potential threats from wildfire, such as hazardous fuel reduction, defensible space, land use and building codes. The plan was updated in 2013 and 2019.



Would the project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
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 wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require the installation or maintenance 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 structure to significant risks, including downslope or downstream flooding or landslides, because of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Impacts of Proposed Project:** The following 2035 General Plan's Public Health & Safety Element identified Wildland Fire Hazards and Fire Protection goals to minimize the possibility of the loss of life, injury, damage to property, and loss of habitat and natural resources resulting from fire.



### **PHS 6.3.1 – Defensible Space**

The County shall review and update its Fire Safe ordinance to attain and maintain defensible space through conditioning of tentative maps and in new development at the final map and/or building-permit stage.

### **PHS 6.3.2 – Limitations in Fire Hazard Areas**

The County shall consult the current Fire Hazard Severity Zone Maps during the review of all projects so that standards and mitigation measures appropriate to each hazard classification can be applied. Land use densities and intensities shall be determined by mitigation measures in areas designated with a high or very high fire hazard rating. Intensive development in areas with high or very high fire hazard rating shall be discouraged.

### **PHS 6.3.3 – Structural Fire Protection**

All developments within the service boundaries of an entity which provides structural fire protection may be required to make contribution to the maintenance of the existing level of structural service proportionate to the increase in demand for service structural fire protection and Emergency Medical Services resulting from the development.

### **PHS 6.3.9 – Fuel Modification**

The County shall require new development within high and very high fire hazard areas to designate fuel break zones that comply with defensible space requirements to benefit the new and, where possible, existing development.

The proposed Project site is in a state responsibility area classified as a very high fire hazard severity zone. Applicable construction standards apply.

The proposed Project vicinity is served by a paved, maintained state highway with adequate provision for access. The proposed Project site will have a primary access road and a secondary emergency access road (**Exhibit J**). The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. SHD will prepare an emergency evacuation plan prior to occupancy.

The Project's site topography is fairly level, and it is anticipated that maintenance of the property's vegetation would be required to ensure maximum efficiency of the facility. It is not anticipated that wildfire risks would be exacerbated, causing the Project occupants to



be exposed to pollutant concentrations from a wildfire. Vegetation and tree removal to accommodate the Project will likely reduce the risk of wildfire to adjacent residential properties in that it will function somewhat effectively as a fire break.

The Project is located on a site with level topography and is in a vicinity that has fairly level topography. As a result, people or structures would not be exposed to significant increased risks, including downslope or downstream flooding, or landslides because of runoff, slope instability, or drainage changes caused by wildfire, as a result of the Project.

**Impacts of Option 1:** Same as proposed Project but with benefit to neighboring residences and businesses of tree removal for the helipad flight path acting as additional fire break.

**Impacts of General Plan Amendment and Zone Change:** Because the General Plan Amendment and Zone Change are the necessary precursors to enabling the proposed Project and Option 1 to proceed, the potential impacts on wildfire risk of adopting the General Plan Amendment and Zone Change are equal to the additive impacts of the proposed Project and Option 1.

**Impacts of LAFCO Annexation:** LAFCO annexation will have no impact on wildfire, but for it being another necessary precursor to the proposed Project and Option 1, and thus having the indirect effect of making the Project and Option 1 possible.

**Determination:** The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 will have ***no impact*** to **Wildfire**.



## 20. MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:	Potentially Significantly Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a. 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, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. 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 type="checkbox"/>	<input checked="" type="checkbox"/>
c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**Impact Discussion:** The analysis from this Initial Study for both the General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 found these in total would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species or threaten to eliminate a plant or animal with the implementation of the mitigation measures set forth by the Project applicant.

The General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project, and Option 1 were analyzed for cumulatively considerable impacts. This Initial Study found that the Project would not have a cumulatively considerable impact when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects, with the implementation of the mitigation measures set forth by the Project applicant.

The Initial Study found that the General Plan Amendment and Zone Change, LAFCO Annexation, proposed Project and Option 1 would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly, with the implementation of the mitigation measures set forth by the Project applicant.





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## **EXHIBITS**

### **A. Project Maps**

- 1. Regional Setting**
- 2. Project Location**
- 3. Option 1 Flight Path Location**

### **B. Helipad Layout**

### **C. Existing and Proposed Zoning**

- 1. Existing Zoning**
- 2. Proposed Zoning**

### **D. Utility Plans**

- 1. Utility Plan**
- 2. Potential Water Connections**
- 3. Potential Sewer Connection**

### **E. Biological Resources Report**

### **F. Wetland Screening Report**

### **G. Drainage and Stormwater Quality Study**

### **H. Geotechnical Report**

### **I. Noise Technical Memorandum**

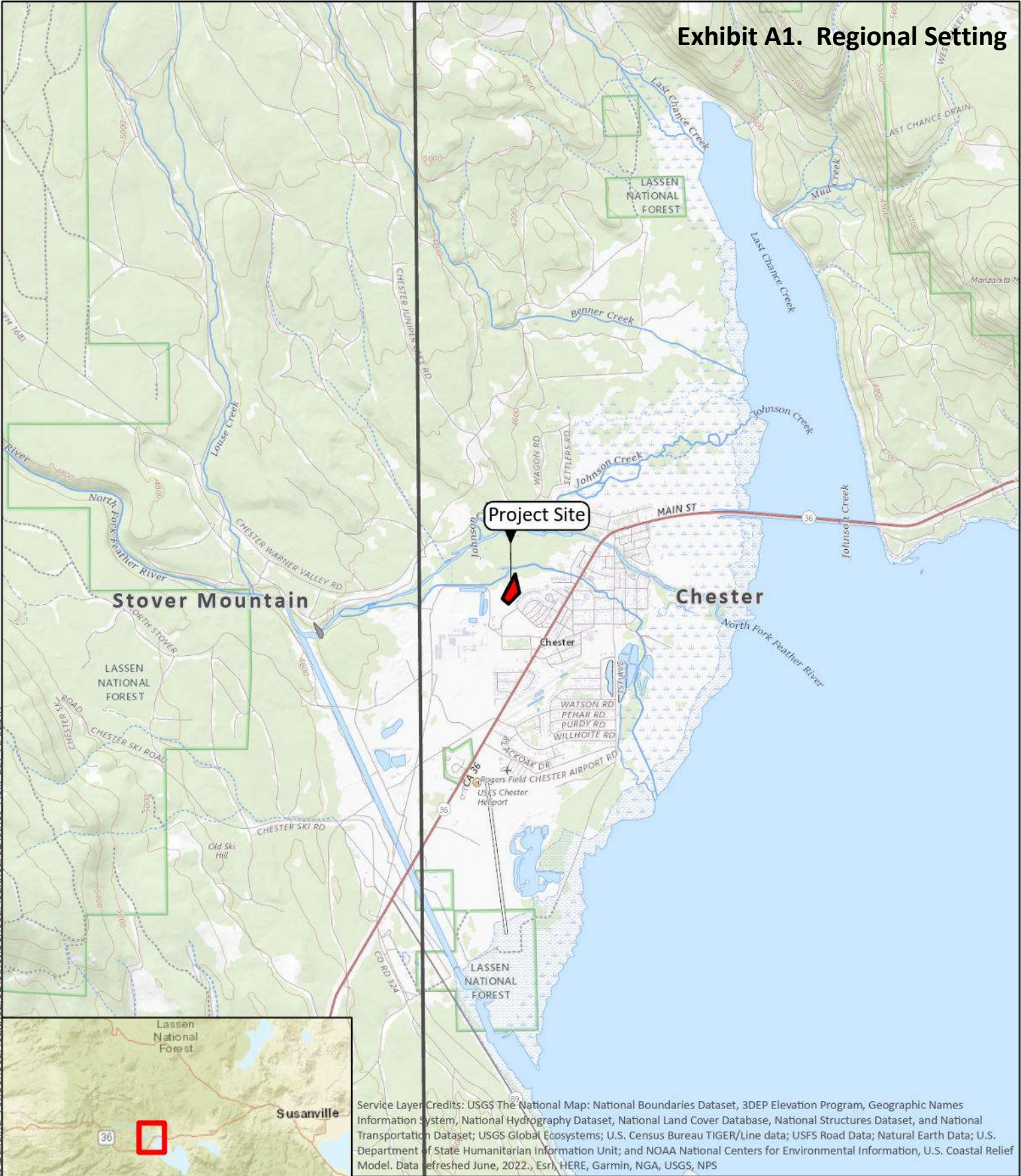
### **J. Access**

- 1. Emergency Access**
- 2. Site Access**



### **K. Site Plan**

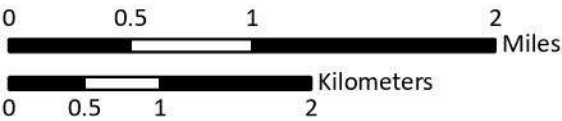
### **L. Fixture Unit Calculations**

Exhibit A1. Regional Setting



Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022., Esri, HERE, Garmin, NGA, USGS, NPS

-  Project Site
-  USGS 24k Quadrangle

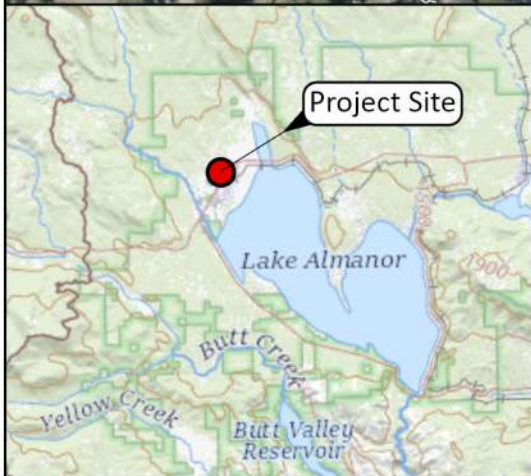


1:50,000

Author: NicolasAnderson  
Coordinate System: NAD 1983 2011  
StatePlane California I FIPS 0401 Ft US







**SEQUOIA**  
Ecological Consulting, Inc.

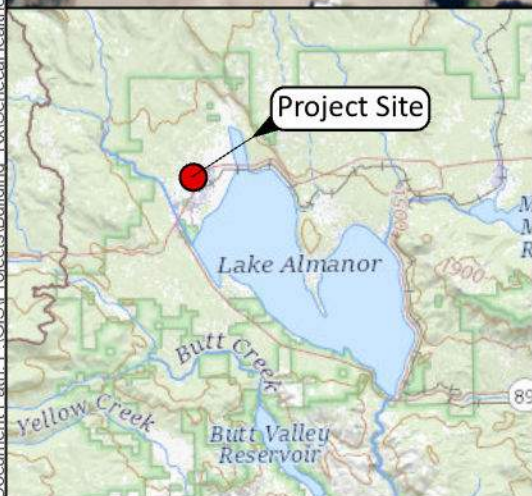
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Projection: Lambert Conformal Conic  
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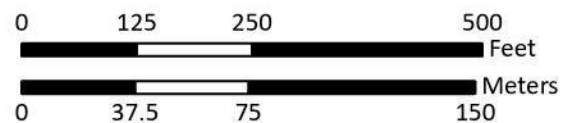
## Exhibit A3. Option 1 Flight Path Location



Service Layer Credits: This work is licensed under the Esri Master License Agreement. View Summary of Terms of Use. USGS National Map: National Boundaries Dataset, 3D Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, National Transportation Dataset, USGS Global 20 Systems, U.S. Census Bureau TIGER/Line data, USFS and Data Natural Earth Data, U.S. Department of State Humanitarian Information Unit, and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data retrieved June, 2022.



 Project Site



1:2,500

Author: NicolasAnderson  
Coordinate System: NAD 1983 2011  
StatePlane California I FIPS 0401 Ft US

 **SEQUOIA**  
Ecological Consulting, Inc.



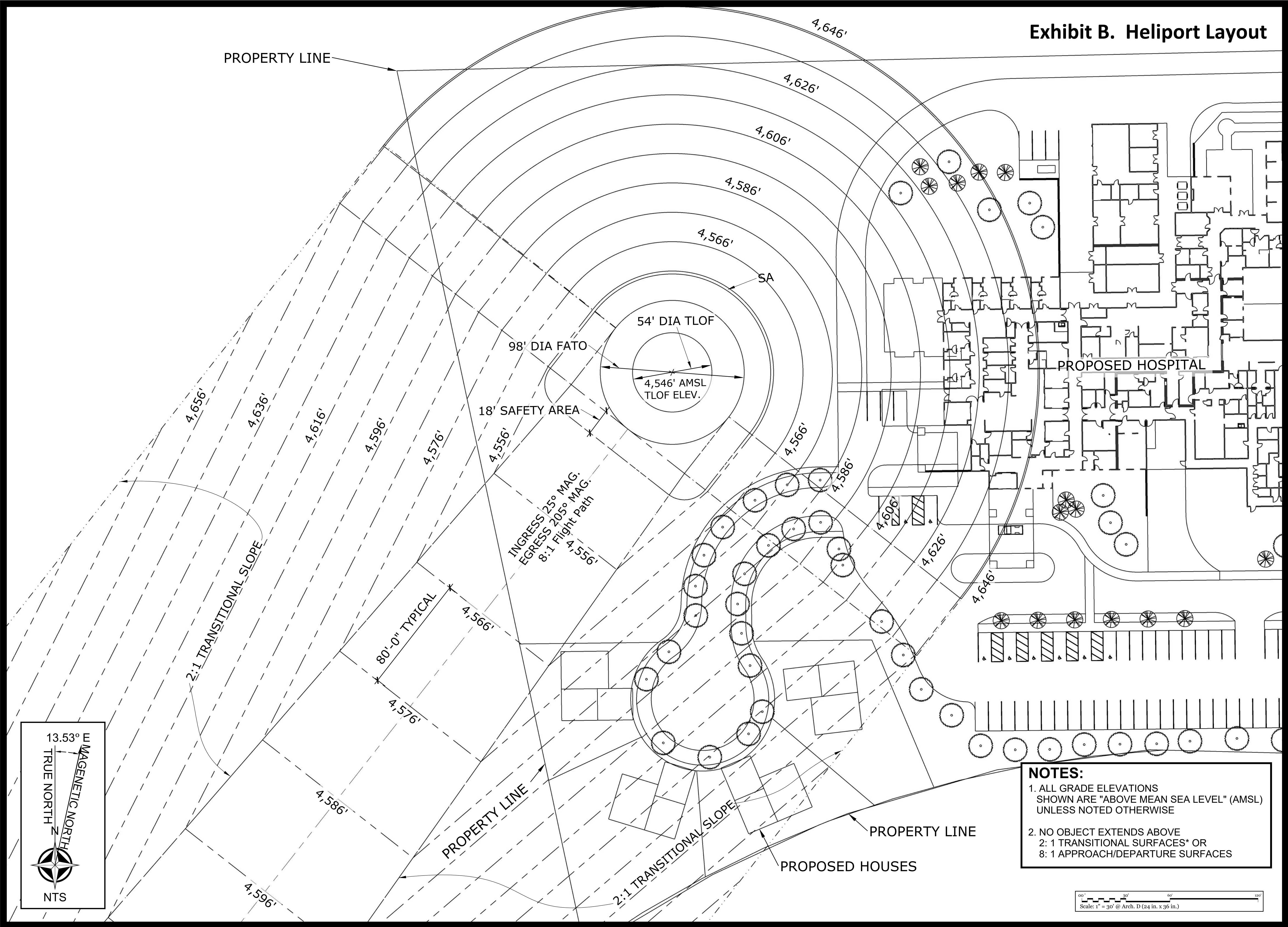



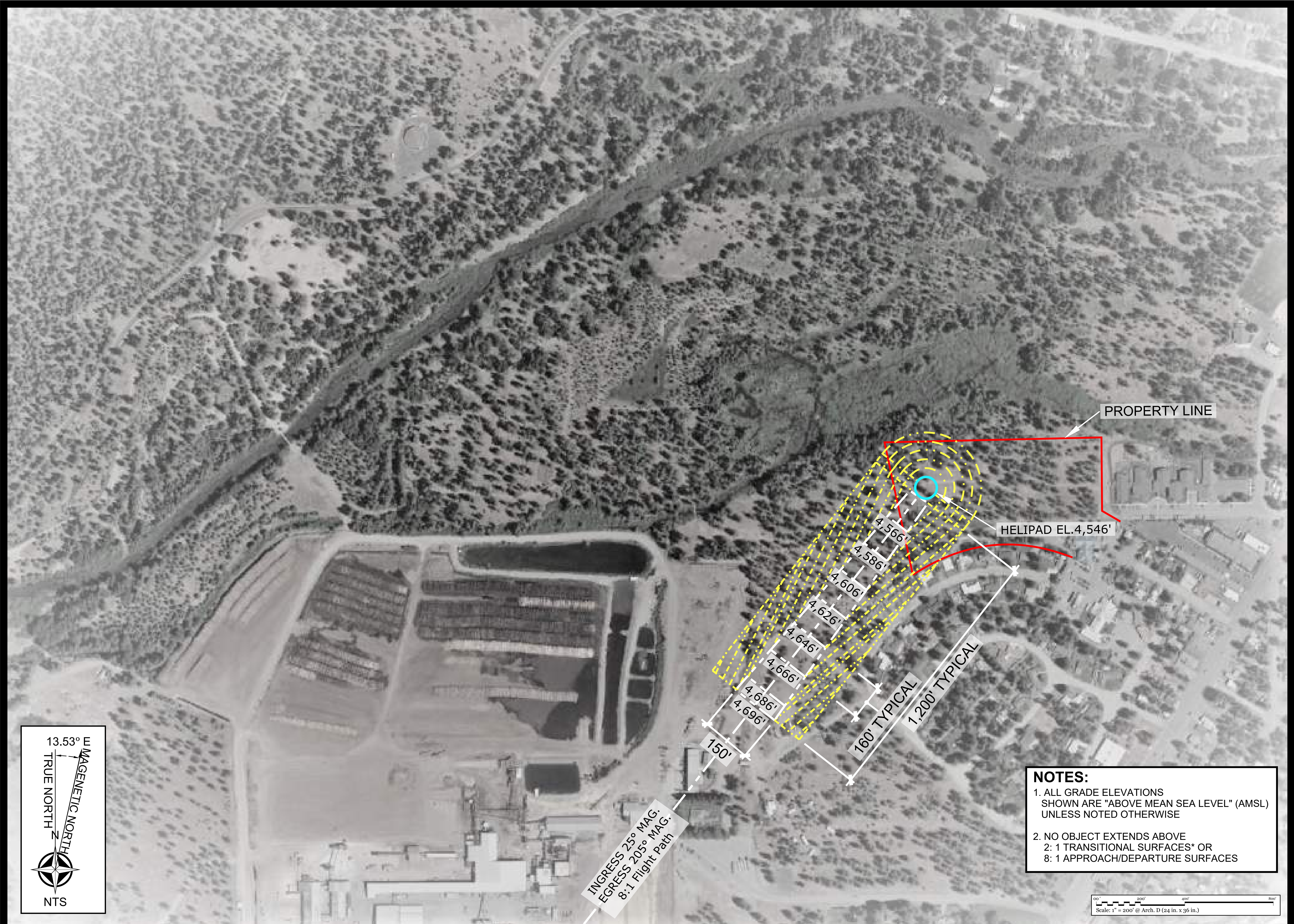
Exhibit B. Heliport Layout

- NOTES:**
- 1. ALL GRADE ELEVATIONS SHOWN ARE "ABOVE MEAN SEA LEVEL" (AMSL) UNLESS NOTED OTHERWISE
  - 2. NO OBJECT EXTENDS ABOVE
    - 2: 1 TRANSITIONAL SURFACES\* OR
    - 8: 1 APPROACH/DEPARTURE SURFACES

DESIGN HELICOPTER DIMENSION				HELISTOP INFORMATION				HELISTOP DESIGN				NOTES / REFERENCES		ABBREVIATIONS		LEGEND	
OVERALL LENGTH	65'	Skorsky / UH60		FAA ADVISORY CIRCULAR	AC 150/5390-2C (2012)			TOUCHDOWN AND LIFTOFF AREA (TLOF)	54' dia.			- GOOGLE EARTH PRO		AGL - ABOVE GROUND LEVEL		★ - LIGHTED WINDCONE	
ROTOR DIAMETER	54'			HELIPORT CLASSIFICATION	Private			FINAL APPROACH AND TAKEOFF AREA (FATO)	98' dia.			- 2018-2019 SENeca NEW HOSPITAL - Mod/SIS		AMSL - ABOVE MEAN SEA LEVEL			
UNDERCARRIAGE WIDTH	10' -0"			LATITUDE	40° 18' 28.60" N			SAFETY AREA	18'			- Seneca New Hospital - V8 - Site Plan_06-02-22.dwg		FP - FLIGHT PATH			
UNDERCARRIAGE LENGTH	20'			LONGITUDE	121° 14' 15.66" W			OVERALL OBJECT FREE AREA	134' dia.					AMSL - MEAN SEA LEVEL			
MAXIMUM TAKEOFF WEIGHT	22,000 lbs.			FLIGHT PATH HEADING	205° MAG EGRESS / 25° MAG INGRESS			TOUCHDOWN POSITIONING CIRCLE	32'-5" dia.					TOP TOUCHDOWN LIFT OFF AREA			
														TOL - TOP OF LIGHT			
														TS - TRANSITIONAL SLOPE			
														SA - SAFETY AREA			


SITE PLAN - HELISTOP LAYOUT			HELIPORT CONSULTANTS			REVISIONS		
Seneca Healthcare District						DATE	BY	DESCRIPTION
Address to be Determined Chester, CA 96020			148 Gazania Court / Thousand Oaks, CA 91362 (805) 496-0986 www.bennettgroup.biz rbennett@bennettgroup.biz			1	HC	Draft
						2	...	...
						3	...	...
						4	...	...
						5	...	...
H-1								





Arch. D (24 in. x 36 in.)      © Heliport Consultants

DESIGN HELICOPTER DIMENSION	Sikorsky UH60	HELIPORT INFORMATION		HELIPAD DESIGN		NOTES / REFERENCES		ABBREVIATIONS		LEGEND
		FAA ADVISORY CIRCULAR	AC 150/5390-2C (2012)	TOUCHDOWN AND LIFTOFF AREA (TLOF)	54' dia.	GOOGLE EARTH PRO	AGL ABOVE GROUND LEVEL	+		
OVERALL LENGTH	65'	HELIPORT CLASSIFICATION	Private	FINAL APPROACH AND TAKEOFF AREA (FATO)	98' dia.	Model/Seneca New Hospital- Acad/2019-045 Seneca New Hospital- Model/SenecaTopo.dwg	AMSL ABOVE MEAN SEA LEVEL			
ROTOR DIAMETER	54'	LATITUDE	40° 18' 28.60" N	SAFETY AREA	18'	-Seneca New Hospital - V8 - Site Plan_06-02-22.dwg	PP - FLIGHT PATH			
UNDERCARRIAGE WIDTH	10' -0"	LONGITUDE	121° 14' 15.66" W	OVERALL OBJECT FREE AREA	134' dia.		STAT FINAL APPROACH & TAKEOFF AREA			
UNDERCARRIAGE LENGTH	29'	FLIGHT PATH HEADING	205° MAG EGRESS / 25° MAG INGRESS	TOUCHDOWN POSITIONING CIRCLE	32'-5" dia.		PP - MEAN SEA LEVEL			
MAXIMUM TAKEOFF WEIGHT	22,000 lbs.						TOP TOUCHDOWN POSITIONING CIRCLE			
							TOL - TOP OF LIGHT			
							TRANSITIONAL SURFACE			
							SAFETY AREA			

SITE PLAN - HELISTOP FLIGHT PATHS		HELIPORT CONSULTANTS		REVISIONS	
Seneca Healthcare District				DATE	BY
Address to be Determined Chester, CA 96020		148 Gazania Court / Thousand Oaks, CA 91362 (805) 496-0986 www.bennettgroup.biz rbenett@bennettgroup.biz		1 06/27/2022	HC
				2	Draft
				3	...
				4	...
				5	...



**SENECA SITE VALIDATION**  
2/21/2023

The site plan illustrates the proposed development and its relationship to surrounding zoning districts. Key features include:

- Zoning Districts:** Rec-OS (Recreational Office), Rec-P (Recreational Professional), R-10 (Residential Single-Family), 7-R (Residential Single-Family), M-R (Medium-Density Residential), and C-2 (Community Center).
- Building Footprints:** Various structures are shown, including a large central building, a helipad, and several smaller buildings.
- Parking and Access:** Multiple parking areas are indicated, along with access points like 'VISITOR ENTRY', 'ED ENTRY', and 'AMB ENTRY'.
- Infrastructure:** Roads such as Maywood Dr and Reynolds Road are shown, along with utilities like water, sewer, and gas lines.
- Other Features:** A retention basin, a future housing area, and a future shop building are also depicted.

**SENECA SITE VALIDATION**  
2/21/2023

The site plan illustrates the proposed development and its relationship to surrounding zoning districts. Key features include:

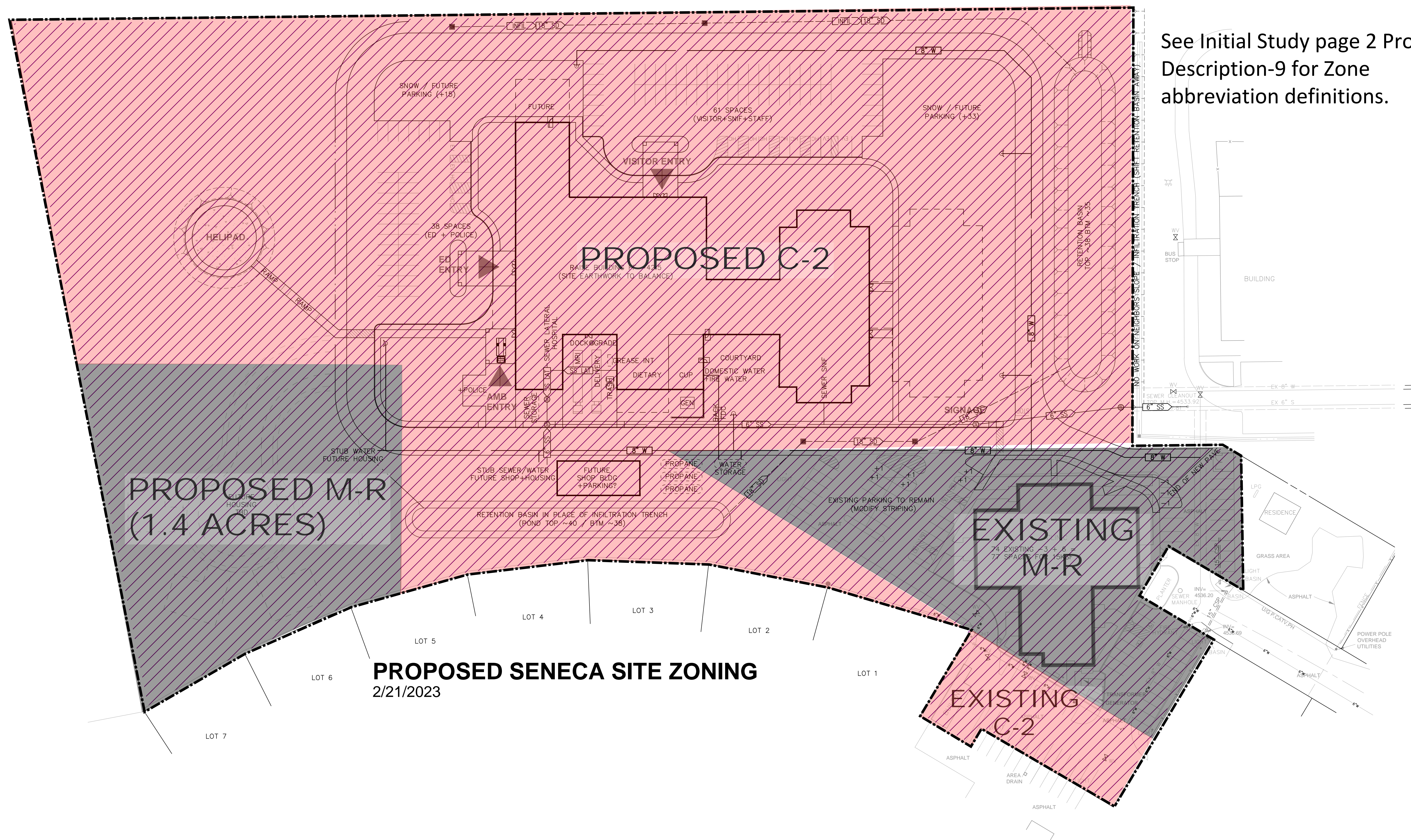
- Zoning Districts:** Rec-OS (Recreational Office), Rec-P (Recreational Professional), R-10 (Residential Single-Family), 7-R (Residential Single-Family), M-R (Medium-Density Residential), and C-2 (Community Center).
- Building Footprints:** Various structures are shown, including a large central building, a helipad, and several smaller buildings.
- Parking and Infrastructure:** Parking areas, roads (Maywood Dr, Reynolds Road), and utilities (sewer, water, propane) are indicated.
- Site Validation:** The central text box indicates the site is for validation as of 2/21/2023.



## Exhibit C2. Proposed Zoning

Cross-Hatched = Ltd Zone

See Initial Study page 2 Project Description-9 for Zone abbreviation definitions.





### Exhibit D1. Utility Plan

STOVER DITCH

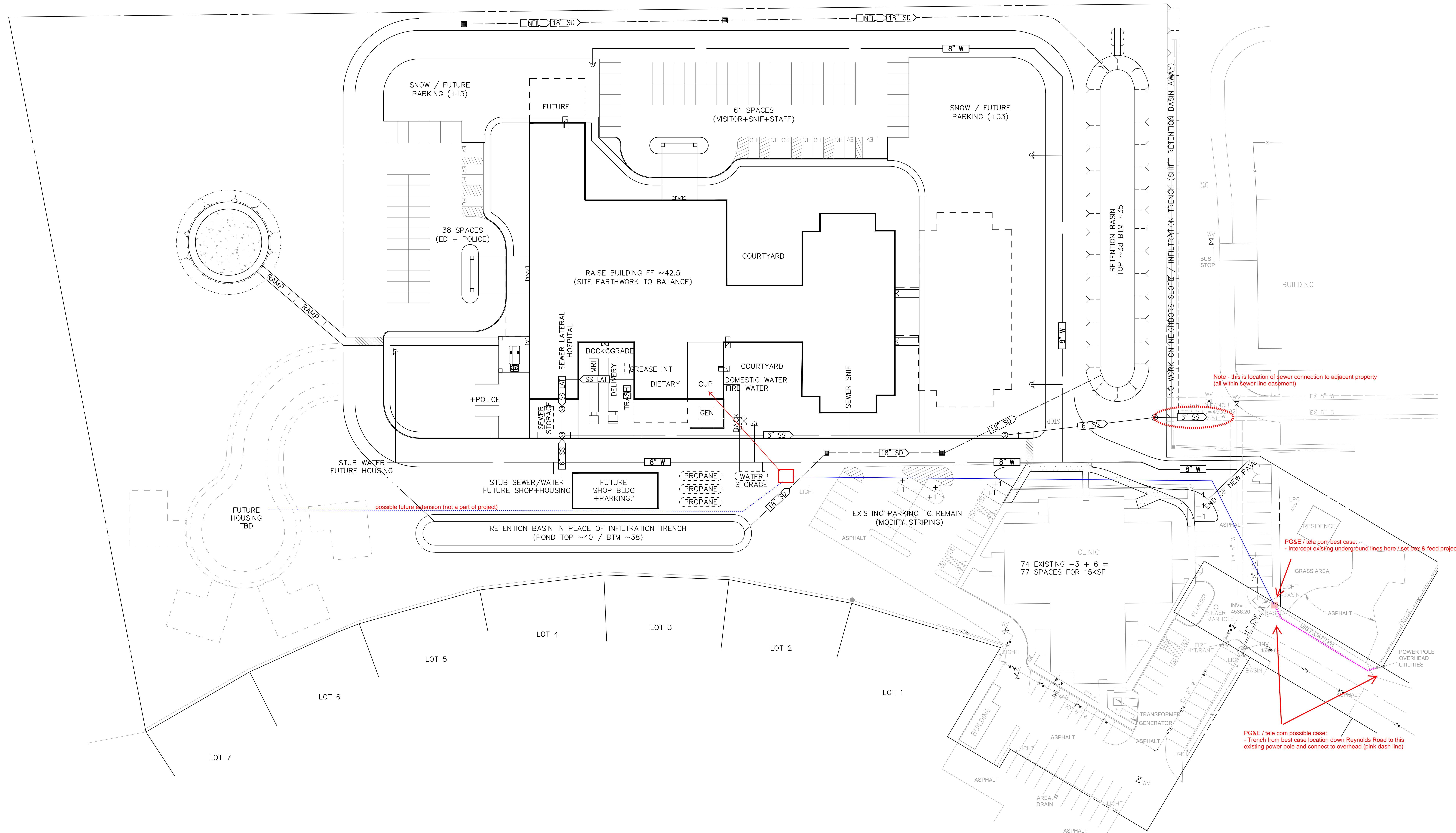




Exhibit D2. Potential Water Connection Routes

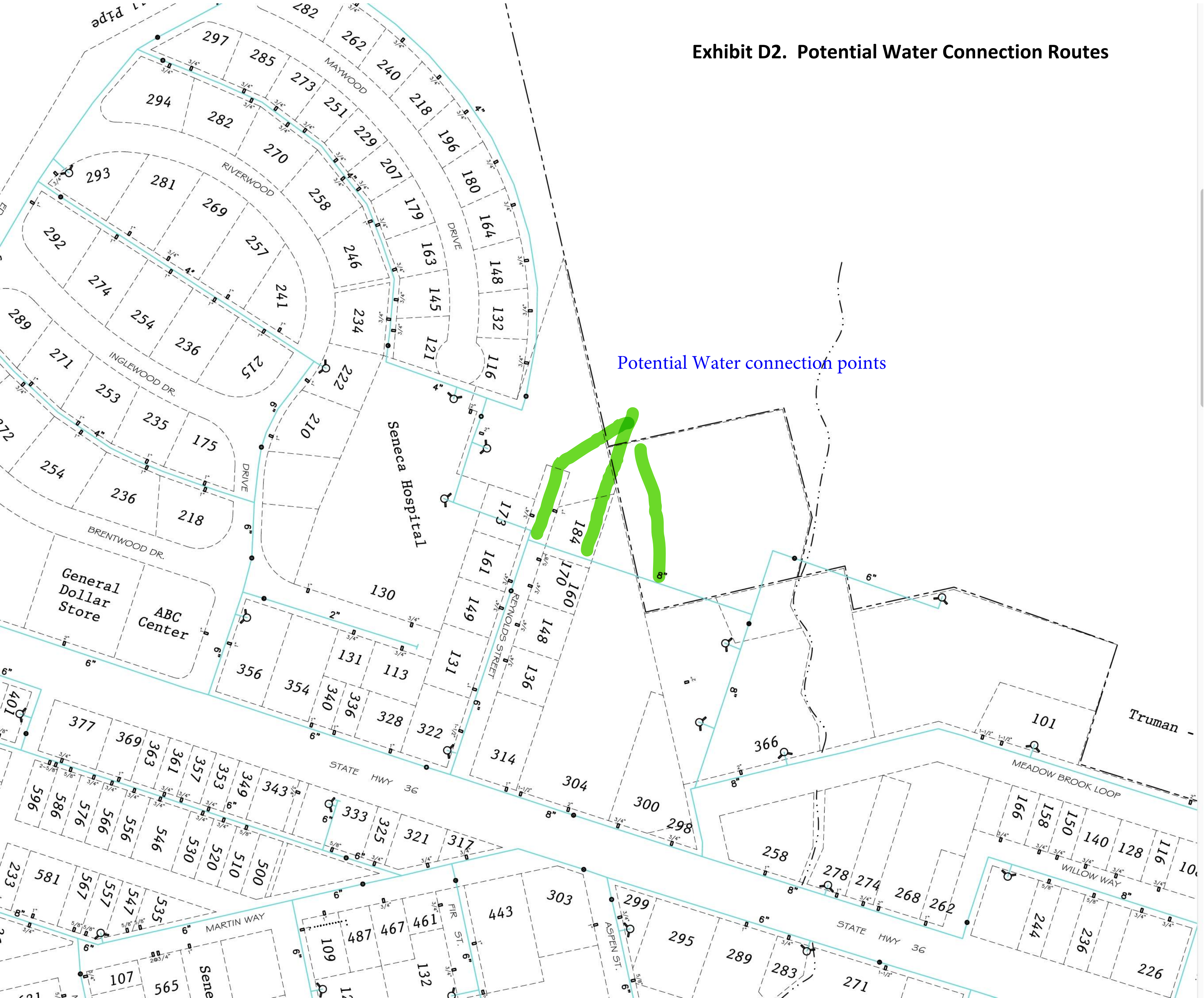
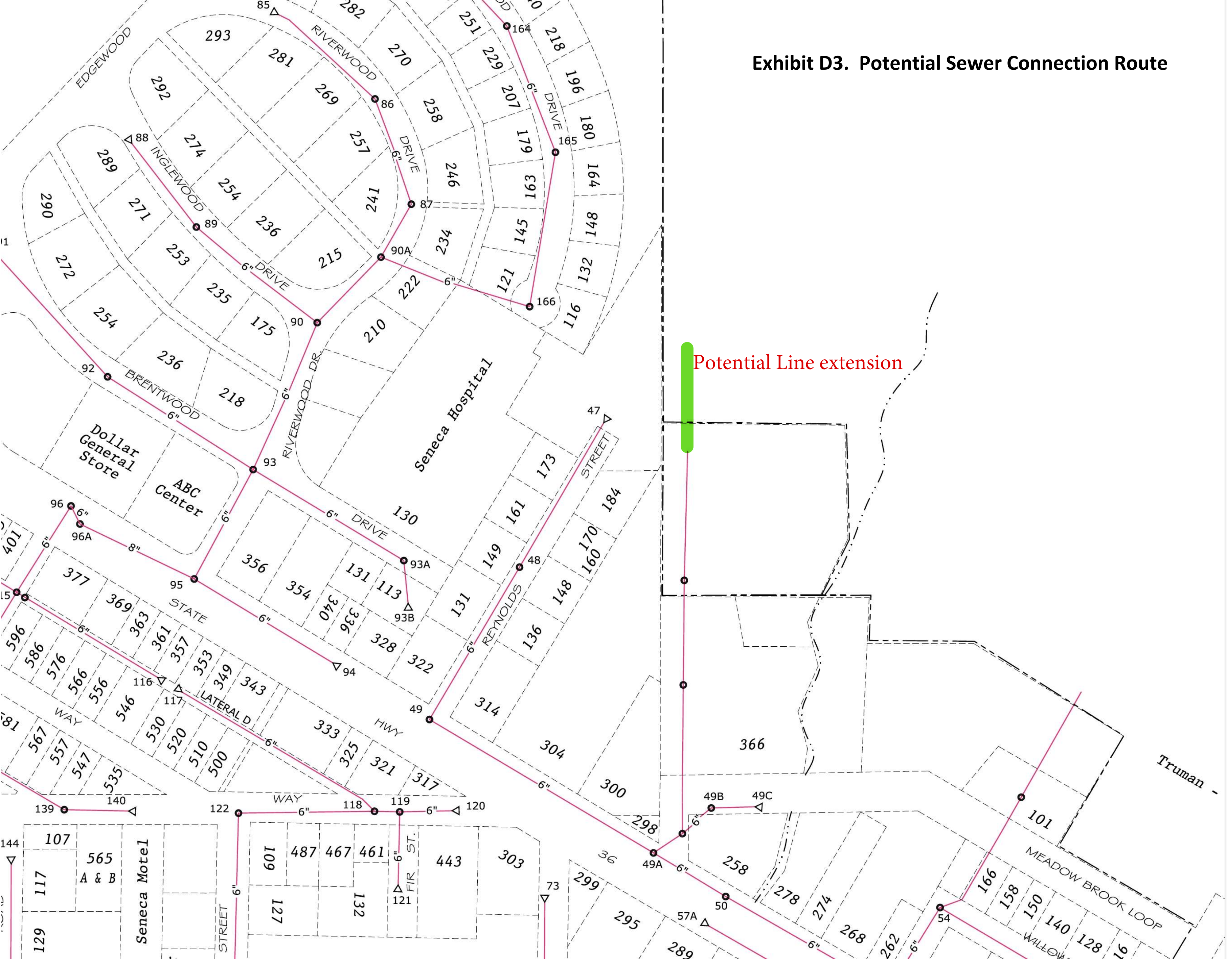




Exhibit D3. Potential Sewer Connection Route





**Seneca Healthcare District  
Seneca Healthcare Facility Replacement Project  
County of Plumas, California**

**Biological Resources Report**

**December 2022**

**Updated February 2023**

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### Appendix A. Site Plans

### Appendix B. USFWS Draft Information for Planning and Consultation System Report – Seneca Healthcare Facility Replacement





**Appendix C. USFWS Draft Information for Planning and Consultation System Report – Proposed  
Helicopter Flight Path**

## 1.0 INTRODUCTION

Sequoia Ecological Consulting, Inc. (Sequoia) has prepared this Biological Resources Report for the proposed Seneca Healthcare Facility Replacement Project site (hereafter referred to as “the Project site”) located at latitude 40.307100°, longitude -121.236602° in the unincorporated community of Chester, Plumas County, California (Figures 1 and 2). Our analysis provides a description of existing biological resources on the Project site and identifies constraints that could arise from potentially significant impacts that could occur to sensitive biological resources from the proposed Project.

Biological resources include common plant and animal species, as well as special-status plants and animals as designated by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), and other resource organizations including the California Native Plant Society (CNPS). Biological resources also include “waters of the United States” and “waters of the state” of California, as regulated by the U.S. Army Corps of Engineers (USACE), California Regional Water Quality Control Board (RWQCB), and CDFW. Please note that this analysis assesses the potential for impacts to regulated waters but does not provide the level of detail required for a formal delineation of Waters of the United States suitable for submittal to USACE as defined by the Clean Water Act.

In accordance with the California Environmental Quality Act (CEQA) checklist, this Biological Resources Report also provides mitigation measures for “potentially significant” impacts that could occur to biological resources pursuant to CEQA (Pub. Resources Code §§ 21000 et seq.; 14 Cal. Code Regs §§ 15000 et seq.). The prescribed mitigation measures would reduce impacts to levels considered “less than significant” pursuant to CEQA. Accordingly, this Biological Resources Report is suitable for review by Seneca Healthcare District (CEQA Lead Agency) and Responsible Agencies for the proposed Project pursuant to CEQA.

## 2.0 LOCATION AND SETTING

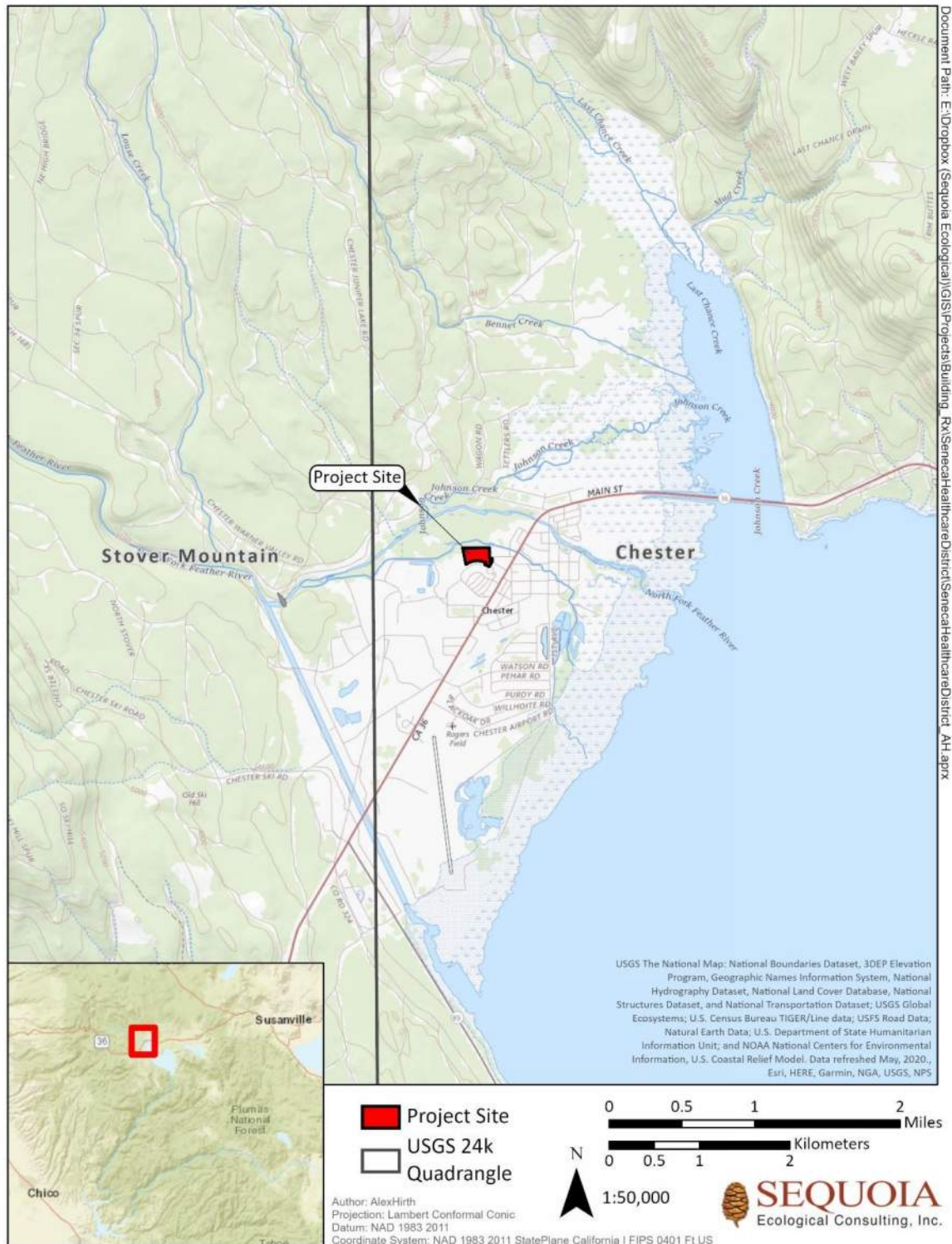
### Healthcare Facility Replacement Project

The property is located adjacent to the existing Seneca Healthcare Facility at 199 Reynolds Road, Chester, CA. The tentative lot line adjustment for the Seneca Healthcare District is provided in Appendix A, showing the proposed configuration of the 11.78-acre resultant parcel. Seneca Healthcare District is planning to annex the property to build a replacement, as referenced in the Facility Master Planning document (Seneca Healthcare District, 2021). Sequoia reviewed data provided by the District to assess potential impacts to sensitive biological resources (Figure 3). The proposed Project consists of developing additional health care facilities on the resultant parcel. The Project site is characterized as predominately a Jeffrey pine forest plantation. The remaining land is developed as existing facilities for the Seneca Healthcare District. The Stover Ditch runs approximately west to east, north of the property, which supports riparian woodland along the watercourse and adjacent to the property.

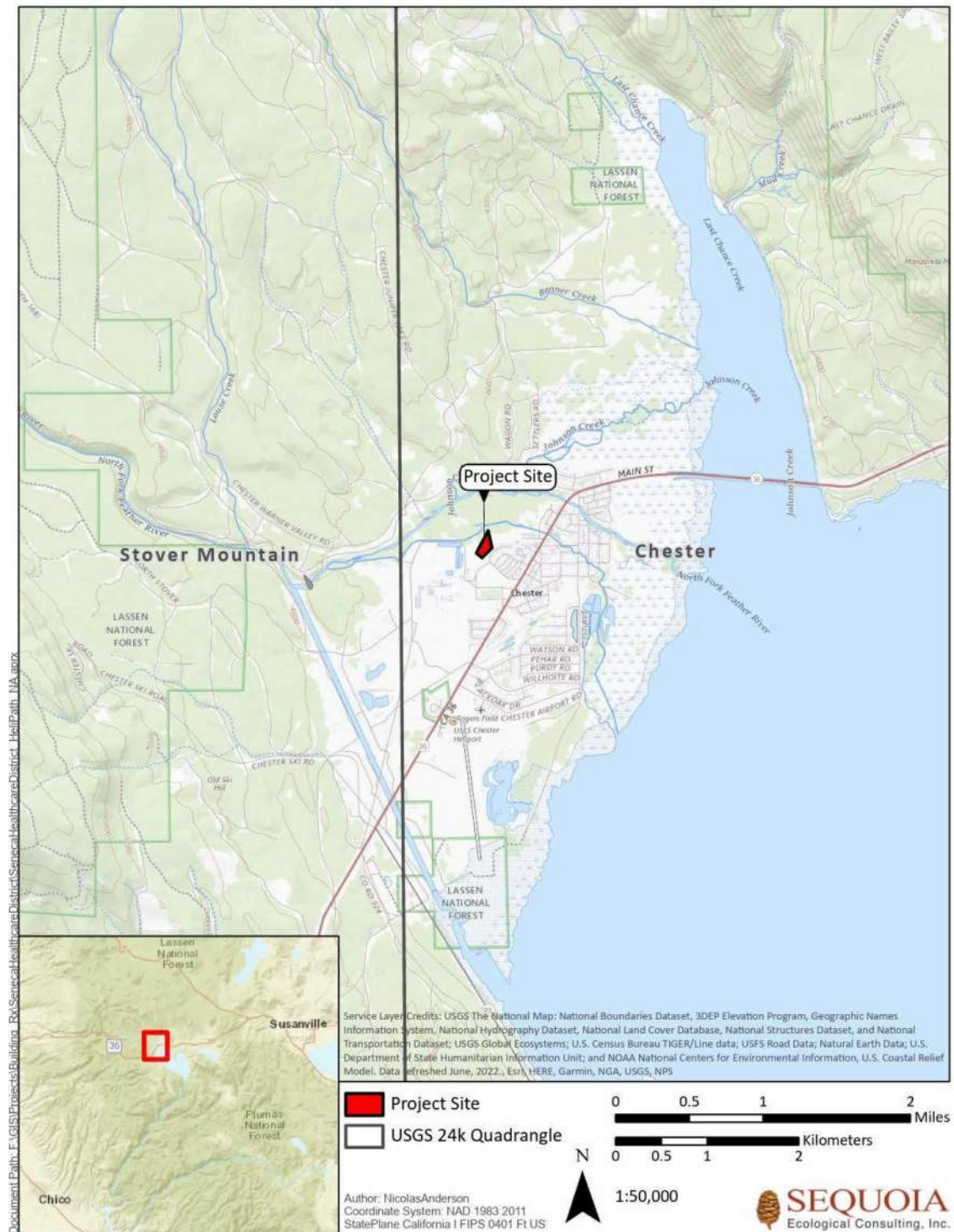


### Collins Pines Optional Landing Approach

The Collins Pines property is located adjacent to and west of the Proposed Project parcel (Figure 4). This parcel is meant to be an optional flight approach area for the helipad at the western edge of the Proposed Project parcel, as referenced in the Facility Master Planning document (Seneca Healthcare District, 2021), and will be analyzed as an alternative to the Proposed Project (i.e., the Proposed Project plus the helipad and flight path). Sequoia reviewed data provided by the District to assess potential impacts to sensitive biological resources. The additional Project site is characterized as predominately a Jeffrey pine forest plantation. The remaining land is developed as existing facilities for the Seneca Healthcare District. A dried swale runs approximately northeast to southwest through the center of entirety of the proposed flight line.



**Figure 1.** Regional Map of the Seneca Healthcare Facility Replacement Project Site.



**Figure 2.** Regional Map of the Seneca Healthcare Facility Proposed Helicopter Approach.



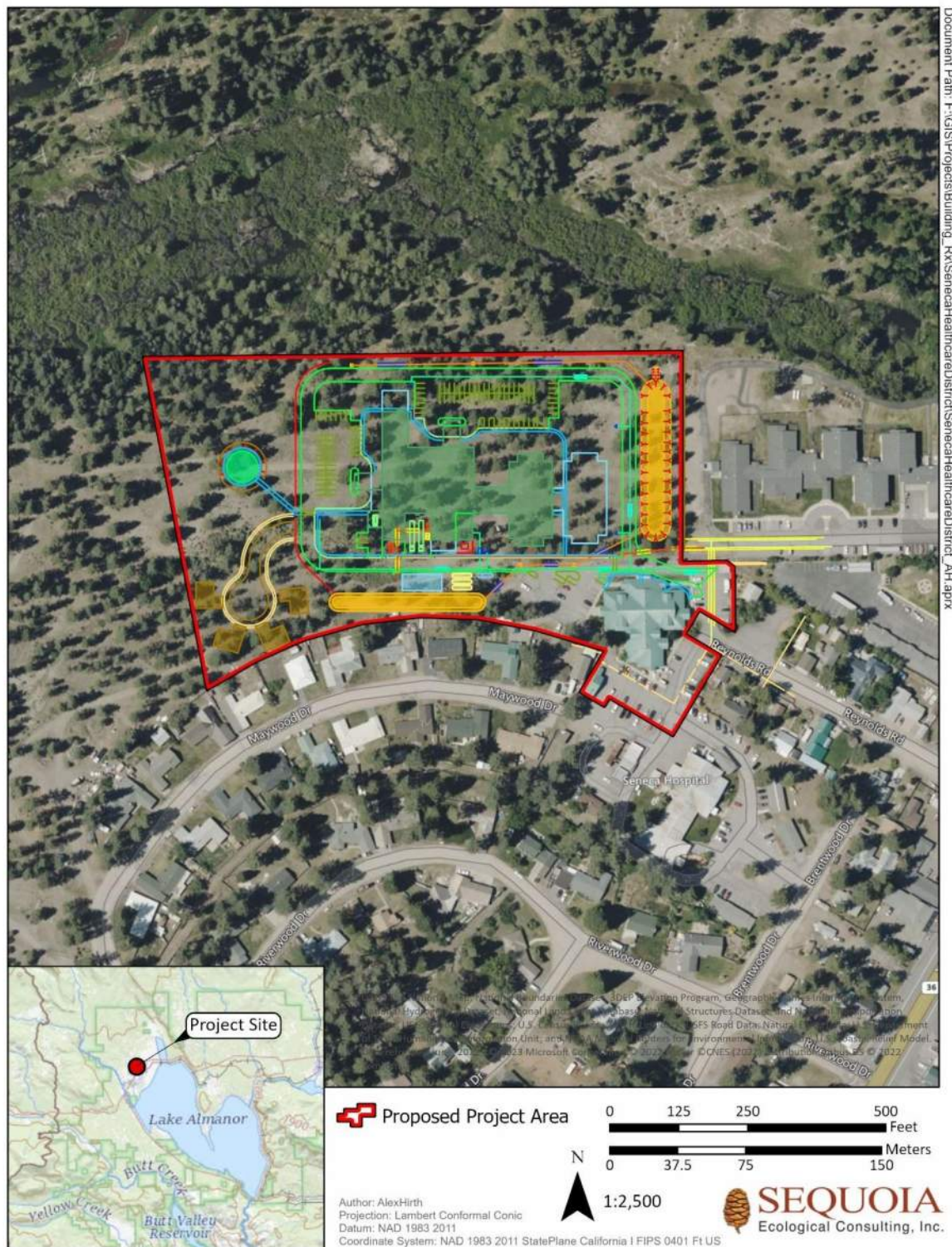
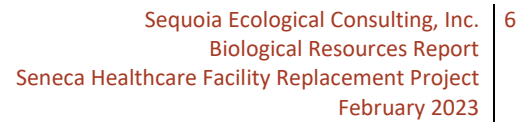


Figure 3. Location Map of the Seneca Healthcare Facility Replacement Project Site.







### 3.0 PROJECT DESCRIPTION

Seneca Healthcare District (SHD; District) proposes to provide for the continuing care of their Plumas County and Chester area community through the construction of a new acute-care hospital and skilled nursing facility building to replace their existing aged facilities. Primarily built in the 1950s and 1970s, SHD's current hospital buildings present a challenge to continued high-quality care in the size, accessibility, and environment of the current facilities. Considering the financial implications associated with the potential SB-1953 mandated seismic compliance upgrades of the existing buildings, SHD has elected to build new facilities and expand upon the current services offered by SHD. The existing facilities will be repurposed for non-acute care uses that have yet to be determined, with preliminary candidate uses including outpatient behavioral health or expanded physical therapy. The existing facilities compared with proposed facilities are summarized in **Table 1**. The proposed Project area totals 11.8 acres. The Option 1 helipad flight path area outside the Project area entails approximately 6 acres.

**Table 1. Existing and Proposed Facilities**

Existing	Proposed
<ul style="list-style-type: none"><li>▪ 10-bed acute care, no negative pressure</li></ul>	<ul style="list-style-type: none"><li>▪ 10-bed acute care, 2 of those with isolation capabilities</li></ul>
<ul style="list-style-type: none"><li>▪ 2-bed open-bay emergency room</li></ul>	<ul style="list-style-type: none"><li>▪ 3-bed private emergency room and Trauma/procedure room within ED</li></ul>
<ul style="list-style-type: none"><li>▪ 16-bed skilled nursing facility</li></ul>	<ul style="list-style-type: none"><li>▪ 26-bed skilled nursing facility</li></ul>
<ul style="list-style-type: none"><li>▪ Imaging including x-ray, CT outside hospital in portable building, MRI via trailer</li></ul>	<ul style="list-style-type: none"><li>▪ Imaging to include x-ray, CT, ultrasound, and MRI via trailer</li></ul>
<ul style="list-style-type: none"><li>▪ Operating room &amp; 2-bed patient recovery</li></ul>	<ul style="list-style-type: none"><li>▪ Operating room, procedure room, &amp; 3-bed patient recovery</li></ul>





Existing	Proposed
	<ul style="list-style-type: none"><li>▪ All spaces right-sized to allow for improved workflow, updated/improved infrastructure, updated medical equipment, and ADA accessibility per current code</li></ul>

The proposed facilities would entail two different building types, all under one roof: an acute-care replacement hospital (OSHDP-1), and an expanded skilled nursing facility (OSHDP-2). The intent of the design is to provide the units as separate building types with differing functions, but connected with the required seismic and building separations, so that there is seamless flow between each unit, built-in efficiencies for circulation of staff and patients, and shared use of spaces. There is also a proposed non-California Department of Health Care Access and Information (HCAI) support services building, detached, which would support the entire facility, and employee housing.

In anticipation of potential approval of the proposed Project, SHD has acquired 10 acres of land on parcels adjacent to their existing campus (APN 100-110-030) and has completed a lot line adjustment. The additional land was purchased from Collins Pine, an adjacent landowner within the timber operations industry. SHD plans to use the surrounding forested habitat to provide restorative and healing views of this scenery for the residents and patients, and to also maintain timber as appropriate in public areas to honor the neighboring industry. Secondary access is anticipated to be provided via the existing clinic's rear parking lot, through to Brentwood Drive. Alternatively, an easement to provide a secondary access road may be granted at the northwest corner of the proposed Project area through the Wildwood Senior Community. The easement would be granted by Plumas County Community Development Commission.

SHD's goals are to create a facility that will provide improved healthcare services to the community for another 70 years or more, continue to support the well-being and security of the community, and be able to grow and progress as both healthcare and the community advance into the future.

The region surrounding Chester has recently been previously impacted by forest fires, primarily the 2021 Dixie Fire. It is the desire of SHD to create a new facility that responds to the evolving requirements of wildland fire safety, allowing staff to continue to provide care to patients



during emergencies. Further, final design of the Project will integrate access, disaster staging, infrastructure resiliency, and fire-resistant building materials.

To fund this construction effort, SHD is pursuing US Department of Agriculture (USDA) funding as well as other funding sources, including a public bond measure (Measure B, passed in the November 8, 2022 election) and philanthropic offerings by the community. USDA funding will require compliance with the National Environmental Policy Act (NEPA), which will be completed as a parallel process.

The new facility is intended to provide current state-of-the-art healthcare technology in a new, clean, modern building. The cumulative square footage of the facilities will total 45,000 square feet, plus up to 3,000 square feet of out/support services structures, and up to 10,000 square feet of employee housing. The basic functions of the three primary buildings are as follows:

#### **OSHPD-1 Building/Hospital**

- Nursing Services/Med-Surg – 8 semi-private and 2 private/isolation, total 10 beds
- Basic Emergency Services – 3 exam rooms, a trauma room that can be converted to 2 exam rooms, and 4 low-acuity waiting areas
- Pharmaceutical Services – a drug room for supply and distribution
- Laboratory Services
- Dietary Services – kitchen and dining
- Imaging Services – X-Ray, CT Scanner, Ultrasound, and mobile MRI
- Ambulatory Surgery
- Physical Therapy
- Retail Pharmaceutical (kiosks in entry Mall)

#### **OSHPD-2 Building/Skilled Nursing Facility**

- Skilled Nursing Beds – 24 semi-private and 2 private/isolation, total 26 beds
- Occupational Therapy

#### **Non-OSHPD Support Services Buildings**

- Maintenance, Materials Management, Laundry Services
- Employee Housing



In addition to the healthcare facilities described above, SHD plans to construct employee housing in the southwest corner of the site. The conceptual plan includes construction of up to ten (10) 1,000-square-foot residential units that will house up to ten employees of SHD and their families.

The facility will have onsite a typical staff of 48 at peak hours. An onsite surface parking lot containing 102 parking spaces is proposed to serve the needs of the facility, per Plumas County (County) code. The proposed use of the property as a skilled nursing facility would be complementary to the existing hospital to provide a full spectrum of quality health services for Plumas County residents.

The proposed Project will require the following discretionary decisions by SHD, Plumas County, Plumas Local Agency Formation Commission (LAFCO), and the California Department of Forestry and Fire Protection (CAL FIRE):

- A. Proposed Project:** SHD will need to approve the proposed healthcare facilities Project, including the acute-care hospital, skilled nursing facility, support buildings, employee housing, parking lots, access roads (including a potential easement for main entrance and secondary emergency access across the adjacent Wildwood retirement home parcel), and related items.
- B. Option 1: Heliport and Flight Path Element:** As an optional element of the proposed Project, SHD will consider approving construction of a heliport to accommodate helicopter ambulance services, including the landing pad, flight path modifications (tree removal), and pathways connecting the pad to the medical buildings.
- C. General Plan Amendment/Rezone:** Plumas County will need to approve a General Plan Amendment and Zone Change to accommodate the proposed Project.
- D. LAFCO Annexation:** The proposed Project will require LAFCO annexation of parcels 100-230-028 & 100-230-029 into Chester Public Utilities District for provision of water and sewer services and for fire protection. Water and sewer for the parcel is currently designated to come from County services, and fire protection is currently designated to be provided by CAL FIRE.
- E. CAL FIRE:** Tree removal on-site is a timberland conversion permit, needing CAL FIRE Timber Harvest Plan (THP) approval prior to tree removal permit issuance. CAL FIRE's approval of the THP is subject to their parallel, CEQA-equivalent process. Approval for tree removal at the Collins Pine property for the Option 1 Helipad and Flightpath Element is anticipated to be a utility right-of-way exemption.



At its discretion, SHD may approve the proposed Project (medical and housing facilities) with or without Option 1 (heliport and flight pathway). Option 1 is dependent upon SHD approval of the proposed Project, but the proposed Project has independent utility and is not dependent upon approval of Option 1.



## 4.0 REGULATORY SETTING

Regulatory authority over biological resources is shared by federal, state, and local agencies under a variety of laws, ordinances, regulations, and statutes. Primary authority for biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, County of Plumas). Below we provide a summary of these regulatory authorities and a brief discussion on applicability to the proposed Project. More in-depth analyses are provided in Section 6 (Results) and Section 7 (Discussion and Impact Assessment).

### 4.1 Federal

#### 4.1.1 *Federal Endangered Species Act*

The Federal Endangered Species Act (FESA) provides protection for federally listed endangered and threatened species and their habitats. A project may obtain permission to take federally listed species in one of two ways: a Section 10 Habitat Conservation Plan (HCP) issued to a non-federal entity, or a Section 7 Biological Opinion from the USFWS and/or the National Oceanic and Atmospheric Administration (NOAA) issued to another federal agency that funds or permits an action (e.g., USACE). Under either Section of the FESA, adverse impacts to protected species are avoided, minimized, and mitigated. Both cases require consultation with the USFWS and/or NMFS, which ultimately issues a Biological Opinion determining whether the federally listed species may be incidentally taken pursuant to the proposed action and authorizing incidental take.

Section 7 of FESA requires that federal agencies develop a conservation program for listed species (FESA 7(a)(a)) and that they avoid actions that will jeopardize the continued existence of the species or result in the destruction or adverse modification of the species' designated critical habitat (FESA 7(a)(2)). FESA Section 9 prohibits all persons and agencies from take of threatened and endangered species (though the prohibition on taking listed plants only applies to plants taken from "areas under Federal jurisdiction" or plants taken "in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law"). Those who violate this mandate face civil and criminal penalties, including civil fines of up to \$25,000 per violation, as well as criminal penalties of up to \$50,000 and imprisonment for one year. Section 10 of FESA regulates a wide range of activities affecting fish and wildlife designated as endangered or threatened and the habitats on which they rely. Section 10 prohibits activities affecting these protected fish and wildlife species and their habitats unless authorized by a permit from USFWS or NMFS. These permits may include incidental take permits, enhancement of survival permits, or recovery and interstate commerce permits. HCPs under Section 10(a)(1)(B) provide for partnerships with non-federal parties to conserve the ecosystems upon which listed species depend.



HCPs are required as part of an application for an incidental take permit under Section 10. They describe the anticipated effects of the proposed take, how those impacts will be minimized or mitigated, and how the HCP will be funded.

#### *4.1.1.1 Applicability to the Proposed Project*

FESA gives regulatory authority to USFWS for federally listed terrestrial species and non-anadromous fish. NMFS has regulatory authority over federally listed marine mammals and anadromous fish.

Sequoia understands that the proposed Project may receive funding from the United States Department of Agriculture, a federal agency, which would subject the Project to review under Section 7 of FESA. The Project area does not appear to provide suitable habitat to plant, wildlife and/or fish species protected by FESA. However, no protocol surveys have been conducted to-date.

#### Healthcare Facility Replacement Project

With implementation of the mitigation measures discussed in Section 3 and listed in the “Impacts Analysis” section below, impacts to federally listed species can be mitigated to a level considered less than significant pursuant to CEQA.

#### Helipad and Flight Path Alternative

With implementation of the mitigation measures discussed in Section 3 and listed in the “Impacts Analysis” section below, impacts to federally listed species can be mitigated to a level considered less than significant pursuant to CEQA.

#### **4.1.2 Migratory Bird Treaty Act of 1918**

The Migratory Bird Treaty Act (MBTA) (16 USC §§ 703–711), as administered by the USFWS, makes it unlawful to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird.” This includes direct and indirect acts, except for harassment and habitat modification, which are not included unless they result in direct loss of birds, nests, or eggs.

#### *4.1.2.1 Applicability to the Proposed Project*

#### Healthcare Facility Replacement Project

The Project site provides suitable nesting habitat for common passerine (songbird) and raptor (bird of prey) species. These birds are protected pursuant to MBTA. Prior to commencement of Project-related activities, a pre-construction survey would be performed, and any active nests detected would be provided with an appropriately sized non-disturbance buffer. See Impacts Analysis section below.



### Helipad and Flight Path Alternative

The Project site provides suitable nesting habitat for common passerine (songbird) and raptor (bird of prey) species. These birds are protected pursuant to MBTA. Prior to commencement of Project-related activities, a pre-construction survey would be performed, and any active nests detected would be provided with an appropriately sized non-disturbance buffer. See Impacts Analysis section below.

#### **4.1.3 Bald and Golden Eagle Protection Act of 1940**

The Bald and Golden Eagle Protection Act (BGEPA; 16 USC. 668-668c) prohibits anyone from taking, possessing, or transporting a bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), or the parts, nests, or eggs of such birds without prior authorization. This includes inactive nests as well as active nests. Take means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb. Activities that directly or indirectly lead to take are prohibited without a permit.

##### **4.1.3.1 Applicability to the Proposed Project**

### Healthcare Facility Replacement Project

The Project site does not provide suitable foraging or nesting habitat for bald eagle; however, potentially suitable foraging and nesting habitat for bald eagle occurs in the vicinity of the Project site. This species is protected pursuant to the BGEPA and the MBTA. Prior to commencement of Project-related activities, a pre-construction survey for bald eagle would be performed, and active nests detected would be provided with an appropriately sized non-disturbance buffer. See Impacts Analysis section below.

### Helipad and Flight Path Alternative

The Project site does not provide suitable foraging or nesting habitat for bald eagle; however, potentially suitable foraging and nesting habitat for bald eagle occurs in the vicinity of the Project site. This species is protected pursuant to the BGEPA and the MBTA. Prior to commencement of Project-related activities, a pre-construction survey for bald eagle would be performed, and active nests detected would be provided with an appropriately sized non-disturbance buffer. See Impacts Analysis section below.

#### **4.1.4 U.S. Army Corps of Engineers – Clean Water Act – Section 404**

USACE regulates activities within "waters of the United States" pursuant to congressional acts: Section 404 of the Clean Water Act (CWA; 1977, as amended) and Section 10 of the Rivers and Harbors Act of 1899. Section 404 of the CWA (1977, as amended) requires a permit for discharge of dredged or fill material into "waters of the United States." Under Section 404, "waters of the United States" are defined as all waters that are used currently, or were used in the past, or may be used in the future for



interstate or foreign commerce, including waters subject to the ebb and flow of the tide up to the high tide line. Additionally, areas such as wetlands, rivers, and streams (including intermittent streams and tributaries) are considered “waters of the United States.” The extent of wetlands is determined by examining the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Under normal circumstances, all three of these parameters must be satisfied for an area to be considered a jurisdictional wetland under Section 404 of the CWA. Fill within wetlands is regulated under the CWA through a Nationwide Permit Program and an Individual Permit Program.

#### 4.1.4.1 *Applicability to the Proposed Project*

##### Healthcare Facility Replacement Project

There is a wetland area, labeled as Forest/Shrub Wetland by NWI, that extends into the extreme northwest corner of the Project area and is likely regulated by the U.S. Army Corps of Engineers. The wetted area itself extends into the Project area by approximately 7 feet at the most. The dominant plant in this area is woolly sedge (*Carex pellita*). A formal wetland delineation was not conducted, but soils were black and there was a pooled area, with slow moving water – likely small tributaries from the riverine system identified on NWI. The wetland is on a low, streamside terrace, with an adjacent Jeffrey pine forest. The woody riparian vegetation (*Salix* sp.) extends into the Project area in three locations along the northern border – at the extreme northwest corner, the extreme northeast corner, and toward the middle of the northern boundary, but are not expected to be impacted by Project activities based on available Site Plans.

A dried swale is located on the extreme western edge of the Project area. Several willows (*Salix* sp.) were located off the Project area, and several black cottonwoods were located just within the Project boundary, but with no other evidence of wetland. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities based on location.

A constructed ditch/basin is present along the south-eastern boundary of the Project area, adjacent to the paved medical clinic driveway. Although this feature may hold small amounts of water at certain times for the year, it is manmade and likely for stormwater conveyance, and does not possess hydrophytic vegetation, hydric soils, or wetland hydrology and therefore does not meet the definition for “waters of the United States”.

It is not anticipated that work activities will impact the wetted area, the transition zone, or the dried swale, but Sequoia recommends that they be designated as environmentally sensitive areas to aid in avoidance. If these areas cannot be avoided, additional permitting may be required to satisfy regulatory obligations pursuant to Section 404 of the Clean Water Act and related statutes.





### Helipad and Flight Path Alternative

The dried swale mentioned above continues into the Collins Pines parcel. No wetland-associated vegetation was noted throughout the swale area. No black soils are present—only sand and cobble. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities.

#### **4.1.5 U.S. Department of Agriculture – Rural Development**

USDA Rural Development is a mission area within the USDA which provides programs indented to improve the economy and quality of life in rural America. One such program is the Community Facilities Direct Loan Program, which provides funding to rural healthcare facilities such as SHD. As a federal agency, the USDA is required to evaluate the impact of projects it authorizes, conducts, or funds under the National Environmental Policy Act (NEPA), which includes preparation of an Environmental Assessment and a determination that the Project will either have a Finding of No Significant Impact (FONSI) or require the preparation of an Environmental Impact Statement (EIS), if the NEPA Action is not categorically excluded. The required level of NEPA analysis for the Project is currently unknown.

##### *4.1.5.1 Applicability to the Proposed Project*

Potential biological impacts of the Project must be taken into consideration by the USDA under NEPA, as indicated in the USDA Rural Development Community Facilities Direct Loan Program guidebook. The environmental review process must be completed before the Project is considered eligible for federal financial assistance. This Biological Resource Report substantially meets the level of information required for biological impact analysis under NEPA.

## **4.2 State**

#### **4.2.1 California Environmental Quality Act**

CEQA requires public agencies in California to analyze and disclose potential environmental impacts associated with a proposed discretionary project that the agency will carry out, fund, or approve. Any significant impact must be mitigated to the extent feasible, below the threshold of significance.

##### *4.2.1.1 Applicability to the Proposed Project*

This document is suitable for use by SHD as CEQA lead agency for preparation of any CEQA review document prepared for the proposed Project. This report has been prepared as a Biology Section suitable for incorporation into the Biology Section of an Initial Study/Mitigated Negative Declaration.

#### **4.2.2 California Endangered Species Act**

The CDFW is responsible for administering the California Endangered Species Act (CESA). Section 2080 of the California Fish and Wildlife Code prohibits take of any species that the Fish and Wildlife Commission



determines to be an endangered species or a threatened species. However, CESA does allow for take that is incidental to otherwise lawful development projects. Sections 2081(b) and (c) of CESA allow the CDFW to issue an incidental take permit for a state listed threatened and endangered species only if specific criteria are met (i.e., the effects of the authorized take are minimized and fully mitigated). The measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation.

#### *4.2.2.1 Applicability to the Proposed Project*

##### Healthcare Facility Replacement Project

No state listed plant or animal species would likely be impacted by the proposed Project (Tables 1 and 3). Historically, the Project site has been utilized as timber land subject to periodical harvesting. As a result, the Project area is composed of a younger, uniform stand of trees with limited native habitat present and no suitable habitat for special-status plants and/or wildlife. Furthermore, no special-status plants or wildlife were detected during surveys conducted by Sequoia in June of 2021 or June of 2022. As such, no state listed plant or wildlife species would likely be impacted by the proposed Project and the proposed Project should not be required to obtain authorization under CESA.

##### Helipad and Flight Path Alternative

No state listed plant or animal species would likely be impacted by the proposed Project (Tables 2 and 4). Historically, the Project site has been utilized as timber land. As a result, the Project area comprises a younger, uniform stand of trees with limited native habitat present and no suitable habitat for special-status plants and/or wildlife. Furthermore, no special-status plants or wildlife were detected during surveys conducted by Sequoia in September of 2022. As such, no state listed plant or wildlife species would likely be impacted by the proposed Project and the proposed Project should not be required to obtain authorization under CESA.

#### **4.2.3 California Fish and Game Code – Section 1600 – Lake or Streambed Alteration Agreement**

The CDFW regulates activities within watercourses, lakes, and in-stream reservoirs. Under Section 1602 of the California Fish and Game Code (CFGF)—often referred to as the Lake or Streambed Alteration Agreement (LSAA)—the CDFW regulates activities that would alter the flow or change or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, or lake. Each of these activities requires a Section 1602 permit. Section 1602 requires the CDFW to be notified of any activity that might affect lakes and streams. It also identifies the process through which an applicant can come to an agreement with the state regarding the protection of these resources, both during and following construction.



#### 4.2.3.1 Applicability to the Proposed Project

There are no streams or drainages that would likely be regulated by CDFW and impacted by Project activities. Accordingly, an LSAA with CDFW would not be necessary for the Project.

#### Healthcare Facility Replacement Project

There is a wetland area, labeled as Forest/Shrub Wetland by NWI, that extends into the extreme northwest corner of the Project area. The wetted area itself extends into the Project area by approximately 7 feet at the most. The dominant plant in this area is woolly sedge (*Carex pellita*). A wetland delineation was not performed, however the area possessed black soils, and there was a pooled area, with slow moving water—likely small tributaries from the riverine system identified on NWI. The wetland is located on a low, streamside terrace, with an adjacent Jeffrey pine forest. The woody riparian vegetation (*Salix* sp.) extends into the Project area in three locations along the northern border—at the extreme northwest corner, the extreme northeast corner, and toward the middle of the northern boundary, but none are expected to be impacted by the Project based on current Site Plans.

Also located in the northwest corner is a transitional zone between Jeffrey pine forest and riparian habitat associated with the wetland area, as indicated by the presence of willows and several black cottonwoods that could be included as a regulated riparian feature if a Streambed Alteration Agreement was deemed necessary for the associated wetland area.

A dried swale is located on the extreme western edge of the Project area. Several willows (*Salix* sp.) were located off the Project area, and several black cottonwoods were located just within the Project boundary, but with no other evidence of wetland. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities based on location.

A constructed ditch/basin is present along the south-eastern boundary of the Project area, adjacent to the paved medical clinic driveway. Although this feature may hold small amounts of water at certain times for the year, it is manmade and likely for stormwater conveyance, does not possess wetland characteristics, does not have connectivity to other waters, is constructed in uplands, and it is not modifying an original drainage feature. Therefore, this feature should be exempt from CFGC Section 1600.

It is not anticipated that work activities will impact the wetted area, the transition zone, or the dried swale, but Sequoia recommends that they be designated as environmentally sensitive areas to aid in avoidance. If these areas cannot be avoided, additional permitting may be required to satisfy CFGC. The constructed ditch is located within the anticipated construction zone but is not likely to require a 1600 or 1602 permit.



#### Helipad and Flight Path Alternative

The dried swale mentioned above continues on into the Collins Pines parcel. No wetland-associated vegetation was noted throughout the swale area. No black soils are present—only sand and cobble. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities.

#### **4.2.4 California Fish and Game Code – Section 3500 – Nesting Bird Protection**

CFGF Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by the CFGF or any regulation made pursuant thereto. CFGF Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that elements of a project (specifically vegetation removal or construction near nest trees) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, which may be subject to approval by the CDFW and/or the USFWS.

#### **4.2.5 California Fish and Game Code – Fully Protected Species**

CFGF Sections 3505, 3511, 4700, 5050, and 5515 afford full protection to several specific wildlife species. Fully protected species cannot be taken or possessed under state law, even if federal take authorization is issued, except in connection with a natural communities conservation plan (NCCP) or for the purpose of scientific research and relocation of bird species for the protection of livestock.

##### **4.2.5.1 Applicability to the Proposed Project**

The Project site provides marginally suitable habitat for wildlife protected pursuant to CFGF § 3500 and the MBTA. As such, pre-construction surveys for these species would need to be conducted prior to Project commencement to ensure no direct mortality of these species occurs owing to the proposed Project. See Impacts Analysis section below.

#### Healthcare Facility Replacement Project

The Project site provides marginally suitable habitat for wildlife protected pursuant to CFGF § 3500 and the MBTA. As such, pre-construction surveys for these species would need to be conducted prior to Project commencement to ensure no direct mortality of these species occurs owing to the proposed Project. See Impacts Analysis section below.

#### Helipad and Flight Path Alternative

The Alternative 1 flight path provides marginally suitable habitat for wildlife protected pursuant to CFGF § 3500 and the MBTA. As such, pre-construction surveys for these species would need to be conducted



prior to Project commencement to ensure no direct mortality of these species occurs owing to the proposed Project. See Impacts Analysis section below.

#### **4.2.6 Regional Water Quality Control Board (RWQCB) – Clean Water Act – Section 401 and Porter-Cologne Water Quality Control Act**

The State Water Resources Control Board (SWRCB) and RWQCB regulate activities in "waters of the state" (which includes wetlands) through two sources of legal authority: Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Wat. Code, Div. 7, § 13000 et seq.). The Section 401 water quality certification program allows the state to ensure that activities requiring a federal permit or license comply with state water quality standards. Though similar to Section 404 and 401 requirements, the Porter-Cologne Act applies to all "waters of the state" rather than to the portions thereof below ordinary high water mark. "Waters of the state" is defined as any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code § 13050(e)).

The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the "waters of the state" to file a report of waste discharge. Pursuant to the Porter-Cologne Act, the RWQCB also regulates "isolated wetlands." Functionally, the RWQCB typically evaluates whether an additional waste discharge requirement is necessary for the balance between federal and state jurisdictional boundaries during the 401 certification process. The RWQCB issues a permit or waiver that includes implementing water quality control plans that reflect the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features.

On April 2, 2019, the SWRCB adopted Resolution 2019-0015, thereby adopting a document entitled, "State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State" ("Procedures") for inclusion in the Water Quality Control Plans for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

In taking this action, the SWRCB noted that under the Porter-Cologne Act, discharges of dredged or fill material to waters of the state are subject to waste discharge requirements or waivers thereof. The SWRCB further explained that "although the state has historically relied primarily on requirements in the CWA to protect wetlands, U.S. Supreme Court rulings reducing the jurisdiction of the CWA over wetland areas by limiting the definition of 'waters of the United States' have necessitated the use of California's independent authorities under the Porter-Cologne Act to protect these vital resources."

The Office of Administrative Law (OAL) approved the Procedures on August 28, 2019. Pursuant to the Procedures, the effective date is nine months upon OAL approval. Accordingly, the Procedures became effective May 28, 2020.

By adopting the Procedures, the SWRCB mandated and standardized the evaluation of impacts and protection of waters of the state from impacts due to dredge and fill activities. The Procedures include: (1) a wetland definition; (2) a jurisdictional framework for determining if a feature that meets the



wetland definition is a water of the state; (3) wetland delineation procedures; and (4) procedures for application submittal, and the review and approval of dredge or fill activities.

The Procedures define an area as a wetland if it meets three criteria: wetland hydrology, wetland soils, and (if vegetated) wetland plants. An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Waters of the state, by definition, includes more aquatic features than waters of the U.S., which defines the jurisdiction of the federal government. Waters of the state are not so limited. In addition, the federal definition of a wetland requires a prevalence of wetland vegetation under normal circumstances. To account for wetlands in arid portions of the state, the SWRCB's definition differs from the federal definition in that an area may be a wetland even if it does not support vegetation. If vegetation is present, however, the SWRCB's definition requires that the vegetation be wetland vegetation. The SWRCB's definition clarifies that vegetated and unvegetated wetlands will be regulated in the same manner.

The Procedures also include a jurisdictional framework that applies to aquatic features that meet the wetland definition. The jurisdictional framework will guide applicants and staff in determining whether an aquatic feature that meets the wetland definition will be regulated as a water of the state. The jurisdictional framework is intended to exclude from regulation any artificially created, temporary features, such as tire ruts or other transient depressions caused by human activity, while still capturing small, naturally occurring features, such as seasonal wetlands and small vernal pools that may be outside of federal jurisdiction. The Procedures do not expand the SWRCB's jurisdiction beyond areas already under SWRCB's jurisdiction.

The Procedures exclude the following agricultural features from the protections accorded to wetlands: (1) ditches with ephemeral flow that are not a relocated water of the state or excavated in a water of the state; (2) ditches with intermittent flow that are not a relocated water of the state or excavated in a water of the state, or that do not drain wetlands other than any wetlands described in (4) or (5) below; (3) ditches that do not flow, either directly or through another water, into another water of the state; (4) artificially irrigated areas that would revert to dry land should application of waters to that area cease; or (5) artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, and settling basins.

The Procedures clarify what information and analysis the applicant needs to submit to have a complete application. The Procedures standardize when an alternative analysis needs to be conducted and set a minimum mitigation ratio for any permanent impacts to waters of the state resulting from dredge and fill activities.

When an alternatives analysis is required, the applicant must demonstrate that the proposed alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA). The term practicable means



available and capable of being done after taking into consideration cost, existing technology, and other logistics considering the overall project purpose.

#### *4.2.6.1 Applicability to the Proposed Project*

##### Healthcare Facility Replacement Project

A constructed ditch/basin is present along the south-eastern boundary of the Project area, adjacent to the paved medical clinic driveway. Although this feature may hold small amounts of water at certain times for the year, it is manmade and likely for stormwater conveyance, does not possess wetland characteristics, does not have connectivity to other waters, is constructed in uplands, and it is not modifying an original drainage feature. Further, the Procedures include an exemption for ditches with intermittent flow that are not a relocated water of the state or excavated in a water of the state or that do not drain wetlands or artificial, constructed waters. Therefore, this feature should be exempt from Waters of the State Procedures. A full wetland delineation was not conducted for the proposed Project.

A wetland area and riparian transition zone exist at the extreme northwest corner of the Project area. There is also a dried swale located at the extreme western edge of the Project. It is not anticipated that these areas will be directly impacted by the proposed Project, but we recommend that they be designated as an environmentally sensitive area to aid in avoidance. The wetland area or swale may fall under the RWQCB/SWRCB's jurisdiction pursuant to Section 401 of the CWA. Thus, prior authorization from the RWQCB/SWRCB pursuant to Section 401 of the CWA would be required if the proposed Project were to impact these features. Impacts to "waters of the state" would require mitigation to the satisfaction of the RWQCB prior to issuance of a permit for impacts to these features.

To further comply with the Porter-Cologne Act, adequate pre- and post-construction best management practices (BMPs) will be planned and incorporated into Project implementation plans to protect downstream waterways. In addition, the contractor will develop a stormwater pollution prevention plan that will be submitted to the SWRCB as a condition of Project approval demonstrating BMPs that will be installed/implemented prior to Project commencement. Stormwater protection and treatment measures will be implemented to ensure that the proposed Project remains in compliance with the Porter-Cologne Act.

##### Helipad and Flight Path Alternative

The dried swale mentioned above continues into the Collins Pines parcel. No wetland-associated vegetation was noted throughout the swale area. No black soils are present—only sand and cobble. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities.

To further comply with the Porter-Cologne Act, adequate pre- and post-construction best management practices (BMPs) will be planned and incorporated into Project implementation plans to protect downstream waterways. In addition, the contractor will develop a stormwater pollution prevention plan that will be submitted to the SWRCB as a condition of Project approval demonstrating BMPs that will be





installed/implemented prior to Project commencement. Stormwater protection and treatment measures will be implemented to ensure that the proposed Project remains in compliance with the Porter-Cologne Act.

### 4.3 Local

Sequoia reviewed documents for potential biological constraints, such as the Plumas County General Plan and government code (e.g., for tree ordinances). No biologically constraining or applicable measures were found.

## 5.0 METHODS

Sequoia performed various desktop and in-field assessments. Using those results, Sequoia employed various site assessments to evaluate the presence of and/or likelihood of occurrence of sensitive resources on the Project site.

### 5.1 Definitions

#### 5.1.1 *Special-Status Species*

For the purposes of this document, special-status species include:

- Plant, fish, and wildlife species listed as Threatened or Endangered under FESA (50 CFR 17), and candidates for listing under the statute
- Species protected by the CFGC, including nesting birds and Fully Protected species
- Plant, fish, and wildlife species listed as Threatened or Endangered under CESA; and the laws and regulations for implementing CESA as defined in CFGC §2050 et seq. and the California Code of Regulations (CCR) 14 CCR §670.1 et seq., and candidates for listing under the statute (CFGC §2068)
- Species meeting the definition of ‘Rare’ or ‘Endangered’ under CEQA Guidelines 14 CCR §15125 (c) and/or 14 CCR §15380, including plants listed on CNPS Lists 1A, 1B, 2A, and 2B, 3, and 4. Plants occurring on CNPS Ranks 3 and 4 are “plants about which more information is necessary,” and “plants of limited distribution” (CNPS 2001). These plants may be included as special-status species on a case-by-case basis due to local significance or recent biological information (see additional definition information below)
- USFWS Birds of Conservation Concern
- Fully Protected species, as designated by the CDFW (CFGC 3511, 4700, 5050, and 5515)
- Species of Special Concern, as designated by the CDFW and required by 14 CCR §15380
- Avian species protected under the MBTA of 1918





Additional information regarding these definitions is provided below:

#### *5.1.1.1 Federally Threatened or Endangered Species*

A species listed as Threatened or Endangered under the FESA is protected from unauthorized “take” (that is, harass, harm, pursue, hunt, shoot, trap) of that species. If it is necessary to take a federally listed Threatened or Endangered species as part of an otherwise lawful activity, it would be necessary to receive permission from the USFWS prior to initiating the “take.”

#### *5.1.1.2 State Threatened or Endangered Species*

A species listed as Threatened or Endangered under the CESA is protected from unauthorized “take” (that is, harass, pursue, hunt, shoot, trap) of that species. If it is necessary to “take” a state Threatened or Endangered species as part of an otherwise lawful activity, it would be necessary to receive permission from CDFW prior to initiating the “take.”

#### *5.1.1.3 CDFW Species of Special Concern*

California Species of Special Concern are species in which their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible. This designation affords no legally mandated protection; however, some of these species could be considered “rare” and must therefore be considered in any project that will, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

#### *5.1.1.4 CNPS Rank Species*

The CNPS maintains an *inventory* of special-status plant species. This inventory has four lists of plants with varying rarity. These lists are: Rank 1, Rank 2, Rank 3, and Rank 4. Although plants on these lists have no formal legal protection (unless they are also state or federally listed species), CDFW requests the inclusion of Rank 1 species in environmental documents. In addition, other state and local agencies may request the inclusion of species on other lists as well. Rank 1 and 2 species are defined below:

- Rank 1A: Presumed extinct in California
- Rank 1B: Rare, threatened, or endangered in California and elsewhere
- Rank 2A: Plants presumed extirpated in California, but more common elsewhere
- Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere

Under the CEQA review process only CNPS Rank 1 and 2 species are considered due to meeting CEQA’s definition of “rare” or “endangered.” However, Rank 3 and 4 species are not regarded as significant pursuant to CEQA.

#### *5.1.1.5 Fully Protected Birds*

Fully Protected birds are protected under CFGC 3511 and may not be “taken” or possessed (i.e., kept in captivity) at any time.



## 5.2 Desktop Review

Sequoia reviewed relevant databases and literature for baseline information regarding biological resources occurring and potentially occurring on the Project site and the immediate vicinity. The review included the following sources:

- USFWS Information for Planning and Consultation (IPaC) search (USFWS 2020), and Critical Habitat Portal (USFWS 2020; Appendix B and C; Figures 7)
- CNPS Online Inventory of Rare and Endangered Plants of California for the Chester, California and eight surrounding USGS 7.5-minute quadrangles (CNPS 2020; Figures 12 and 13)
- USFWS National Wetlands Inventory (NWI) (Figure 6)
- CDFW California Natural Diversity Database (CNDDB) for the Project polygon and a 3-mile buffer (CDFW 2020; Figures 10 and 11)
- Aerial photographs (Google Earth 2020)

## 5.3 Site Assessment

Sequoia biologist Liz Lopez conducted surveys on the Project site on June 3, 2022 and September 30, 2022 to record biological resources and to assess the limits of areas potentially regulated by resource agencies (i.e., preliminary hydrology analysis). Surveys involved searching all habitats on the site and recording all plant and animal species observed. Sequoia cross-referenced the habitats occurring on the Project site with the habitat requirements of regional special-status species to determine if the proposed Project could directly or indirectly impact these species. Any special-status species or suitable habitat was documented. In addition, Sequoia biologists mapped limits of potential jurisdictional features, as shown on Figures 5 and 6.

Tables 1-4 present the potential for occurrence of special-status plant and animal species known to occur in the vicinity of the Project site, along with their habitat requirements, occurrence classification, and basis for occurrence classification.

## 5.4 Wetland Assessment

### Healthcare Facility Replacement Project

There is a wetland area, identified as “Forest/Shrub Wetland” as per NWI, that extends into the extreme northwestern corner of the Project area and is associated with a linear hydrologic feature mapped in the California Streams database labeled as “Stover Ditch” in Appendix A. The wetted area itself extends into the Project area by approximately 7 feet. The dominant plant in this area is woolly sedge (*Carex pellita*). Soils were black, with few faint mottles, and there was a pooled area, with slow moving water—likely small tributaries from the riverine system identified on NWI. The wetland is on a low, streamside terrace, with the adjacent Jeffrey pine forest approximately one foot higher in elevation. The woody



riparian vegetation (*Salix sp.*) extends into the Project area in three locations along the northern border—at the extreme northwest corner, the extreme northeast corner, and toward the middle of the northern boundary.

Also located in the northwest corner is a transitional zone between Jeffrey pine forest and riparian habitat associated with the wetland area, as indicated by the presence of willows and several black cottonwoods that could be included as a regulated riparian feature if a Streambed Alteration Agreement was deemed necessary for the associated wetland area.

A dried swale located on the extreme western edge of the Project area. Several willows were located off the Project area, and several black cottonwoods were located just within the Project boundary, but with no other evidence of wetland. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities based on location.

A constructed ditch/basin is present along the south-eastern boundary of the Project area, adjacent to the paved medical clinic driveway. This feature does not possess wetland characteristics, but it may hold precipitation or snowmelt at certain times of year, and therefore may meet the RWQCB's definition of surface water.

It is not anticipated that work activities will impact the wetted area, the transition zone, or the dried swale, but Sequoia recommends that they be designated as environmentally sensitive areas to aid in avoidance. The constructed ditch is in an area where construction is anticipated to occur, but it does not meet the definition of "waters of the State" and is also exempt as per the Procedures and thus should not require additional permitting. If the potentially jurisdictional features (wetted area, transition zone, and dried swale) cannot be avoided, additional permitting may be required to satisfy USACE and CDFW.

These areas are presumed to be under the jurisdictions of USACE, RWQCB and CDFW pursuant to state and federal laws. It is not anticipated that work activities will impact these areas, but if this area cannot be avoided, additional permitting and delineation would be required.

Within the Project area, no additional potentially jurisdictional features were observed during the reconnaissance-level assessment on June 3, 2022 site visit.

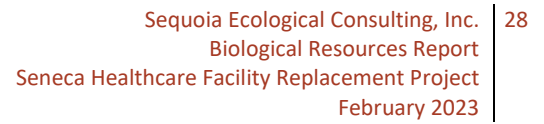
#### Helipad and Flight Path Alternative

A dried swale continues from the original proposed Replacement area into the Collins Pines parcel, starting in the middle of the extreme northeast edge of the parcel and continuing throughout the entirety of the property to the southwest, where the swale splits off in two directions—one that continues southwest and one that travels approximately due west. There is also a swale near the northern end of the Project area that may be associated with the larger swale mentioned above—where the swale continues northwest and then splits again in two—one end which continues northwest and the other that continues southwest before abruptly tapering off. No wetland-associated vegetation was noted throughout either swale area. Toward the southern end, the swale began to look more like a

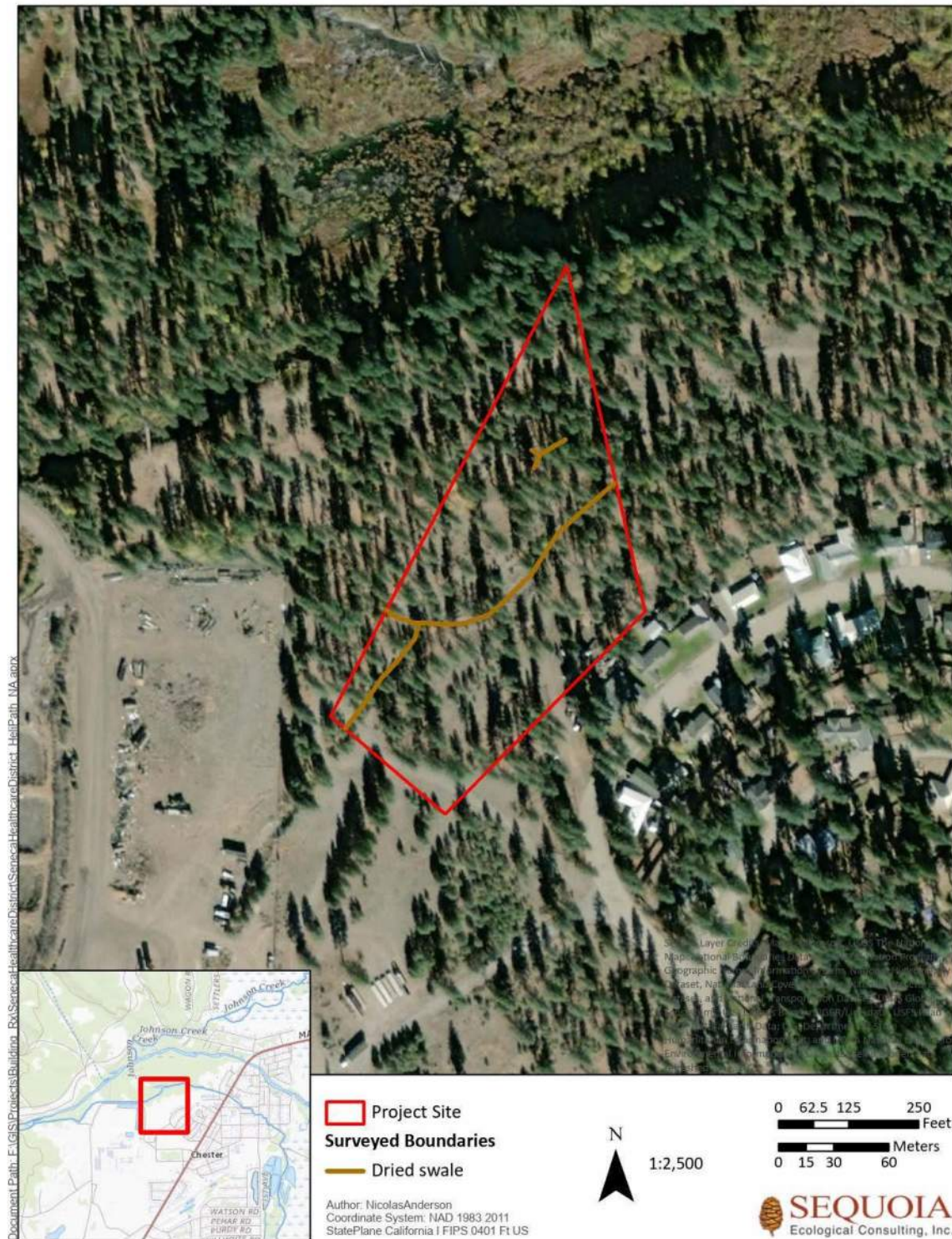


seasonal waterway, with some very minor bank cutting in some areas, and medium-sized smoothed cobble at the bottom of the potential waterway. However, piles of cobble are also present throughout the Collins Pines property, likely due to previous mining activities. The swale ultimately runs through a culvert, which is outside the Project area. No black soils are present—only sand and cobble. The swale itself looked to have been dry for several years and is unlikely to be affected by Project activities based on location.

Within the Project area, no additional potentially jurisdictional features were observed during the reconnaissance-level assessment on September 30, 2022 site visit.







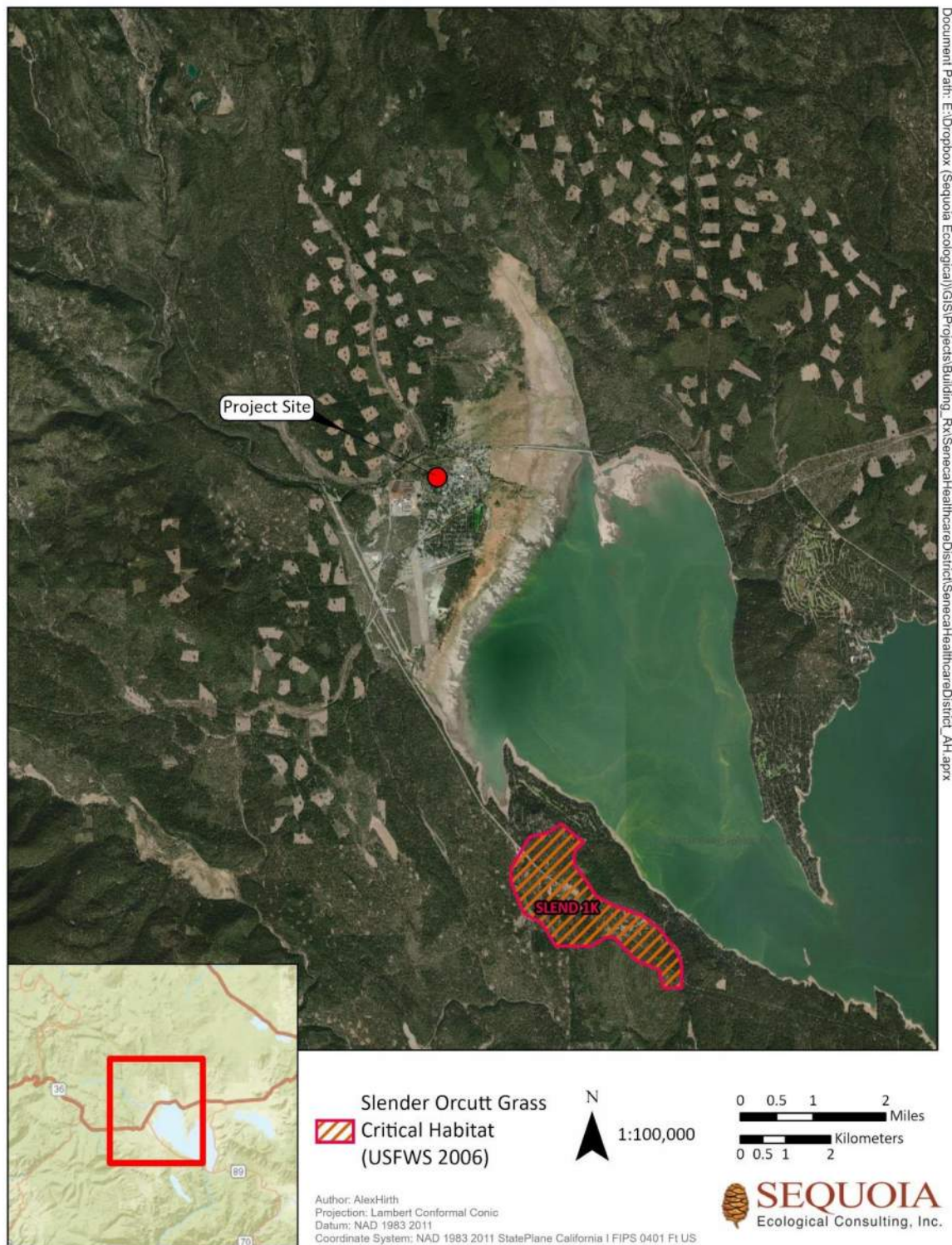
**Figure 6.** Limits of Potentially Jurisdictional Wetland Features in Proximity to the Seneca Healthcare Facility Proposed Helicopter Approach.



## 5.5 Habitat Assessments

Consecutive transects were traversed at approximately 30-foot intervals throughout the Project site and the Collins Pines property. During the surveys, the biologists scanned for special-status species, including Cascades frog (*Rana cascadae*), Sierra Nevada red fox (*Vulpes vulpes necator*), Sierra Nevada yellow-legged frog (*Rana sierrae*), bald eagle (*Haliaeetus leucocephalus*), greater sandhill crane (*Grus canadensis*), northern goshawk (*Accipiter gentilis*), southern long-toed salamander (*Ambystoma macrodactylum*), and osprey (*Pandion haliaetus*), among others, and/or for suitable habitat for these species, or sign of their presence. Any special-status species or suitable habitat was documented.





**Figure 7.** USFWS Critical Habitat in the Vicinity of the Seneca Healthcare Facility Replacement Project Site.







### 5.5.1 *Potential to Occur*

Following the site assessment, potential for special-status species to occur in the Project site was evaluated according to the following criteria:

- *No Potential.* Habitat on and adjacent to the site is clearly unsuitable for the species' requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- *Low Potential.* Few of the habitat components meeting the species' requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to occur on the site.
- *Moderate Potential.* Some of the habitat components meeting the species' requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of occurring on the site.
- *High Potential.* All the habitat components meeting the species' requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of occurring on the site.
- *Present.* Species is observed on the site or has been recorded (i.e., CNDDDB, other reports) on the site recently.



## 6.0 RESULTS

The results of the desktop review and site assessment of the proposed healthcare facility Replacement Project (conducted on June 3, 2022) and the helipad and flight path alternative (conducted on September 30, 2022) are presented below.

### 6.1 Topography and Hydrology

#### Healthcare Facility Replacement Project

The Project site is relatively flat throughout. A creek flows from west to east, north of the of the proposed Project site and enters the Project boundary at the northwest corner by approximately 7 feet. This creek is identified as “Stover Ditch” in Appendix A and is bordered on both sides by forested/shrub wetland (Figure 10). At the northwest corner, there is also an associated transition zone between Jeffrey pine forest and riparian woodland. Located at the southeastern end of the Project site is a constructed ditch/drainage, bordering the medical facility’s parking area. There is also a dried swale located on the extreme western edge of the Project area.

Elevation on the Project site ranges from 4,535 feet in the southeast corner to 4,550 feet above mean sea level (AMSL) in the northwest corner. Two soil types are present in the Project site, and both are well-drained gravel-dominant alluvium consistent with floodplain benches (Figure 8).

The climate of the Project site is transitional *Csb/Dsb* (Warm-summer Mediterranean climate/ Mediterranean-influenced warm-summer humid continental climate). Summers are warm, with average highs in the 80s (Fahrenheit); winters are cool and wet, with average highs in the 40s and average lows in the 20s. The average annual precipitation is approximately 34.35 inches, falling primarily between November and March, with an average annual snowfall of 127 inches (U.S. Climate Data 2021).

#### Helipad and Flight Path Alternative

The flight path alternative site is relatively flat throughout. Elevation within the flight path alternative site ranges between 4,540 and 4,550 feet AMSL. There is a dried swale running the length of the alternative site. Two soil types are present in the Project site, and both are well-drained gravel-dominant alluvium consistent with floodplain benches (Figure 9).

The climate of the flight path alternative site is identical to that of the proposed Project site.



## 6.2 Plant Communities and Wildlife Habitats

### Healthcare Facility Replacement Project

On June 10, 2021, Sequoia staff conducted a survey of the Project site and characterized the vegetation present. During the survey, the biologists also documented plant and wildlife species observed on the Project site. Nomenclature used for plant names follows *The Jepson Manual, Second Edition* (Baldwin et al. 2012), while nomenclature used for wildlife follows CDFW's *Complete list of amphibian, reptile, bird, and mammal species in California* (2016).

#### 6.2.1.1 Jeffrey Pine Forest and Woodland Alliance

The Project site is dominated by a young stand of assumed planted Jeffrey pines (*Pinus jeffryi*) managed by a local timber company. The habitat meets the criteria for Jeffrey Pine Forest and Woodland Alliance, but it is a semi-natural stand, as it appears to be a plantation with relatively uniform species composition and age. Jeffrey pines dominate the Project area and are accompanied by a shrubby and herbaceous understory, consisting of Sierra gooseberry (*Ribes montigenum*), big sagebrush (*Artemisia tridentata*), tarragon (*Artemisia dracuncululus*), dwarf lupine (*Lupinus lapidicola*), yellow rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *puberulus*), pinewoods horkelia (*Horkelia fusca*), silverleaf phacelia (*Phacelia hastata*), California helianthella (*Helianthella californica*), woolly mule's ears (*Wyethia mollis*), and Oregon grape (*Berberis aquifolium*).

Common wildlife species observed within ruderal communities on the Project site include American robin (*Turdus migratorius*), Steller's jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemallis*), house finch (*Haemorhous mexicanus*), common raven (*Corvus corax*), downy woodpecker (*Picoides oubescens*), mountain chickadee (*Poecile gambeli*), northern flicker (*Colaptes auratus*) and western fence lizard (*Sceloporus occidentalis*).

The planted Jeffrey Pine Forest and Woodland Alliance accounts for approximately 10 acres on the 11.87-acre Project site.

#### 6.2.1.2 Riparian Woodland

Riparian woodlands are diverse habitats that support numerous plant species, including grasses, annual and perennial forbs, vines, shrubs, and trees. A variety of plants creates a complex layering of understory and overstory which in turn provides habitat to numerous wildlife species. When found within the bed, channel, or bank of any river, stream, or lake, riparian vegetation is also protected under CFGC § 1602, and the CDFW has included riparian communities in the CNDDB.

Dominant plant species observed within riparian woodland communities on the Project site include woolly sedge (*Carex pellita*), hound's-tongue (*Cynoglossum officinale*), cattails (*Typha* sp.), California mugwort (*Artemisia douglasiana*), panicked bulrush (*Scirpus microcarpus*), sweetberry honeysuckle (*Lonicera cauriana*), willows (*Salix* spp.), and black cottonwoods (*Populus trichocarpa*).



The riparian woodland community extends into the Project site to a small extent in the northwestern corner and provides habitat for special status species with potential to occur, such as nesting birds.

#### 6.2.1.3 Developed

The southeastern corner of Project site is comprised of developed habitat, consisting of parking lots and the current Seneca Healthcare District facility. This area is highly disturbed and consists entirely of concrete and ornamental landscaping.

Common wildlife species observed within developed communities on the Project site include dark-eyed junco, house finch, and common raven.

The developed habitat accounts for approximately 1.86 acres on the 11.87-acre Project site.

#### Helipad and Flight Path Alternative

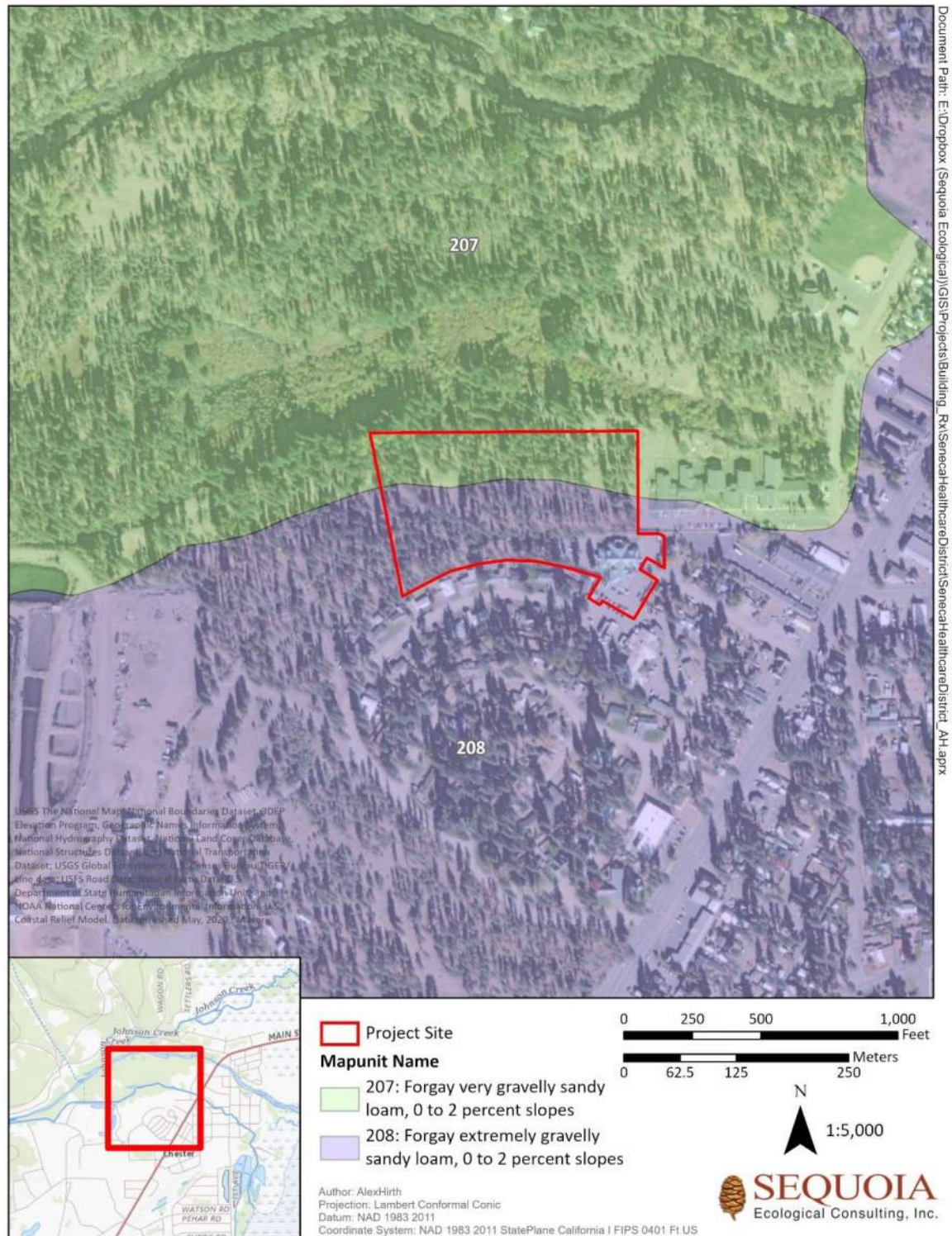
On September 30, 2022, Sequoia staff conducted a survey of the Helipad Flight Path Alternative site and characterized the vegetation present. During the survey, the biologist also documented plant and wildlife species observed on the Project site. Nomenclature used for plant names follows *The Jepson Manual, Second Edition* (Baldwin et al. 2012), while nomenclature used for wildlife follows CDFW's *Complete list of amphibian, reptile, bird, and mammal species in California* (2016).

#### 6.2.1.4 Jeffrey Pine Forest and Woodland Alliance

The flight path area is dominated by a young stand of assumed planted Jeffrey pines (*Pinus jeffryi*) managed by a local timber company. The habitat meets the criteria for Jeffrey Pine Forest and Woodland Alliance, but it is a semi-natural stand, as it appears to be a plantation with relatively uniform species composition and age. Jeffrey pines dominate the Project area and are accompanied by a shrubby and herbaceous understory, consisting of Sierra gooseberry (*Ribes montigenum*), big sagebrush (*Artemisia tridentata*), tarragon (*Artemisia dracunculus*), dwarf lupine (*Lupinus lapidicola*), yellow rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *puberulus*), pinewoods horkelia (*Horkelia fusca*), silverleaf phacelia (*Phacelia hastata*), California helianthella (*Helianthella californica*), woolly mule's ears (*Wyethia mollis*), and Oregon grape (*Berberis aquifolium*).

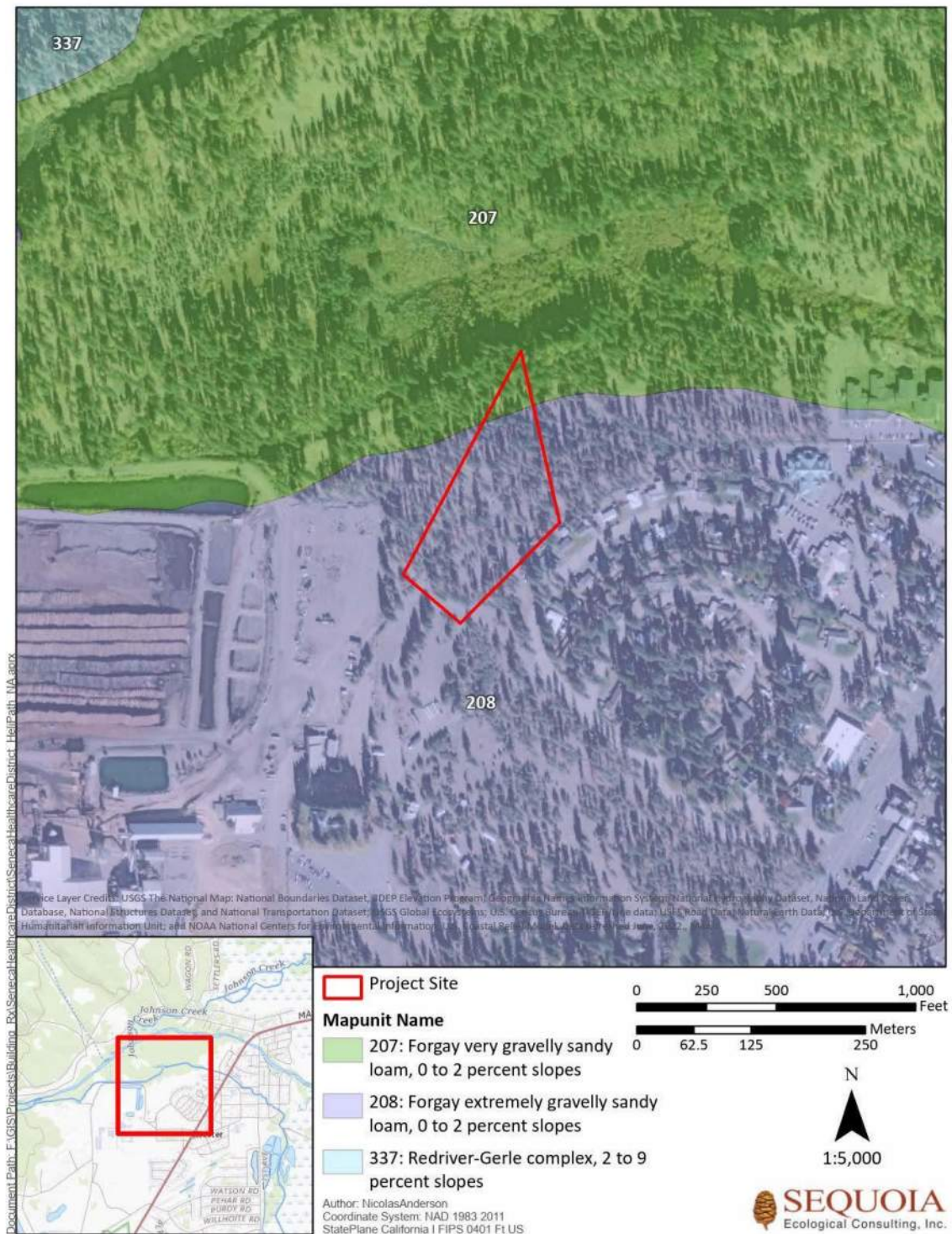
Common wildlife species observed within ruderal communities on the Project site include American robin (*Turdus migratorius*), Steller's jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemallis*), house finch (*Haemorhous mexicanus*), common raven (*Corvus corax*), downy woodpecker (*Picoides oubescens*), mountain chickadee (*Poecile gambeli*), northern flicker (*Colaptes auratus*) and western fence lizard (*Sceloporus occidentalis*).

The planted Jeffrey Pine Forest and Woodland Alliance accounts for virtually all of the 5.82-acre site.



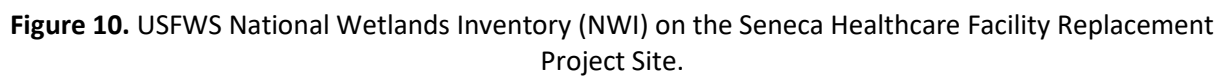
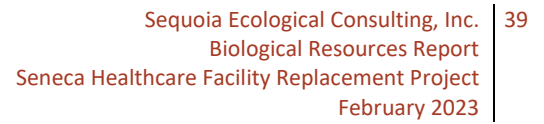
**Figure 8.** Soil Types on the Seneca Healthcare Facility Replacement Project Site.





**Figure 9.** Soil Types on the Seneca Healthcare Facility Proposed Helicopter Approach.









**Figure 11.** USFWS National Wetlands Inventory (NWI) on the Seneca Healthcare Facility Proposed Helicopter Approach.



### 6.2.2 *Wildlife Corridors*

Wildlife corridors are habitats that provide connectivity between natural communities otherwise separated by urbanization and other development. Wildlife corridors provide access for animals to travel between these communities for seasonal migration, access to overwintering/summering habitat, and breeding, etc. They also allow animals to move away from natural disasters and other forms of habitat loss, as well as to recolonize habitats previously extirpated. Wildlife corridors provide opportunities to breed, forage, migrate/emigrate, disperse, and forage (Beier and Loe 1992).

#### Healthcare Facility Replacement Project

Overall, the Project site shows signs of regular disturbance due to historic and present use for logging. Active construction may temporarily interfere with the movement of native wildlife within this wildlife corridor; however, no permanent structures or barriers to movement along the river channel will occur owing to the proposed Project. In addition, as currently planned, the proposed Project will have no adverse effects on fish movement along this river.

#### Helipad and Flight Path Alternative

Overall, the flight path site shows signs of regular disturbance due to historic and present use for logging and mining. Active construction may temporarily interfere with the movement of native wildlife within this wildlife corridor; however, no permanent structures or barriers to movement will occur as the result of the proposed Project.

### 6.2.3 *Special-Status Plants*

#### Healthcare Facility Replacement Project

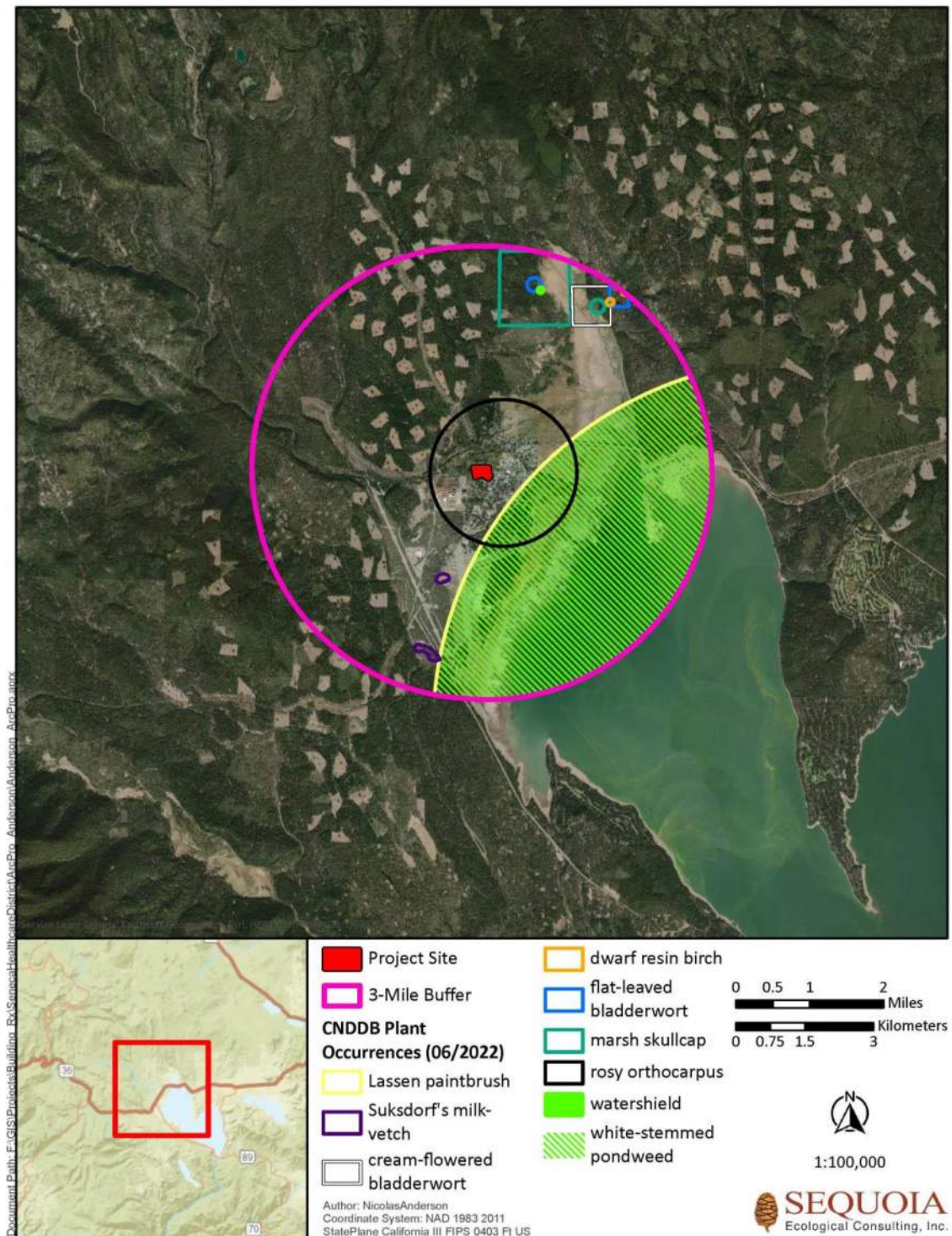
Figure 12 provides a graphical illustration of special-status plant species occurrences within 3 miles of the Project site. Table 1 provides an assessment of special-status plant species' potential to occur on the Project site. Thirty-nine (39) special-status plants have been previously documented within 3 miles of the Project site; however, no special-status plants have been observed or mapped there. Sequoia analyzed the potential to occur for these plant species, as well as species included in CNPS and IPaC resource lists during the desktop review. A number of these species require specialized habitats such as natural upper and lower montane coniferous forests, chaparral, scrub, meadows, seeps, vernal pools, bogs and fens, and marshes and swamps that are not found on the Project site. Due to anthropogenic disturbance, lack of suitable habitat and soil types, and/or lack of known/recent occurrences in the Project vicinity, none of the 39 special-status plant species are expected to occur on the Project site. However, **floristic surveys are recommended during appropriate blooming periods to prove absence.**



### Helipad and Flight Path Alternative

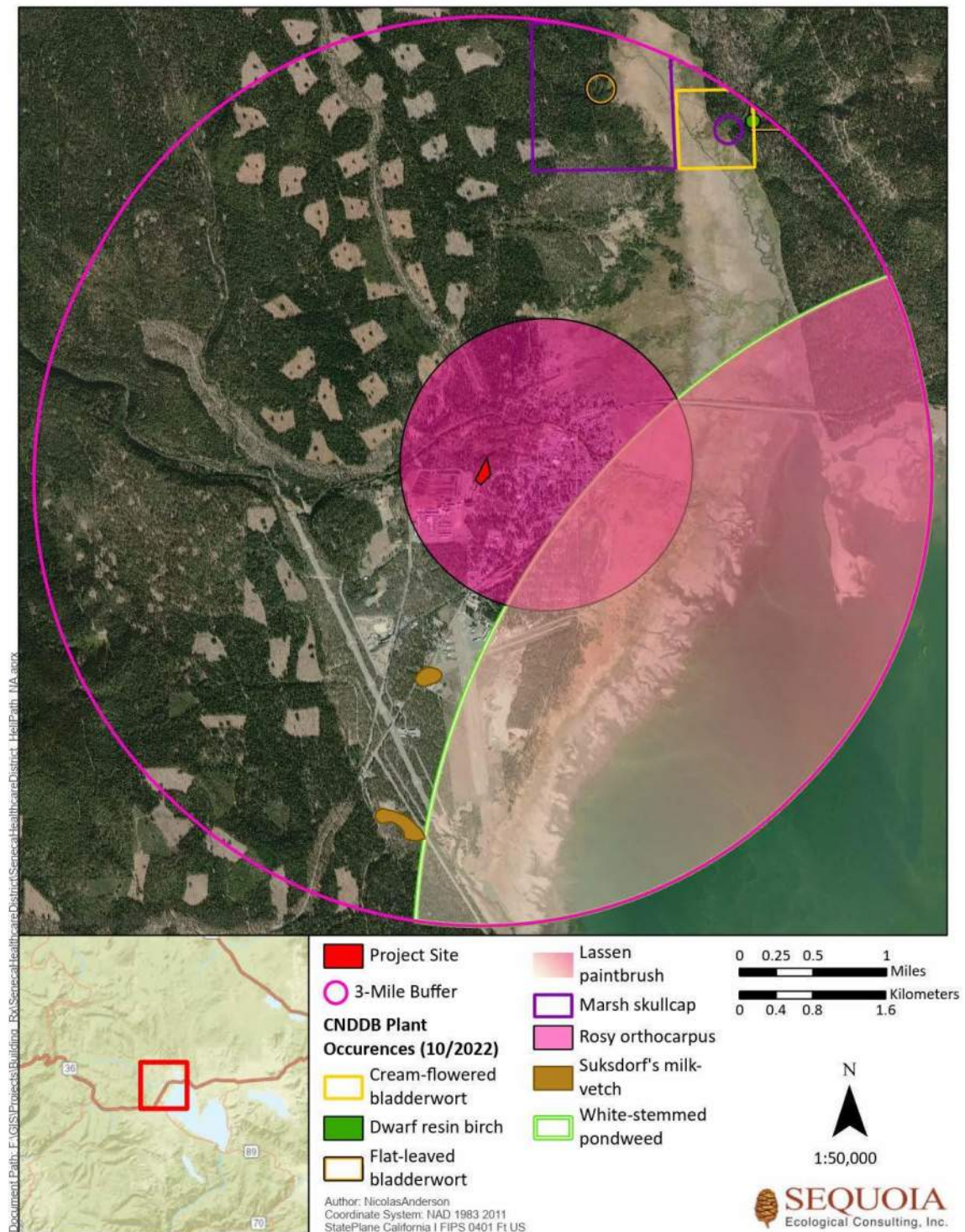
Figure 13 provides a graphical illustration of special-status plant species occurrences within 3 miles of the flight path alternative. Table 2 provides an assessment of special-status plant species' potential to occur on the alternative site. Thirty-nine (39) special-status plants have been previously documented within 3 miles of the site; however, no special-status plants have been observed or mapped there. Sequoia analyzed the potential to occur for these plant species, as well as species included in CNPS and IPaC resource lists during the desktop review. A number of these species require specialized habitats such as natural upper and lower montane coniferous forests, chaparral, scrub, meadows, seeps, vernal pools, bogs and fens, and marshes and swamps that are not found on the Project site. Due to anthropogenic disturbance, lack of suitable habitat and soil types, and/or lack of known/recent occurrences in the Project vicinity, none of the 39 special-status plant species are expected to occur on the Project site. However, **floristic surveys are recommended during appropriate blooming periods to prove absence.**





**Figure 12.** Closest Known Records for Special-Status Plant Species Within 3 Miles of the Seneca Healthcare Facility Replacement Project Site.





**Figure 13.** Closest Known Records for Special-Status Plant Species Within 3 Miles of the Seneca Healthcare Facility Proposed Helicopter Approach.





**Table 1. Special-Status Plant Species with Potential to Occur on the Seneca Healthcare Facility Replacement Project Site.**

Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Boechnera constancei</i>	Constance's rockcress	1B.1	Occurs in chaparral and lower and upper montane coniferous forests at elevations of 3,200 to 6,645 feet MSL. Blooms from May through July.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Eriogonum spectabile</i>	Barron's buckwheat	1B.1	Occurs in upper montane coniferous forest at elevations of 6,595 to 6,725 feet MSL. Blooms from July to September.	None. No suitable habitat occurs on the Project site.
<i>Orcuttia tenuis</i>	slender Orcutt grass	1B.1, FT, CE	Occurs in vernal pools at elevations of 115 to 5,775 feet. Blooms from May through October.	None. No suitable habitat occurs on the Project site.
<i>Astragalus pulsiferae</i> var. <i>suksdorfii</i>	Suksdorf's milk-vetch	1B.2	Occurs in Great Basin scrub, lower montane coniferous forest, and in pinyon and juniper woodland at elevations of 4,265 to 6,560 feet MSL. Blooms from May through August.	None. No suitable habitat occurs on the Project site.
<i>Oreostemma elatum</i>	tall alpine-aster	1B.2	Occurs in bogs and fens, meadows and seeps, and upper montane coniferous forests at elevations of 3,295 to 6,890 feet MSL. Blooms from June through August.	None. No suitable habitat occurs on the Project site.
<i>Penstemon personatus</i>	closed-throated beardtongue	1B.2	Occurs in chaparral and in lower and upper montane coniferous forests at elevations of 3,495 to 6,955 feet MSL. Blooms from June through October.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Pyrrocoma lucida</i>	sticky pyrrocoma	1B.2	Occurs in great basin scrub, lower montane coniferous forest, and in meadows and seeps at elevations of 2,295 to 6,400 feet MSL. Blooms from July through October.	None. No suitable habitat occurs on the Project site.
<i>Sedum albomarginatum</i>	Feather River stonecrop	1B.2	Occurs in chaparral and lower montane coniferous forest at elevations of 885 to 6,400 feet MSL. Blooms from May through June.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Silene occidentalis</i> ssp. <i>longistipitata</i>	long-stiped campion	1B.2	Occurs in chaparral and lower and upper coniferous forests at elevations of 3,280 to 6,560 feet MSL. Blooms from June through August.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Carex davyi</i>	Davy's sedge	1B.3	Occurs in subalpine coniferous forest and upper montane coniferous forests at elevations of 4,920 to 10,500 feet MSL. Blooms from May through August.	None. No suitable habitat occurs on the Project site.



Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Castilleja lasenensis</i>	Lassen paintbrush	1B.3	Occurs in meadows and seeps, and in subalpine coniferous forests at elevations of 3,135 to 10,235 feet. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Erigeron lassenianus</i> var. <i>deficiens</i>	Plumas rayless daisy	1B.3	Occurs in lower montane coniferous forests at elevations of 4,460 to 6,495 feet MSL. Blooms from June through September.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Botrychium montanum</i>	western goblin	2B.1	Occurs in lower and upper montane coniferous forest, and in meadows and seeps at elevations of 4,805 to 7,155 feet MSL. Blooms from July to September.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Scheuchzeria palustris</i>	American scheuchzeria	2B.1	Occurs in bogs and fens, and in marshes and swamps at elevations of 4,495 to 6,560 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Betula glandulosa</i>	dwarf resin birch	2B.2	Occurs in bogs and fens, lower montane coniferous forest, marshes and swamps, meadows and seeps, and in subalpine coniferous forest at elevations of 4,265 to 7,545 feet MSL. Blooms from May through July.	None. Only marginally suitable habitat occurs on the Project site, and Project site is out of range of elevation for species.
<i>Botrychium crenulatum</i>	scalloped moonwort	2B.2	Occurs in bogs and fens, lower montane coniferous forest, marshes and swamps, meadows and seeps, and in upper montane coniferous forests at elevations of 4,160 to 10,760 feet MSL. Blooms from June through September.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Botrychium minganense</i>	Mingan moonwort	2B.2	Occurs in bogs and fens, lower and upper montane coniferous forest, and in meadows and seeps at elevations of 4,775 to 7,155 feet MSL. Blooms from July to September.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Carex limosa</i>	mud sedge	2B.2	Occurs in bogs and fens, lower and upper montane coniferous forest, marshes and swamps, and in meadows and seeps at elevations of 3,935 to 8,860 feet MSL. Blooms from June through August.	Unlikely. Project site can be considered lower montane coniferous forest; however, marshes, swamps, meadows, and seeps are absent.
<i>Meesia uliginosa</i>	broad-nerved hump moss	2B.2	Occurs in bogs and fens, meadows and seeps, subalpine coniferous forest, and in upper montane coniferous forest at elevations of 3,970 to 9,200 feet MSL. Blooms from July through October.	None. No suitable habitat occurs on the Project site.



Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Orthocarpus bracteosus</i>	rosy orthocarpus	2B.2	Occurs in meadows and seeps at elevations of 3,380 to 6,070 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Rhamnus alnifolia</i>	alder buckthorn	2B.2	Occurs in lower and upper montane coniferous forest, meadows and seeps, and in riparian scrub at elevations of 4,495 to 6,990 feet MSL. Blooms from May through July.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Rhynchospora alba</i>	white beaked-rush	2B.2	Occurs in bogs and fens, marshes and swamps, and meadows and seeps at elevations of 195 to 6,695 feet MSL. Blooms from June through August.	None. No suitable habitat occurs on the Project site.
<i>Scutellaria galericulata</i>	marsh skullcap	2B.2	Occurs in lower montane coniferous forest, marshes and swamps, and in meadows and seeps at elevations of 0 to 6,890 feet MSL. Blooms from June through September.	Unlikely. Project site can be considered lower montane coniferous forest; however, meadows and seeps are absent.
<i>Stellaria longifolia</i>	long-leaved starwort	2B.2	Occurs in bogs and fens, meadows and seeps, riparian woodland, and in upper montane coniferous forest at elevations of 2,955 to 6,005 feet MSL. Blooms from May through August.	Unlikely. Marginally suitable habitat occurs at the northwest corner of the Project site, but no individuals of this species were observed.
<i>Utricularia intermedia</i>	flat-leaved bladderwort	2B.2	Occurs in bogs and fens, marshes and swamps, meadows and seeps, and in vernal pools at elevations of 3,935 to 8,860 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Utricularia ochroleuca</i>	cream-flowered bladderwort	2B.2	Occurs in marshes and swamps, and in meadows and seeps at elevations of 4,710 to 4,725 feet MSL. Blooms from June through August.	None. No suitable habitat occurs on the Project site.
<i>Botrychium ascendens</i>	upswept moonwort	2B.3	Occurs in lower montane coniferous forest, and in meadows and seeps at elevations of 3,660 to 9,990 feet MSL. Blooms from June to August.	Unlikely. No meadows or seeps occur on the Project site.
<i>Botrychium pinnatum</i>	northwestern moonwort	2B.3	Occurs in lower and upper montane coniferous forest, and in meadows and seeps at elevations of 5,805 to 6,695 feet MSL. Blooms from July to October.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Brasenia schreberi</i>	watershield	2B.3	Occurs in marshes and swamps at elevations of 0 to 7,220 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Carex lasiocarpa</i>	woolly-fruited sedge	2B.3	Occurs in bogs and fens, and marshes and swamps at elevations of 5,580 to 6,890 feet MSL. Blooms from June through July.	None. No suitable habitat occurs on the Project site.



Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Carex petasata</i>	Liddon's sedge	2B.3	Occurs in broad-leaved upland forest, lower montane coniferous forest, meadows and seeps, and pinyon and juniper woodland at elevations of 1,970 to 10,895 feet MSL. Blooms from May through July.	None. No suitable habitat occurs on the Project site.
<i>Drosera anglica</i>	English sundew	2B.3	Occurs in bogs and fens, and meadows and seeps at elevations of 4,265 to 7,400 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Epilobium palustre</i>	marsh willowherb	2B.3	Occurs in bogs and fens, and in meadows and seeps at an elevation range of 6,400-7,875 feet MSL. Blooms July to August.	None. No suitable habitat occurs on the Project site.
<i>Erigeron nivalis</i>	snow fleabane daisy	2B.3	Occurs in alpine boulder and rock fields, meadows and seeps, and subalpine coniferous forest at elevations of 5,695 to 9,515 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Eriogonum pyrolifolium</i> var. <i>pyrolifolium</i>	pyrola-leaved buckwheat	2B.3	Occurs in alpine boulder and rock fields at elevations of 5,495 to 10,500 feet MSL. Blooms from July through September.	None. No suitable habitat occurs on the Project site.
<i>Juncus dudleyi</i>	Dudley's rush	2B.3	Occurs in lower montane coniferous forests at elevations of 1,495 to 6,560 feet MSL. Blooms from July through August.	Moderate. Habitat on-site could be classified as lower montane coniferous forest and falls within the elevation range.
<i>Lysimachia thyrsiflora</i>	tufted loosestrife	2B.3	Occurs in marshes and swamps, meadows and seeps, and in upper montane coniferous forest at elevations of 3,200 to 5,495 feet MSL. Blooms from May through August.	None. No suitable habitat occurs on the Project site.
<i>Potamogeton praelongus</i>	white-stemmed pondweed	2B.3	Occurs in marshes and swamps at elevations of 5,905 to 9,845 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Schoenoplectus subterminalis</i>	water bulrush	2B.3	Occurs in bogs and fens, and in marshes and swamps at elevations of 2,460 to 7,380 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.

**Key to status:**

FT=Federally listed as threatened species

CE=California listed as endangered species

CR=California rare

CNPS Rare Plant Rank

1A=Plants presumed extirpated in California, and either rare or extinct elsewhere

1B=Plants rare, threatened, or endangered in California, or elsewhere

2A=Plants presumed extirpated in California but common elsewhere

2B=Plants rare, threatened, or endangered in California but more common elsewhere



**Table 2.** Special-Status Plant Species with Potential to Occur on the Collins Pines Proposed Flight Path.

Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Boechnera constancei</i>	Constance's rockcress	1B.1	Occurs in chaparral and lower and upper montane coniferous forests at elevations of 3,200 to 6,645 feet MSL. Blooms from May through July.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Eriogonum spectabile</i>	Barron's buckwheat	1B.1	Occurs in upper montane coniferous forest at elevations of 6,595 to 6,725 feet MSL. Blooms from July to September.	None. No suitable habitat occurs on the Project site.
<i>Orcuttia tenuis</i>	slender Orcutt grass	1B.1, FT, CE	Occurs in vernal pools at elevations of 115 to 5,775 feet. Blooms from May through October.	None. No suitable habitat occurs on the Project site.
<i>Astragalus pulsiferae</i> var. <i>suksdorfii</i>	Suksdorf's milk-vetch	1B.2	Occurs in Great Basin scrub, lower montane coniferous forest, and in pinyon and juniper woodland at elevations of 4,265 to 6,560 feet MSL. Blooms from May through August.	None. No suitable habitat occurs on the Project site.
<i>Oreostemma elatum</i>	tall alpine-aster	1B.2	Occurs in bogs and fens, meadows and seeps, and upper montane coniferous forests at elevations of 3,295 to 6,890 feet MSL. Blooms from June through August.	None. No suitable habitat occurs on the Project site.
<i>Penstemon personatus</i>	closed-throated beardtongue	1B.2	Occurs in chaparral and in lower and upper montane coniferous forests at elevations of 3,495 to 6,955 feet MSL. Blooms from June through October.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Pyrrocoma lucida</i>	sticky pyrrocoma	1B.2	Occurs in great basin scrub, lower montane coniferous forest, and in meadows and seeps at elevations of 2,295 to 6,400 feet MSL. Blooms from July through October.	None. No suitable habitat occurs on the Project site.
<i>Sedum albomarginatum</i>	Feather River stonecrop	1B.2	Occurs in chaparral and lower montane coniferous forest at elevations of 885 to 6,400 feet MSL. Blooms from May through June.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Silene occidentalis</i> ssp. <i>longistipitata</i>	long-stiped campion	1B.2	Occurs in chaparral and lower and upper coniferous forests at elevations of 3,280 to 6,560 feet MSL. Blooms from June through August.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Carex davyi</i>	Davy's sedge	1B.3	Occurs in subalpine coniferous forest and upper montane coniferous forests at elevations of 4,920 to 10,500 feet MSL. Blooms from May through August.	None. No suitable habitat occurs on the Project site.





Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Castilleja lasenensis</i>	Lassen paintbrush	1B.3	Occurs in meadows and seeps, and in subalpine coniferous forests at elevations of 3,135 to 10,235 feet. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Erigeron lassenianus</i> var. <i>deficiens</i>	Plumas rayless daisy	1B.3	Occurs in lower montane coniferous forests at elevations of 4,460 to 6,495 feet MSL. Blooms from June through September.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Botrychium montanum</i>	western goblin	2B.1	Occurs in lower and upper montane coniferous forest, and in meadows and seeps at elevations of 4,805 to 7,155 feet MSL. Blooms from July to September.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Scheuchzeria palustris</i>	American scheuchzeria	2B.1	Occurs in bogs and fens, and in marshes and swamps at elevations of 4,495 to 6,560 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Betula glandulosa</i>	dwarf resin birch	2B.2	Occurs in bogs and fens, lower montane coniferous forest, marshes and swamps, meadows and seeps, and in subalpine coniferous forest at elevations of 4,265 to 7,545 feet MSL. Blooms from May through July.	None. Only marginally suitable habitat occurs on the Project site, and Project site is out of range of elevation for species.
<i>Botrychium crenulatum</i>	scalloped moonwort	2B.2	Occurs in bogs and fens, lower montane coniferous forest, marshes and swamps, meadows and seeps, and in upper montane coniferous forests at elevations of 4,160 to 10,760 feet MSL. Blooms from June through September.	Unlikely. Only marginally suitable habitat occurs on the Project site.
<i>Botrychium minganense</i>	Mingan moonwort	2B.2	Occurs in bogs and fens, lower and upper montane coniferous forest, and in meadows and seeps at elevations of 4,775 to 7,155 feet MSL. Blooms from July to September.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Carex limosa</i>	mud sedge	2B.2	Occurs in bogs and fens, lower and upper montane coniferous forest, marshes and swamps, and in meadows and seeps at elevations of 3,935 to 8,860 feet MSL. Blooms from June through August.	Unlikely. Project site can be considered lower montane coniferous forest; however, marshes, swamps, meadows, and seeps are absent.
<i>Meesia uliginosa</i>	broad-nerved hump moss	2B.2	Occurs in bogs and fens, meadows and seeps, subalpine coniferous forest, and in upper montane coniferous forest at elevations of 3,970 to 9,200 feet MSL. Blooms from July through October.	None. No suitable habitat occurs on the Project site.



Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Orthocarpus bracteosus</i>	rosy orthocarpus	2B.2	Occurs in meadows and seeps at elevations of 3,380 to 6,070 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Rhamnus alnifolia</i>	alder buckthorn	2B.2	Occurs in lower and upper montane coniferous forest, meadows and seeps, and in riparian scrub at elevations of 4,495 to 6,990 feet MSL. Blooms from May through July.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Rhynchospora alba</i>	white beaked-rush	2B.2	Occurs in bogs and fens, marshes and swamps, and meadows and seeps at elevations of 195 to 6,695 feet MSL. Blooms from June through August.	None. No suitable habitat occurs on the Project site.
<i>Scutellaria galericulata</i>	marsh skullcap	2B.2	Occurs in lower montane coniferous forest, marshes and swamps, and in meadows and seeps at elevations of 0 to 6,890 feet MSL. Blooms from June through September.	Unlikely. Project site can be considered lower montane coniferous forest; however, meadows and seeps are absent.
<i>Stellaria longifolia</i>	long-leaved starwort	2B.2	Occurs in bogs and fens, meadows and seeps, riparian woodland, and in upper montane coniferous forest at elevations of 2,955 to 6,005 feet MSL. Blooms from May through August.	Unlikely. Marginally suitable habitat occurs at the northwest corner of the Project site, but no individuals of this species were observed.
<i>Utricularia intermedia</i>	flat-leaved bladderwort	2B.2	Occurs in bogs and fens, marshes and swamps, meadows and seeps, and in vernal pools at elevations of 3,935 to 8,860 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Utricularia ochroleuca</i>	cream-flowered bladderwort	2B.2	Occurs in marshes and swamps, and in meadows and seeps at elevations of 4,710 to 4,725 feet MSL. Blooms from June through August.	None. No suitable habitat occurs on the Project site.
<i>Botrychium ascendens</i>	upswept moonwort	2B.3	Occurs in lower montane coniferous forest, and in meadows and seeps at elevations of 3,660 to 9,990 feet MSL. Blooms from June to August.	Unlikely. No meadows or seeps occur on the Project site.
<i>Botrychium pinnatum</i>	northwestern moonwort	2B.3	Occurs in lower and upper montane coniferous forest, and in meadows and seeps at elevations of 5,805 to 6,695 feet MSL. Blooms from July to October.	None. No suitable habitat occurs on the Project site. Project site is out of elevation range for species.
<i>Brasenia schreberi</i>	watershield	2B.3	Occurs in marshes and swamps at elevations of 0 to 7,220 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Carex lasiocarpa</i>	woolly-fruited sedge	2B.3	Occurs in bogs and fens, and marshes and swamps at elevations of 5,580 to 6,890 feet MSL. Blooms from June through July.	None. No suitable habitat occurs on the Project site.



Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Carex petasata</i>	Liddon's sedge	2B.3	Occurs in broad-leaved upland forest, lower montane coniferous forest, meadows and seeps, and pinyon and juniper woodland at elevations of 1,970 to 10,895 feet MSL. Blooms from May through July.	None. No suitable habitat occurs on the Project site.
<i>Drosera anglica</i>	English sundew	2B.3	Occurs in bogs and fens, and meadows and seeps at elevations of 4,265 to 7,400 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.
<i>Epilobium palustre</i>	marsh willowherb	2B.3	Occurs in bogs and fens, and in meadows and seeps at an elevation range of 6,400-7,875 feet MSL. Blooms July to August.	None. No suitable habitat occurs on the Project site.
<i>Erigeron nivalis</i>	snow fleabane daisy	2B.3	Occurs in alpine boulder and rock fields, meadows and seeps, and subalpine coniferous forest at elevations of 5,695 to 9,515 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Eriogonum pyrolifolium</i> var. <i>pyrolifolium</i>	pyrola-leaved buckwheat	2B.3	Occurs in alpine boulder and rock fields at elevations of 5,495 to 10,500 feet MSL. Blooms from July through September.	None. No suitable habitat occurs on the Project site.
<i>Juncus dudleyi</i>	Dudley's rush	2B.3	Occurs in lower montane coniferous forests at elevations of 1,495 to 6,560 feet MSL. Blooms from July through August.	Moderate. Habitat on-site could be classified as lower montane coniferous forest and falls within the elevation range.
<i>Lysimachia thyrsiflora</i>	tufted loosestrife	2B.3	Occurs in marshes and swamps, meadows and seeps, and in upper montane coniferous forest at elevations of 3,200 to 5,495 feet MSL. Blooms from May through August.	None. No suitable habitat occurs on the Project site.
<i>Potamogeton praelongus</i>	white-stemmed pondweed	2B.3	Occurs in marshes and swamps at elevations of 5,905 to 9,845 feet MSL. Blooms from July through August.	None. No suitable habitat occurs on the Project site.
<i>Schoenoplectus subterminalis</i>	water bulrush	2B.3	Occurs in bogs and fens, and in marshes and swamps at elevations of 2,460 to 7,380 feet MSL. Blooms from June through September.	None. No suitable habitat occurs on the Project site.

**Key to status:**

FT=Federally listed as threatened species

CE=California listed as endangered species

CR=California rare

CNPS Rare Plant Rank

1A=Plants presumed extirpated in California, and either rare or extinct elsewhere

1B=Plants rare, threatened, or endangered in California, or elsewhere

2A=Plants presumed extirpated in California but common elsewhere



2B=Plants rare, threatened, or endangered in California but more common elsewhere

Note: CNPS ranks 3 and 4 were excluded from this analysis.

#### 6.2.4 Special-Status Wildlife

##### Healthcare Facility Replacement Project

Figure 14 provides a graphical illustration of special-status wildlife species occurrences within 3 miles of the Project site. Table 3 provides an assessment of potential to occur for special-status wildlife species on the Project site. Twelve (12) special-status wildlife species have been previously documented (CNDDDB occurrences) within 3 miles. Sequoia analyzed the potential to occur for these wildlife species, as well as species included in Calfish, Pisces, NMFS, and IPaC resource lists during the desktop review. A number of these species require specialized habitat such as lakes, pools, ponds, meadows, grassland, and older growth forests that are not found on the Project site. Due to lack of suitable habitat and/or lack of recent occurrences in the Project vicinity, ten (10) special-status wildlife species are not expected to occur and are therefore not discussed further in this analysis. These ten (10) species are: Sierra Nevada red fox, northern goshawk, greater sandhill crane, southern long-toed salamander, Sierra Nevada yellow-legged frog, California red-legged frog (*Rana draytonii*), Cascades frog, delta smelt (*Hypomesus transpacificus*), western bumblebee (*Bombus occidentalis*), and obscure bumblebee (*Bombus caliginosus*). Descriptions and potential for occurrence of the remaining two (2) special-status wildlife species, bald eagle and osprey, are provided in more detail below.

##### Helipad and Flight Path Alternative

Figure 15 provides a graphical illustration of special-status wildlife species occurrences within 3 miles of the Helipad Flight Path Alternative site. Table 4 provides an assessment of potential to occur for special-status wildlife species on the site. Eleven (11) special-status wildlife species have been previously documented (CNDDDB occurrences) within 3 miles. Sequoia analyzed the potential to occur for these wildlife species, as well as species included in Calfish, Pisces, NMFS, and IPaC resource lists during the desktop review. A number of these species require specialized habitat such as lakes, pools, ponds, meadows, grassland, and older growth forests that are not found on the Project site. Due to lack of suitable habitat and/or lack of recent occurrences in the Project vicinity, nine (9) special-status wildlife species are not expected to occur and are therefore not discussed further in this analysis. These ten (10) species are: Sierra Nevada red fox, northern goshawk, greater sandhill crane, southern long-toed salamander, Sierra Nevada yellow-legged frog, Cascades frog, delta smelt (*Hypomesus transpacificus*), western bumblebee (*Bombus occidentalis*), and obscure bumblebee (*Bombus caliginosus*). Descriptions and potential for occurrence of the remaining two (2) special-status wildlife species, bald eagle and osprey, are provided in more detail below.



#### 6.2.4.1 Bald Eagle

The bald eagle (nesting and nonbreeding/wintering) was delisted from the federal Endangered Species Act on August 8, 2007, in the lower 48 states (72 FR 37345). Effective May 1, 2008, the Sonoran Desert area of central Arizona (Sonoran Desert DPS) was federally listed as threatened. This DPS covers: (1) Yavapai in northern Mexico; Gila, Graham, Pinal, and Maricopa counties in Arizona; and (2) Southern Mohave County (that portion south and east of the center of Interstate Highway 40 and east of Arizona Highway 95), eastern LaPaz County (that portion east of the centerline of U.S. and Arizona Highways 95), and north of the centerline of Interstate Highway 8) (73 FR 23966). The bald eagle is state listed as endangered and designated as fully protected by CFGC § 3511 (CDFW 2018). Bald eagles are also protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA), the Migratory Bird Treaty Reform Act (Division E, Title I, § 143 of the Consolidated Appropriations Act, 2005, PL 108-447; MBTRA), and the Bald Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250).

Bald eagles inhabit forested areas adjacent to large bodies of water, including lakes, reservoirs, rivers, estuaries, and the coastline (Buehler 2000). They are opportunistic and will feed on carrion, but actively prey on a variety of fish, mammals, and birds (Buehler 2000). Breeding begins in early spring in the north and are single-brooded (Baicich and Harrison 2005). Nests are built from sticks and branches in a large tree or a rocky outcrop; bald eagles have also been known to nest on the ground on islands (Baicich and Harrison 2005). Bald eagles winter in temperate areas typically below 1,640 feet in elevation (Baicich and Harrison 2005) throughout California. Roost sites are often located in large conifers in the west near aquatic foraging areas (Baicich and Harrison 2005). Most breeding territories for bald eagles are in northern California, mainly in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers. Bald eagles have also been observed to nest in scattered locations in the central and southern Sierra Nevada mountains and foothills, in several locations from the central Coast Range to inland southern California, and on Santa Catalina Island.

#### Healthcare Facility Replacement Project

The Project site comprises a younger stand of Jeffrey pine with tree sizes only marginally suitable for bald eagle nesting. According to the CNDDDB, there was an occurrence within approximately 0.5 miles of the Project area, but no nest was observed in the vicinity of this occurrence during the June 3, 2022 surveys. With the implementation of a nesting bird survey directly prior to work, **no impacts to bald eagle are anticipated from the proposed Project.**

#### Helipad and Flight Path Alternative

The Helipad Flight Path Alternative site comprises a younger stand of Jeffrey pine with tree sizes only marginally suitable for bald eagle nesting. According to the CNDDDB, there was an occurrence within approximately 0.5 miles of the Project area, but no nest was observed in the vicinity of this occurrence during the September 30, 2022 surveys. With the implementation of a nesting bird survey directly prior to work, **no impacts to bald eagle are anticipated from the proposed Alternative.**





#### 6.2.4.2 Osprey

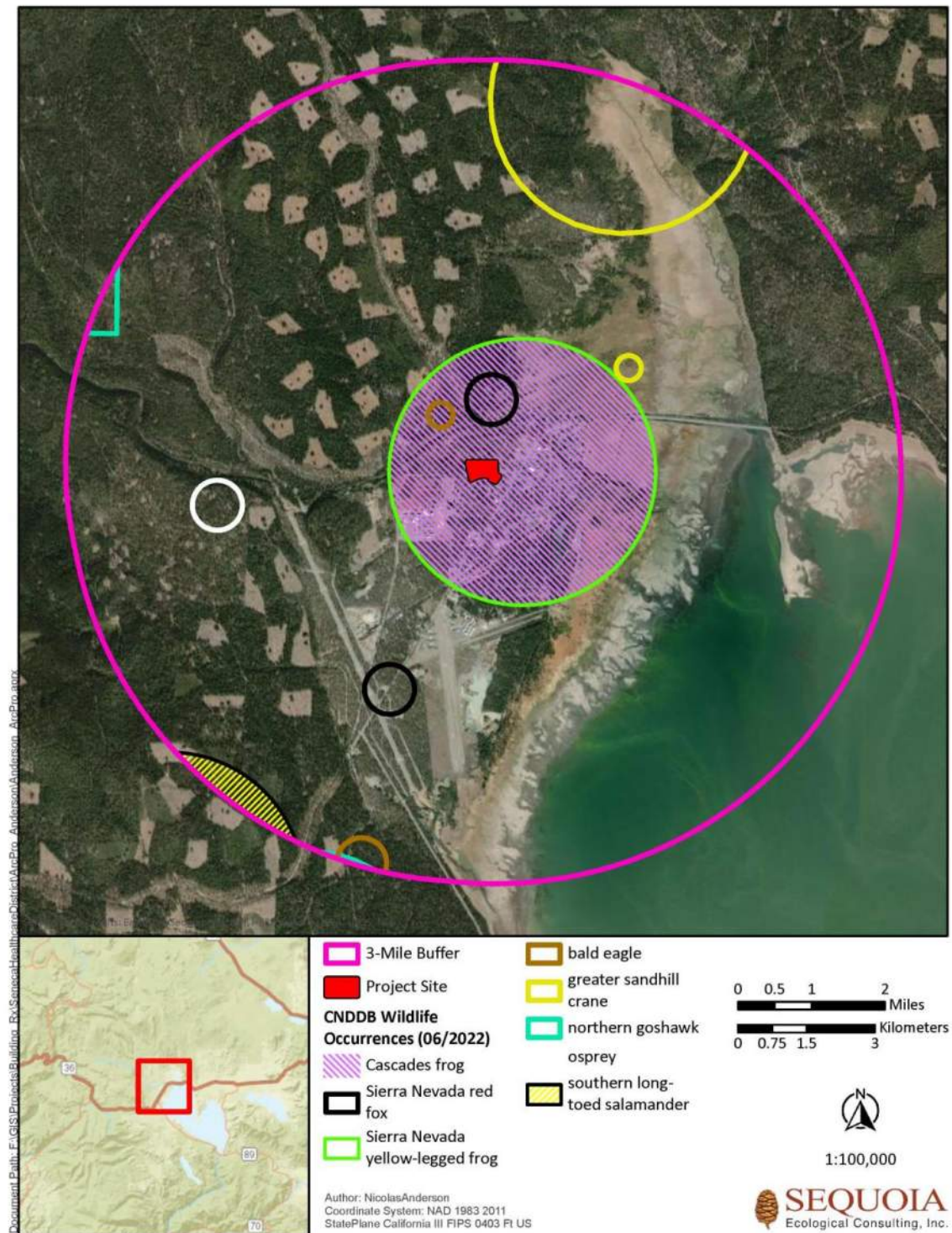
Osprey (*Pandion haliaetus*) nest sites are considered sensitive by the CDFW. Formerly distributed throughout California, this species has declined significantly since the 1940s and is now mainly found in the northern half of the state (Remsen 1978; Roberson and Tenney 1993). Ospreys breed along the coast, in estuaries, freshwater lakes, reservoirs, and large rivers. Nesting habitat usually requires the presence of snags adjacent to or over open water. The large platform nests are built on snags and sometimes on artificial structures (e.g., poles). Ospreys feed primarily on fish (dead or alive), but rodents, birds, and other small vertebrates are also consumed (Ehrlich et al. 1988). Removal of nesting trees, pesticide contamination, and human disturbances (e.g., boating activities) have contributed to this species' decline in California (Remsen 1978).

#### Healthcare Facility Replacement Project

The Project site comprises a younger stand of Jeffrey pine with tree sizes only marginally suitable for osprey nesting. Osprey individuals were observed within the regional context of the Project, but no nests were observed in the vicinity of the Project area during the June 3, 2022 surveys. With the implementation of a nesting bird survey directly prior to work, **no impacts to osprey are anticipated from the proposed Project.**

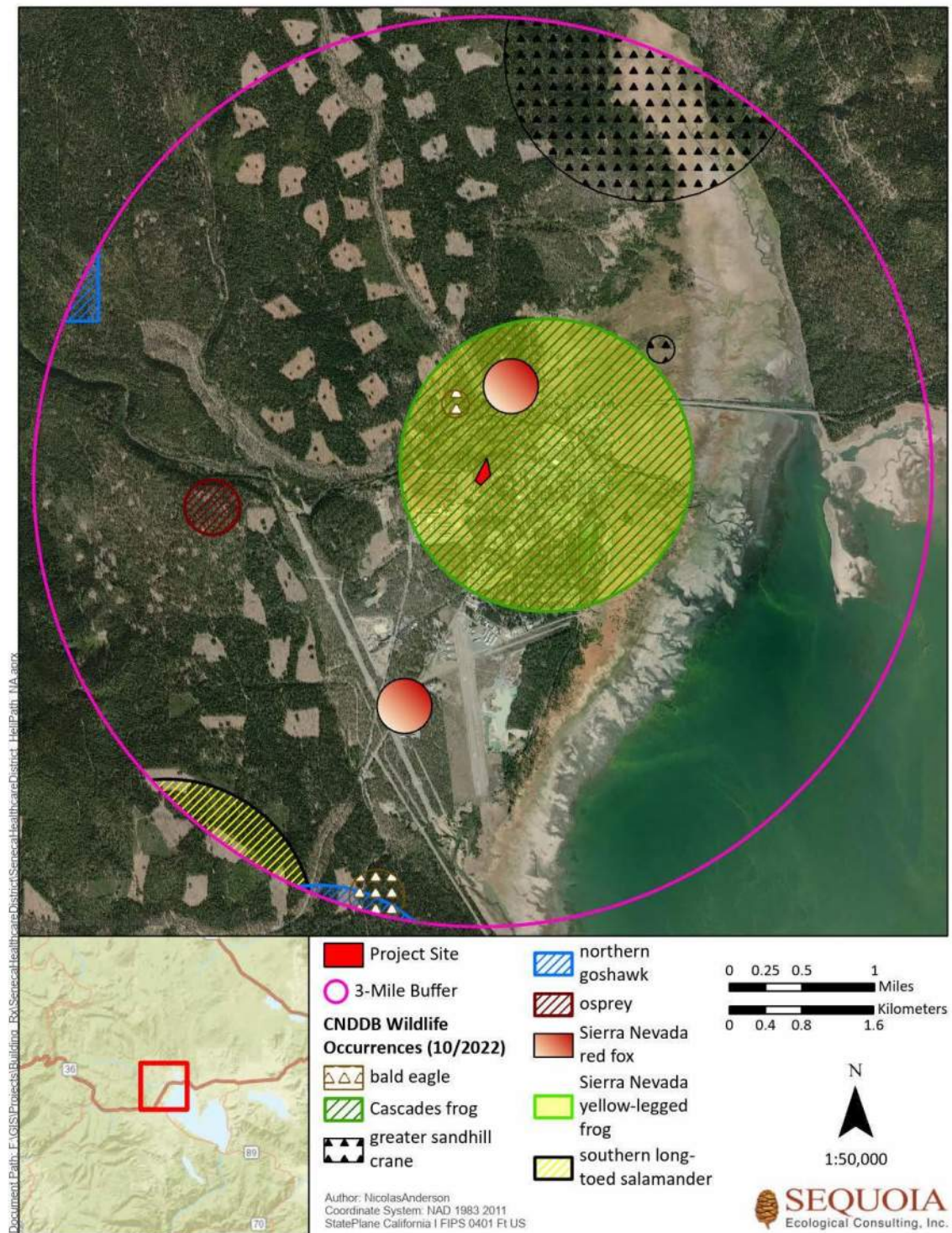
#### Helipad and Flight Path Alternative

The Flight Path Alternative site comprises a younger stand of Jeffrey pine with tree sizes only marginally suitable for osprey nesting. Osprey individuals were observed within the regional context of the Project, but no nests were observed in the vicinity of the Project area during the September 30, 2022 surveys. With the implementation of a nesting bird survey directly prior to work, **no impacts to osprey are anticipated from the proposed Project.**



**Figure 14.** Closest Known Records for Special-Status Wildlife Species Within 3 Miles of the Seneca Healthcare Replacement Project Site.





**Figure 15.** Closest Known Records for Special-Status Wildlife Species Within 3 Miles of the Seneca Healthcare Replacement Proposed Helicopter Approach.



**Table 3.** Special-Status Wildlife Species with Potential to Occur on the Seneca Healthcare Replacement Project Site.

Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<b>Mammals</b>				
<i>Vulpes vulpes necator pop. 1</i>	Sierra Nevada red fox (southern Cascades DPS)	FE (proposed), CT	Occurs in annual grasslands or open stages with scattered shrubby vegetation. Requires loose sandy textured soils for burrowing.	None. No suitable habitat occurs on the Project site.
<b>Birds</b>				
<i>Haliaeetus leucocephalus</i>	bald eagle	CE, FP, BAGEPA	Inhabits forests adjacent to large bodies of water. Nest sites require large trees or rock outcrops.	Moderate potential. Eagle sighted on drive to Project site around 20 miles away. Marginal suitable habitat occurs on the Project site.
<i>Accipiter gentilis</i>	northern goshawk	SSC	Occurs in coniferous forests from 2,500 – 10,000 feet MSL.	Unlikely. No suitable habitat occurs on the Project site.
<i>Grus (=Antigone) canadensis tabida</i>	greater sandhill crane	CT, FP	Occurs in large wetland or dry meadow complexes.	Unlikely. No suitable habitat occurs on the Project site.
<i>Pandion haliaetus</i>	osprey	WL	Occurs near shallow, fish-filled waters, including rivers, lakes, lagoons, swamps, and marshes.	Moderate potential. Species sighted a couple of miles away from the Project site.
<b>Amphibians/Reptiles</b>				
<i>Ambystoma macrodactylum sigilatum</i>	southern long-toed salamander	SSC	Occurs in alpine meadows and high mountain ponds and lakes up to 10,000 feet MSL. Found along northeast Sierra Nevada to Garner Meadows.	None. No suitable habitat occurs on the Project site.
<i>Rana sierrae</i>	Sierra Nevada yellow-legged frog	FE, CT	Occurs between 3,500 – 12,000 feet MSL in Sierra Nevada streams, lakes, and ponds in montane, riparian, lodgepole pine, subalpine conifer, and wet meadow habitats. Breeding habitat requires permanent lakes or ponds that do not freeze to the bottom in winter or dry out in summer.	Unlikely. No suitable breeding habitat occurs on the Project site.
<i>Rana draytonii</i>	California red-legged frog	FT, SSC	Occurs in semi-permanent or permanent water at least 2 feet deep, bordered by emergent or riparian vegetation, and upland grassland, forest, or scrub habitats for aestivation and dispersal.	Unlikely. No suitable breeding, over-summering, or migration/dispersal habitat occurs on the Project site.



Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<i>Rana cascadae</i>	Cascades frog	CE (candidate), SSC	Occurs in lakes, ponds, wet meadows, and streams in the Cascades Range. Inhabits moderate to high elevations.	None. No suitable habitat occurs on the Project site.
<b>Fishes</b>				
<i>Hypomesus transpacificus</i>	delta smelt	FT, CE	Endemic to Sacramento-San Joaquin Delta and its tributaries extending west to Suisun and San Pablo bays.	None. No suitable habitat occurs on the Project site.
<b>Invertebrates</b>				
<i>Bombus occidentalis</i>	western bumble bee	SSC, CE (candidate)	Occurs in natural, agricultural, urban, and rural areas that provide suitable nesting sites, overwintering sites for the queens, and nectar and pollen resources throughout the spring, summer, and fall.	Unlikely. Marginal suitable habitat occurs on the Project site.
<i>Bombus caliginosus</i>	obscure bumblebee	S3	Occurs in open, grassy, coastal prairies and Coast Range meadows. Nesting occurs underground and above ground in abandoned bird nests.	None. No suitable habitat occurs on the Project site.
<i>Danaus plexippus</i>	monarch butterfly	S2/S3	Overwintering, roosting monarchs can be found on basswoods, elms, sumacs, locusts, oaks, osage-oranges, mulberries, pecans, willows, cottonwoods, and mesquites. Breeding takes place in agricultural fields, pastureland, prairie remnants, urban and suburban residential areas, gardens, trees, and roadsides – anywhere where there is access to larval host plants.	None. Out of range for overwintering habitat and no larval host plants located in the Project area.

**Key to status:**

FE=Federally listed as endangered species  
 FT=Federally listed as threatened species  
 FC=Federally listed as a candidate species for listing  
 CE=California listed as endangered species  
 CT=California listed as threatened species  
 FP=California listed as fully protected  
 SSC=California species of special concern  
 S2 = Imperiled  
 S3 = Vulnerable  
 BAGEPA=Bald and Golden Eagle Protection Act  
 WL=CDFW watch list





**Table 4. Special-Status Wildlife Species with Potential to Occur on the Seneca Healthcare Collins Pines Proposed Flight Path.**

Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<b>Mammals</b>				
<i>Vulpes vulpes necator pop. 1</i>	Sierra Nevada red fox (southern Cascades DPS)	FE (proposed), CT	Occurs in annual grasslands or open stages with scattered shrubby vegetation. Requires loose sandy textured soils for burrowing.	None. No suitable habitat occurs on the Project site.
<b>Birds</b>				
<i>Haliaeetus leucocephalus</i>	bald eagle	CE, FP, BAGEPA	Inhabits forests adjacent to large bodies of water. Nest sites require large trees or rock outcrops.	Moderate potential. Eagle sighted on drive to Project site around 20 miles away. Marginal suitable habitat occurs on the Project site.
<i>Accipiter gentilis</i>	northern goshawk	SSC	Occurs in coniferous forests from 2,500 – 10,000 feet MSL.	Unlikely. No suitable habitat occurs on the Project site.
<i>Grus (=Antigone) canadensis tabida</i>	greater sandhill crane	CT, FP	Occurs in large wetland or dry meadow complexes.	Unlikely. No suitable habitat occurs on the Project site.
<i>Pandion haliaetus</i>	osprey	WL	Occurs near shallow, fish-filled waters, including rivers, lakes, lagoons, swamps, and marshes.	Moderate potential. Species sighted a couple of miles away from the Project site.
<b>Amphibians/Reptiles</b>				
<i>Ambystoma macrodactylum sigilatum</i>	southern long-toed salamander	SSC	Occurs in alpine meadows and high mountain ponds and lakes up to 10,000 feet MSL. Found along northeast Sierra Nevada to Garner Meadows.	None. No suitable habitat occurs on the Project site.
<i>Rana sierrae</i>	Sierra Nevada yellow-legged frog	FE, CT	Occurs between 3,500 – 12,000 feet MSL in Sierra Nevada streams, lakes, and ponds in montane, riparian, lodgepole pine, subalpine conifer, and wet meadow habitats. Breeding habitat requires permanent lakes or ponds that do not freeze to the bottom in winter or dry out in summer.	Unlikely. No suitable breeding habitat occurs on the Project site.
<i>Rana cascadae</i>	Cascades frog	CE (candidate), SSC	Occurs in lakes, ponds, wet meadows, and streams in the Cascades Range. Inhabits moderate to high elevations.	None. No suitable habitat occurs on the Project site.



Scientific Name	Common Name	Listed Status	Habitat Requirements	Potential for Occurrence
<b>Fishes</b>				
<i>Hypomesus transpacificus</i>	delta smelt	FT, CE	Endemic to Sacramento-San Joaquin Delta and its tributaries extending west to Suisun and San Pablo bays.	None. No suitable habitat occurs on the Project site.
<b>Invertebrates</b>				
<i>Bombus occidentalis</i>	western bumble bee	SSC, CE (candidate)	Occurs in natural, agricultural, urban, and rural areas that provide suitable nesting sites, overwintering sites for the queens, and nectar and pollen resources throughout the spring, summer, and fall.	Unlikely. Marginal suitable habitat occurs on the Project site.
<i>Bombus caliginosus</i>	obscure bumblebee	VU	Occurs in open, grassy, coastal prairies and Coast Range meadows. Nesting occurs underground and above ground in abandoned bird nests.	None. No suitable habitat occurs on the Project site.
<i>Danaus plexippus</i>	monarch butterfly	NA	Overwintering, roosting monarchs can be found on basswoods, elms, sumacs, locusts, oaks, osage-oranges, mulberries, pecans, willows, cottonwoods, and mesquites. Breeding takes place in agricultural fields, pasture land, prairie remnants, urban and suburban residential areas, gardens, trees, and roadsides – anywhere where there is access to larval host plants.	None. Out of range for overwintering habitat and no larval host plants located in the Project area.

**Key to status:**

FE=Federally listed as endangered species  
 FT=Federally listed as threatened species  
 FC=Federally listed as a candidate species for listing  
 CE=California listed as endangered species  
 CT=California listed as threatened species  
 FP=California listed as fully protected  
 SSC=California species of special concern  
 VU= Vulnerable  
 BAGEPA=Bald and Golden Eagle Protection Act  
 WL=CDFW watch list

## 7.0 DISCUSSION AND IMPACT ASSESSMENT

### 7.1 Significance Criteria

Pursuant to CEQA and CEQA Guidelines, direct and indirect adverse impacts to biological resources are classified as less than significant, potentially significant, or significant. According to CEQA Guideline § 21068, a significant effect on the environment means a substantial, or potentially substantial, adverse change in the environment. According to CEQA Guideline § 15382, a significant effect on the



environment is further defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. State, federal, and local jurisdictions and regulations are considered in the evaluation of significance of proposed actions.

#### Healthcare Facility Replacement Project

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 CDFW or 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 CDFW or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>



	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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"/>

#### Collins Pines Optional Heliport and Landing Approach

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 CDFW or 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 CDFW or 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
sites?				
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"/>





## 7.2 Impacts Analysis

### Healthcare Facility Replacement Project

- a. *Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status 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?*

#### **7.2.1 Impact BIO-1. Special-Status Plants**

No special-status plant species are expected to occur on the Project site due to marginally suitable habitat, anthropogenic disturbance, or the lack of specialized habitats and/or substrates such species require. However, without a formal survey, the absence of special-status plant species cannot be confirmed. Impacting special-status plant species would be considered a significant impact. In order to confirm absence of the listed special-status plant species, pre-construction floristic surveys will be conducted prior to initiation of work activities.

**Level of Significance before Mitigation:** Potentially Significant

#### **Mitigation Measures:**

##### BIO-1: Floristic Surveys

Appropriately timed surveys for special-status plants shall be conducted in compliance with all CDFW (2018), USFWS (1996), and CNPS (2001) published survey guidelines prior to initiation of work activities. Project commencement shall not be initiated until special-status plant pre-construction surveys are completed and subsequent mitigation, if necessary, is implemented. If no special-status plant species are found to inhabit the site, no further mitigation measures would be necessary.

If special-status plant species are detected, individuals shall be clearly marked and avoided. If special-status plants detected during focused surveys cannot be avoided, consultation with CDFW and/or USFWS (depending on listing status) shall occur. As part of this consultation, a mitigation plan shall be developed and approved by the appropriate agencies to avoid all adverse impacts. The mitigation plan will include methodology of transplanting and/or on-site replanting at a 1:1 (mitigation to impacts) ratio, five-year monitoring program, success criteria (e.g., 70% survivorship threshold), and annual reporting requirements. In addition, this plan shall include worker education and development of appropriate avoidance and minimization measures.

**Level of Significance after Mitigation:** Less than Significant



**7.2.2 Impact BIO-2. Nesting Birds (Including Osprey and Bald Eagle) and Special-Status Wildlife:**  
***Osprey, bald eagle, Sierra Nevada red fox, northern goshawk, greater sandhill crane, southern long-toed salamander, Sierra Nevada yellow-legged frog, California red-legged frog, Cascades frog, delta smelt, western bumblebee, obscure bumblebee, and monarch butterfly***

Based on the database and literature review conducted during the desktop review for the proposed Project, thirteen (13) special-status wildlife species have been previously documented in the vicinity of the Project site (see Table 3, Figure 14). Due to lack of suitable habitat and/or lack of recent occurrences in the vicinity of the Project site, eleven (11) special-status wildlife species are not expected to occur and are not discussed further in this Biological Resources Report. These eleven species are: Sierra Nevada red fox, northern goshawk, greater sandhill crane, southern long-toed salamander, Sierra Nevada yellow-legged frog, California red-legged frog, Cascades frog, delta smelt, western bumblebee, obscure bumblebee, and monarch butterfly.

Project activities without implemented Avoidance and Mitigation Measures do have the potential to impact nests of both migratory birds and special-status raptor species –osprey and bald eagle. Potential constraints associated with each remaining resource with potential to occur on-site are provided below.

**Level of Significance before Mitigation:** Potentially Significant

**Mitigation Measures:**

BIO-2a: Environmental Training

Each year prior to the commencement of Project-related activities, a qualified biologist will provide an environmental awareness training program to educate Project personnel on relevant special-status species and their habitats, sensitive/regulated habitats, and applicable environmental laws and permits. The training shall include a description of the species and their habitats, importance of preserving species and habitats, penalties for unauthorized take, and the Project limits.

BIO-2b: Migratory Birds and Raptors (osprey and bald eagle)/Nest Avoidance

Tree and vegetation clearing (removal, pruning, trimming, and mowing) shall be scheduled to occur outside of the migratory bird nesting season (February 1 through August 31). However, if clearing and/or construction activities will occur during the migratory bird nesting season, then pre-construction surveys to identify active migratory bird and/or raptor nests shall be conducted by a qualified biologist within 14 days of construction initiation on the Project site and within 300 feet (i.e., zone of influence) of Project-related activities. The zone of influence includes areas outside of the Project site where birds could be disturbed by construction-related noise or earth-moving vibrations.



If active nest, roost, or burrow sites are identified within the Project site, a no-disturbance buffer shall be established for all active nest sites prior to commencement of any proposed Project-related activities to avoid construction or access-related disturbances to migratory bird nesting activities. A no-disturbance buffer constitutes a zone in which proposed Project-related activities (e.g., vegetation removal, earth moving, and construction) cannot occur. A minimum buffer size of 50 feet for passerines and 300 feet for raptors will be implemented; sizes of the buffers shall be determined by a qualified biologist based on the species, activities proposed near the nest, and topographic and other visual barriers. Buffers shall remain in place until the young have departed the area or fledged and/or the nest is inactive, as determined by the qualified biologist. If work is required within a buffer zone of an active bird nest, work may occur under the supervision of a qualified avian biologist. The qualified avian biologist monitoring the construction work will have the authority to stop work and adjust buffers if any disturbance to nesting activity is observed.

#### BIO-2c: Bald Eagle and Golden Eagle

In accordance with the BGEPA (USFWS, last amended 1978), pre-construction surveys for eagles shall be conducted on the Project site and within 0.5 miles of Project site boundaries. If an active eagle nest is detected within this survey area, the Project proponent shall implement a 0.5-mile no-disturbance buffer around the nest until a qualified biologist determines the nest is no longer active.

**Level of Significance after Mitigation:** Less than Significant

- b. *Would the Project 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 U.S. Fish and Wildlife Service?*
- c. *Would the Project 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?*

**Level of Significance before Mitigation:** Potentially Significant

#### **7.2.3 Impact BIO-3. Riparian Habitat and Waters of the United States/State**

The bed, bank, and channel and associated riparian vegetation of Stover's Ditch to the north of the Project site are potentially subject to CDFW jurisdiction under Section 1600 of CFGC. Stover Ditch may also be considered waters of the United States by USACE and the RWQCB, respectively, pursuant to the CWA. In addition, other signs of aquatic features, namely a swale and constructed ditch were located within the Project area. Prior to Project impacts, these areas should be designated as environmentally sensitive areas



(ESAs) and monitored. If impacts to these features are anticipated, verification by USACE will need to occur, in addition to authorization from the CDFW, USACE, and RWQCB prior to any impact.

**Level of Significance before Mitigation:** Potentially Significant

**Mitigation Measures:**

BIO-3a: Implementation of ESAs and Monitoring for Waters of the United States and Associated Riparian Zones

Prior to Project implementation, any waters of the United States, potential waters of the United States, and associated riparian zones shall be established as ESAs and marked off with fencing as directed by a qualified biologist. Monitoring by a qualified biologist should occur for any work within close proximity to the ESAs.

BIO-3b: Obtain CDFW Section 1600 Lake or Streambed Alteration Agreement

If Project activities encroach on the riparian zone of Stover's Ditch, the Project proponent shall submit a Section 1600 Notification of Lake or Streambed Alteration application to CDFW. The Notification will include a description of impacts, including quantification of impacts to bed, bank, and channel, as well as individual trees, area and linear footage of riparian vegetation, and proposed mitigation for impacts. Any mitigation measures required to reduce impacts below significance levels would be defined as part of the permit requirements.

BIO-3c: Obtain USACE/RWQCB Section 404/401 Clean Water Act and Porter-Cologne Authorization

If Project activities encroach on the riparian zone of Stover's Ditch, the Project proponent shall obtain the appropriate CWA Section 404 permit from USACE and Section 401 Water Quality Certification and Porter-Cologne Waste Discharge Requirement approval from the RWQCB prior to the discharge of any dredged or fill material within jurisdictional waters of the United States/State. Any mitigation measures required to reduce impacts below significance levels would be defined as part of the permit requirements.

**Level of Significance after Mitigation:** Less than Significant

- d. *Would the Project 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?*

**Level of Significance before Mitigation:** No impact

- e. *Would the Project conflict with any local policies or ordinances protecting biological resources,*



*such as a tree preservation policy or ordinance?*

**Level of Significance before Mitigation:** No Impact

- f. *Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

**Level of Significance before Mitigation:** No Impact

#### Collins Pines Optional Heliport and Landing Approach

- a. *Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status 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?*

#### **7.2.4 Impact BIO-1. Special-Status Plants**

No special-status plant species are expected to occur on the Project site due to marginally suitable habitat, anthropogenic disturbance, or the lack of specialized habitats and/or substrates such species require. However, without a formal survey, the absence of special-status plant species cannot be confirmed. Impacting special-status plant species would be considered a significant impact. In order to confirm absence of the listed special-status plant species, pre-construction floristic surveys will be conducted prior to initiation of work activities.

**Level of Significance before Mitigation:** Potentially Significant

#### **Mitigation Measures:**

##### BIO-1: Floristic Surveys

Appropriately timed surveys for special-status plants shall be conducted in compliance with all CDFW (2018), USFWS (1996), and CNPS (2001) published survey guidelines prior to initiation of work activities. Project commencement shall not be initiated until special-status plant pre-construction surveys are completed and subsequent mitigation, if necessary, is implemented. If no special-status plant species are found to inhabit the site, no further mitigation measures would be necessary.

If special-status plant species are detected, individuals shall be clearly marked and avoided. If special-status plants detected during focused surveys cannot be avoided, consultation with CDFW and/or USFWS (depending on listing status) shall occur. As part of this





consultation, a mitigation plan shall be developed and approved by the appropriate agencies to avoid all adverse impacts. The mitigation plan will include methodology of transplanting and/or on-site replanting at a 1:1 (mitigation to impacts) ratio, five-year monitoring program, success criteria (e.g., 70% survivorship threshold), and annual reporting requirements. In addition, this plan shall include worker education and development of appropriate avoidance and minimization measures.

**Level of Significance after Mitigation:** Less than Significant

**7.2.5 Impact BIO-2. Nesting Birds (Including Osprey and Bald Eagle) and Special-Status Wildlife: Osprey, bald eagle, Sierra Nevada red fox, northern goshawk, greater sandhill crane, southern long-toed salamander, Sierra Nevada yellow-legged frog, California red-legged frog, Cascades frog, delta smelt, western bumblebee, obscure bumblebee, and monarch butterfly**

Based on the database and literature review conducted during the desktop review for the proposed Project, twelve (12) special-status wildlife species have been previously documented in the vicinity of the Project site (see Table 4, Figure 15). Due to lack of suitable habitat and/or lack of recent occurrences in the vicinity of the Project site, ten (10) special-status wildlife species are not expected to occur and are not discussed further in this Biological Resources Report. These ten species are: Sierra Nevada red fox, northern goshawk, greater sandhill crane, southern long-toed salamander, Sierra Nevada yellow-legged frog, Cascades frog, delta smelt, western bumblebee, obscure bumblebee, and monarch butterfly.

Project activities without implemented Avoidance and Mitigation Measures do have the potential to impact nests of both migratory birds and special-status raptor species –osprey and bald eagle. Potential constraints associated with each remaining resource with potential to occur on-site are provided below.

**Level of Significance before Mitigation:** Potentially Significant

**Mitigation Measures:**

BIO-2a: Environmental Training

Each year prior to the commencement of Project-related activities, a qualified biologist will provide an environmental awareness training program to educate Project personnel on relevant special-status species and their habitats, sensitive/regulated habitats, and applicable environmental laws and permits. The training shall include a description of the species and their habitats, importance of preserving species and habitats, penalties for unauthorized take, and the Project limits.

BIO-2b: Migratory Birds and Raptors (osprey and bald eagle)/Nest Avoidance



Tree and vegetation clearing (removal, pruning, trimming, and mowing) shall be scheduled to occur outside of the migratory bird nesting season (February 1 through August 31). However, if clearing and/or construction activities will occur during the migratory bird nesting season, then pre-construction surveys to identify active migratory bird and/or raptor nests shall be conducted by a qualified biologist within 14 days of construction initiation on the Project site and within 300 feet (i.e., zone of influence) of Project-related activities. The zone of influence includes areas outside of the Project site where birds could be disturbed by construction-related noise or earth-moving vibrations.

If active nest, roost, or burrow sites are identified within the Project site, a no-disturbance buffer shall be established for all active nest sites prior to commencement of any proposed Project-related activities to avoid construction or access-related disturbances to migratory bird nesting activities. A no-disturbance buffer constitutes a zone in which proposed Project-related activities (e.g., vegetation removal, earth moving, and construction) cannot occur. A minimum buffer size of 50 feet for passerines and 300 feet for raptors will be implemented; sizes of the buffers shall be determined by a qualified biologist based on the species, activities proposed near the nest, and topographic and other visual barriers. Buffers shall remain in place until the young have departed the area or fledged and/or the nest is inactive, as determined by the qualified biologist. If work is required within a buffer zone of an active bird nest, work may occur under the supervision of a qualified avian biologist. The qualified avian biologist monitoring the construction work will have the authority to stop work and adjust buffers if any disturbance to nesting activity is observed.

#### BIO-2c: Bald Eagle and Golden Eagle

In accordance with the BGEPA (USFWS, last amended 1978), pre-construction surveys for eagles shall be conducted on the Project site and within 0.5 miles of Project site boundaries. If an active eagle nest is detected within this survey area, the Project proponent shall implement a 0.5-mile no-disturbance buffer around the nest until a qualified biologist determines the nest is no longer active.

#### **Level of Significance after Mitigation:** Less than Significant

- b. *Would the Project 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 U.S. Fish and Wildlife Service?*
- c. *Would the Project 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?*



**Level of Significance before Mitigation:** No Impact.

- d. *Would the Project 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?*

**Level of Significance before Mitigation:** No impact

- e. *Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

**Level of Significance before Mitigation:** No Impact

- f. *Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

**Level of Significance before Mitigation:** No Impact



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**Table 5.** Plant Species Observed on the Seneca Healthcare Replacement Project Site.

Scientific Name	Common Name	Family Name	Native?
<i>Ribes montigenum</i>	Sierra gooseberry	Grossulariaceae	Yes
<i>Artemisia tridentata</i>	big sagebrush	Asteraceae	Yes
<i>Artemisia dracunculus</i>	tarragon	Asteraceae	Yes
<i>Lupinus lapidicola</i>	dwarf lupine	Fabaceae	Yes
<i>Chrysothamnus viscidiflorus</i> ssp. <i>puberulus</i>	yellow rabbitbrush	Asteraceae	Yes
<i>Horkelia fusca</i>	pinewoods horkelia	Rosaceae	Yes
<i>Phacelia hastata</i>	silverleaf phacelia	Boraginaceae	Yes
<i>Helianthella californica</i>	California helianthella	Asteraceae	Yes
<i>Wyethia mollis</i>	woolly mule's ears	Asteraceae	Yes
<i>Berberis aquifolium</i>	Oregon grape	Berberidaceae	Yes
<i>Cynoglossum officinale</i>	hound's-tongue	Boraginaceae	No
<i>Scirpus microcarpus</i>	panicled bulrush	Cyperaceae	Yes
<i>Lonicera cauriana</i>	sweetberry honeysuckle	Caprifoliaceae	Yes
<i>Salix</i> spp.	willows	Salicaceae	Yes
<i>Populus trichocarpa</i>	black cottonwoods	Salicaceae	Yes
<i>Pinus jeffreyi</i>	Jeffrey pine	Pinaceae	Yes
<i>Carex pellita</i>	woolly sedge	Cyperaceae	Yes
<i>Typha</i> spp.	cattails	Typhaceae	NA
<i>Artemisia douglasiana</i>	California mugwort	Asteraceae	Yes
<i>Galium</i> spp.	bedstraw	Rubiaceae	Yes



**Table 6.** Wildlife Species Observed on the Seneca Healthcare Replacement Project Site.

Scientific Name	Common Name
<b>Birds</b>	
<i>Turdus migratorius</i>	American robin
<i>Cyanocitta stelleri</i>	Steller's jay
<i>Junco hyemallis</i>	dark-eyed junco
<i>Haemorhous mexicanus</i>	house finch
<i>Corvus corax</i>	common raven
<i>Picoides oubescens</i>	downy woodpecker
<i>Poecile gambeli</i>	mountain chickadee
<i>Colaptes auratus</i>	Northern flicker
<b>Reptiles</b>	
<i>Sceloporus occidentalis</i>	western fence lizard

667-01

December 20, 2021

**TO:** Donna Huntingdale, P.E.

**FROM:** Don Burk

**SUBJECT:** Wetland Screening for the Seneca Healthcare District Hospital  
Replacement/Expansion Project

This is to confirm that ENPLAN has conducted a wetland screening for a ±10-acre site in the community of Chester. The site is located generally north and west of the Seneca Hospital and Medical Clinic, and is identified as portions of Plumas County Assessor's Parcels 100-230-022 and 100-470-001.

The study area is situated approximately 4,540 feet above mean sea level. The site is primarily comprised of an open Jeffrey pine forest with a patchy understory of antelope bitterbrush. Timberlands and a stream/drainage channel are located to the north and west of the study site. Single-family residences are to the south, multi-family residents are to the east, and the hospital and clinic are to the southeast.

### **Regulatory Background**

The definition of "wetlands" varies from agency to agency, as do policies for the conservation of wetlands. The most frequently used definition of wetlands is that used by the U.S. Army Corps of Engineers. Their current definitions of "wetlands" and "other waters" has remained relatively stable over the past dozen years, but federal policies regarding which wetlands and other waters are subject to federal jurisdiction has shifted drastically. In response to a US District Court ruling in August, the Trump Administration's Navigable Waters Protection Rule was overturned; the Corps of Engineers is currently operating under the pre-2015 definition of "Waters of the United States." A public comment period regarding this action is currently open until February 22, 2022.

Under both the pre-2015 regulations and the Navigable Waters Protection Rule, certain isolated wetlands are not/were not regulated by the Corps of Engineers. However, it is important to note that USDA Rural Development operates under different rules, as codified in the Food Securities Act. Although the definitions of wetlands and other waters are fairly similar to those used by the Corps of Engineers, USDA is not allowed to fund development projects that would result in the fill of wetlands, whether the wetlands are isolated or not.

The State of California has additional definitions and regulations that must be considered. Typically, the California Department of Fish and Wildlife (CDFW) claims jurisdiction over riparian vegetation through Lake or Streambed Alteration Agreements, even if the riparian zone extends beyond the limits of Corps of Engineers jurisdiction. Perhaps the broadest definition of regulated waters is that used by the State Water Boards, which, under the Porter-Cologne Act, have jurisdiction over all surface waters in the state. This definition

encompasses isolated waters, roadside ditches, and other features that may not be regulated by other federal or state agencies.

## Records Review

Prior to conducting the field evaluation, soil records maintained by the Natural Resources Conservation Service were reviewed to determine the soil types on the site and their potential to support wetlands<sup>1</sup>. Also, National Wetland Inventory (NWI) maps were reviewed to determine if wetland features have been previously mapped on the site<sup>2</sup>.

The records review showed that two soil types are present on the site: Forgay very gravelly sandy loam, 0 to 2 percent slopes; and Forgay extremely gravelly sandy loam, 0 to 2 percent slopes. Neither of these soil units is listed as hydric; however, both may contain hydric inclusions. The National Wetlands Inventory map shows no wetlands or other waters on the study site, although lands to the immediate north are mapped as a Freshwater Forested/Shrub Wetland (PSSC).

## Field Evaluation and Results

The field reconnaissance was conducted December 5, 2021. Field conditions were not ideal, as virtually no plants were in flower this late in the season. However, the field evaluation confirmed that nearly all of the project site supports an open Jeffrey pine forest with no potential to support wetlands or other waters under any of the definitions noted above. Nonetheless, three features warrant mention:

- The overstory in the extreme northwestern corner of the project site consists of Jeffrey pines (UPL<sup>3</sup>) with a few black cottonwoods (FAC) intermixed, and is a transitional zone between the Jeffrey pine forest and the riparian habitat associated with the off-site stream/ditch. It is our experience that if work were proposed in the stream/ditch requiring issuance of a Streambed Alteration Agreement, CDFW could include this transition zone as a regulated riparian feature. However, if work affected the transitional habitat only, it is unlikely that CDFW would require a Streambed Alteration Agreement for the work.
- Apparent herbaceous wetland habitat extends into the northern edge of the project site in one location, about 145 feet west of the northwestern corner of the study area. However, the apparent wetland extends only about three feet south of the flagged site boundary and is no more than about six feet in length. The dominant plant is a sedge (*Carex* sp.); although the sedge could not be identified to the species level, nearly all of our local sedges are wetland indicators (FAC or wetter). Soils were black (7.5YR 2.5/1) with few, faint mottles. Evidence of wetland hydrology was observed only in the form of drainage patterns (a secondary indicator), but we anticipate that a high-water table would be present during the spring growing season. The apparent wetland is on a low streamside terrace, with the adjacent Jeffrey pine forest being about a foot higher in elevation.

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<sup>1</sup> <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

<sup>2</sup> U.S. Fish and Wildlife Service. 2021. <http://www.fws.gov/wetlands/Data/Mapper.html>

<sup>3</sup> UPL = Plants that rarely occur in wetlands (<1%); FACU = Plants that sometimes occur in wetlands (1% - <33%); FAC = Plants with a similar likelihood of occurring in wetlands and non-wetlands ((33% - 67%); FACW = Plants usually occur in wetlands (>67% - 99%); OBL = Plants that occurs almost always in wetlands (>99%)

- A constructed ditch/basin is present adjacent to the paved medical clinic driveway and parking area, along the southern boundary of the study area. The western end of the feature (at the northwestern corner of the parking area) is at the same elevation as the paved parking area, and deepens to the east. No outlet was observed. Although the feature does not possess wetland characteristics, it may hold precipitation or snowmelt at certain times of year. Accordingly, it may meet the Water Boards' definition of a surface water. For similar created waters of the state, it is our experience that the Water Board will waive its permit authority.

### **Conclusions and Recommendations**

- Review of current project plans shows that no work is proposed in or near the riparian transition zone or potential wetland. However, if work is proposed in the northwestern corner of the property (i.e., a buffer strip extending from the northwestern corner 200 feet to the east and 50 feet to the south) in the future, additional consultation should be undertaken to determine if the planned activities would adversely affect riparian or wetland resources, and appropriate permits should be obtained, or setbacks established, at that time.
- To facilitate construction of the new hospital, the constructed ditch/basin adjacent to the clinic driveway would be filled. Given the broad definition of "waters of the state," we recommend that an email be sent to Water Board staff requesting concurrence that Waste Discharge Requirements will not be needed to authorize fill of the basin.

Please contact me at 530/221-0440 x7102 or [dburk@enplan.com](mailto:dburk@enplan.com) if you have any questions regarding our findings or recommendations.

Sincerely,



Donald Burk  
Environmental Services Manager



Revised June 29, 2022

Nathan Morgan  
President/CEO  
Aspen Street Architects, Inc.  
494 N. Main Street  
Angels Camp, CA 95222

SUBJECT: Preliminary Drainage and Stormwater Quality Study for the Seneca CAH  
(RICK Job Number: 19512)

### **1.0 Introduction**

This memorandum presents the results of the preliminary drainage and stormwater quality analysis prepared for the proposed Critical Access Hospital (CAH) project, for the Seneca Healthcare District project. The project is located at the end of Reynolds Road, Chester, Plumas County, California, on APNs 100-230-022, 100-110-030 & 100-470-001. The site location is shown on the vicinity map in Figure 1, below. The proposed project consists of approximately 7.5± acres within the three parcels listed previously. APN 100-230-022 is zoned REC-P (Prime Recreation), R-10 (Rural 10 Acre), and REC-OS (Open Space Recreation) and is vacant within the project area. APN 100-110-030 is zoned C-2 (Periphery Commercial) and M-R (Multi-Family Residential) and contains the existing clinic building. APN 100-470-001 is zoned 7-R (Single-Family 7/Ac) and is currently vacant within the proposed project area. The proposed project will include a new hospital building (~17,064 sf), a skilled nursing facility (~10,546 sf), medical office building (~15,539 sf) including required parking and site improvements.

***Figure 1: Vicinity Map***



## **2.0 Hydrology**

### **2.1 Hydrologic Methodology**

Hydrologic peak flow calculations for the sizing of drainage conveyance on-site have been computed utilizing the Rational Method:

$$Q = C * i * A$$

Q = Peak runoff in cubic feet per second.

C = Weighted runoff coefficient.

i = Rainfall intensity in inches per hour.

A = Watershed area in acres.

Precipitation intensity was determined utilizing the NOAA Atlas 14 Precipitation Frequency Data Server (PFDS) at the approximate centroid of the watershed area. A copy of the NOAA PFDS precipitation data is included in Attachment 2. A workmap for the hydrologic analysis is included in Attachment 1. Rational Method calculations are included in Attachment 2.

### **2.2 Infiltration Analysis Methodology**

The project site consists of hydrologic soil group Type A soils with good capacity for infiltration. The existing clinic building and the adjacent Wildwood Senior Residence Facility include infiltration basins sized to infiltrate the 20-year, 1-hour storm event. The storage volume required to allow the 20-year, 1-hour storm event to infiltrate was calculated using the Rational Method. Calculations for the required infiltration basin volume of 0.55 acre-feet are included in Attachment 2.

### **2.3 Detention Analysis Methodology**

The project site has been designed to provide detention for peak flows in excess of the 20-year, 1-hour storm event for up to the 100-year, 24-hour storm event. Detention hydrologic calculations were computed in accordance with the USDA NRCS Technical Release 55 (TR-55), Urban Hydrology for Small Watersheds dated June 1986. Peak flows for the 100-year, 24-hour storm pre- and post-project conditions were calculated using the United States Army Corps of Engineers' HEC-HMS version 4.1 hydrologic model. A workmap for the hydrologic analysis is included in Attachment 1. An electronic copy of the HEC-HMS models developed in this study are included with the electronic files in Attachment 6.

#### **2.3.1 Precipitation**

The 100-year; 24-hour storm event point precipitation depth was determined utilizing the NOAA Atlas 14 PFDS at the approximate centroid of the watershed area. Pursuant to the TR-55 guidance document Figure B-2, the watershed studied in this memorandum is located within the Type 1a rainfall distribution boundary which was utilized for this study. A copy of the NOAA PFDS precipitation data is included in Attachment 2.

### 2.3.2 Runoff Curve Number

The runoff curve number is a representation of the physical watershed characteristics used in determining the fraction of rainfall that becomes runoff. Its determination is based on the distribution of land uses, vegetative cover, and hydrologic soil types within the watershed. Soils information was derived from USDA NRCS web soil survey data. Curve numbers were assigned to each land use utilizing aerial imagery in accordance with Table 2-2 of the TR-55 guidance document. Curve number calculations are included in Attachment 2. An excerpt from the NRCS web soil survey data is included in Attachment 2 and a full copy of the web soil survey data is included with the electronic files in Attachment 6.

### 2.3.3 Lag Calculations

Lag was calculated utilizing the Army Corps of Engineers Basin “n” Lag Time equation. The hydrologic workmaps in Attachment 1 show the flow paths used for the lag time calculations. Calculations for the basins lag times are included in Attachment 2.

### 2.3.4 Detention

The proposed detention basin was analyzed utilizing the storage function in HEC-HMS. The preliminary calculations assume a storage-discharge relationship and iterate the storage volume to determine the volume required to mitigate peak flows to be equal or less than the existing condition. The calculations and design of the detention basin outflow structures will be determined at final design once the grading of the detention basins has been completed. Preliminary calculations for the storage and discharge from the proposed detention basin is included in Attachment 2.

## 2.4 Hydrologic Results

The peak discharge for the 100-year storm event has been calculated for the existing and proposed project site using Rational Method for the sizing of drainage conveyances as well as the infiltration basin; and HEC-HMS for the sizing of the proposed detention facilities. The existing and proposed condition hydrologic output from the HEC-HMS models are included in Attachment 2. A hydrologic workmap for the proposed project site is included in Attachment 1. Hydrologic calculation supporting information is included in Attachment 2. See Table 1, following, for a summary of the peak flow rates calculated for each storm event in the HEC-HMS model and the preliminarily determined storage required. The required storage volumes do not include freeboard or outlet works for the basins.

**Table 1: Hydrologic Results Summary**

Design Point	Storm Event Peak Flow Rates (cfs)			Total Required Infiltration/ Detention Volume (acft)
	100-Year			
	Pre-	Post-Project		
		Un-Det.	Detained	
100	2.00	6.41	1.93	0.65

As shown in Table 1, the peak flow rate from the site is equal to or reduced in the proposed condition for the 100-year storm event utilizing the calculated detention volume.

### **3.0 Hydraulics**

#### **3.1 Inlets**

The proposed onsite grate inlets will be designed to convey the 10-year storm event flow. The grate inlets will be designed assuming 50% clogging to account for the grate and debris build up. Preliminary calculations for the sizing of the inlets are included in Attachment 3.

#### **3.2 Storm Drain System**

The proposed storm drain system will be designed to convey the 10-year storm event flow. The on-site storm drain system will be designed to maintain a minimum of 1-foot freeboard to the grate inlets. The starting water surface elevation for the on-site storm drain system will be based on normal depth. Preliminary calculations for the sizing of the on-site pipes are included in Attachment 3.

#### **3.3 Interception Ditches**

A hillside drains towards the project site along the west side of the site. Interception ditches are proposed at the top of the slopes to route flows around the proposed improvements and to proposed storm drain systems. The ditches will be sized to convey the 10-year storm event peak flow and maintain a minimum of 0.5' freeboard.. Preliminary calculations for the sizing of the ditches are included in Attachment 3.

#### **3.3 Overland Release**

The on-site grading for drainage across the site and along the street frontage will be designed such that overland release for the 100-year peak flow is provided while maintaining 1-foot of freeboard to the proposed structure Finished Floor elevations assuming no flow is intercepted by the proposed storm drain system.

#### **3.4 FEMA Floodplain**

The project site is shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 06063C0175E, effective March 2, 2005. The project site is located in a FEMA Zone X (unshaded), an area determined to be outside of the 500-year or 0.2% annual chance floodplain. FEMA regulates development within the 100-year floodplain, so no FEMA submittals are anticipated for the project. An annotated FIRMette and excerpts from the Flood Insurance Study (FIS) are included in Attachment 4.

#### **4.0 Water Quality**

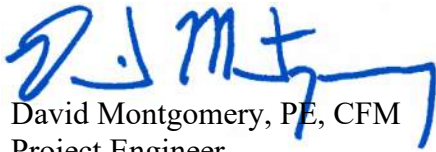
The proposed project is over 1-acre and is anticipated to fall under the requirements of the Construction General Permit guidance for Post-Construction BMPs. The proposed project is anticipated to provide vegetated swale post-construction BMPs to treat site runoff, provide downspout disconnection, and provide infiltration for volume reduction. Calculations from the Post-Construction Water Balance Calculator and preliminary sizing calculations for the vegetated swales are included in Attachment 5. The vegetated swale locations are shown on the workmap in Attachment 1.

#### **5.0 Attachments**

Attachment 1: Drainage Workmap  
Attachment 2: Hydrologic Analysis  
Attachment 3: Hydraulic Analysis  
Attachment 4: FEMA FIRMette  
Attachment 5: Water Quality Calculations  
Attachment 6: Electronic Files

Sincerely,

RICK ENGINEERING COMPANY



David Montgomery, PE, CFM  
Project Engineer



M. Scott Lillibridge  
R.C.E. #52504, Exp. 12/22  
Region Manager

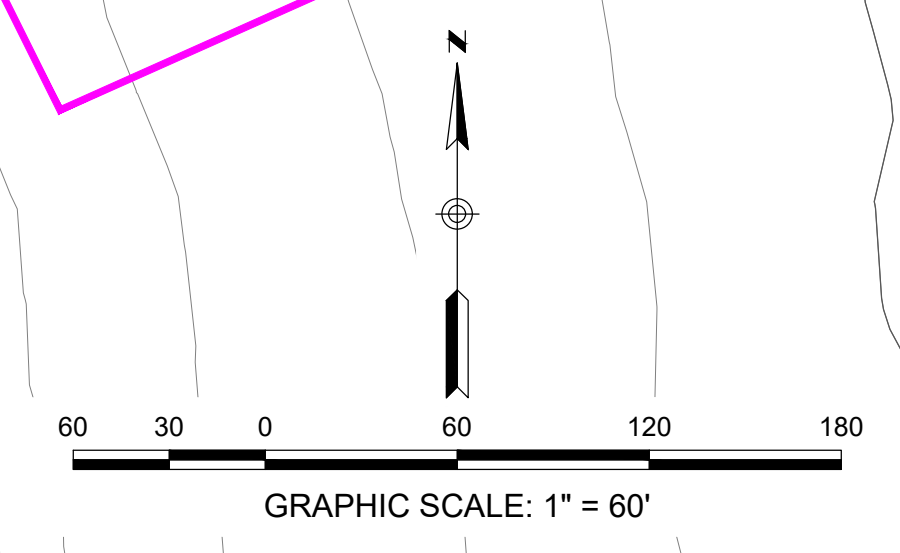
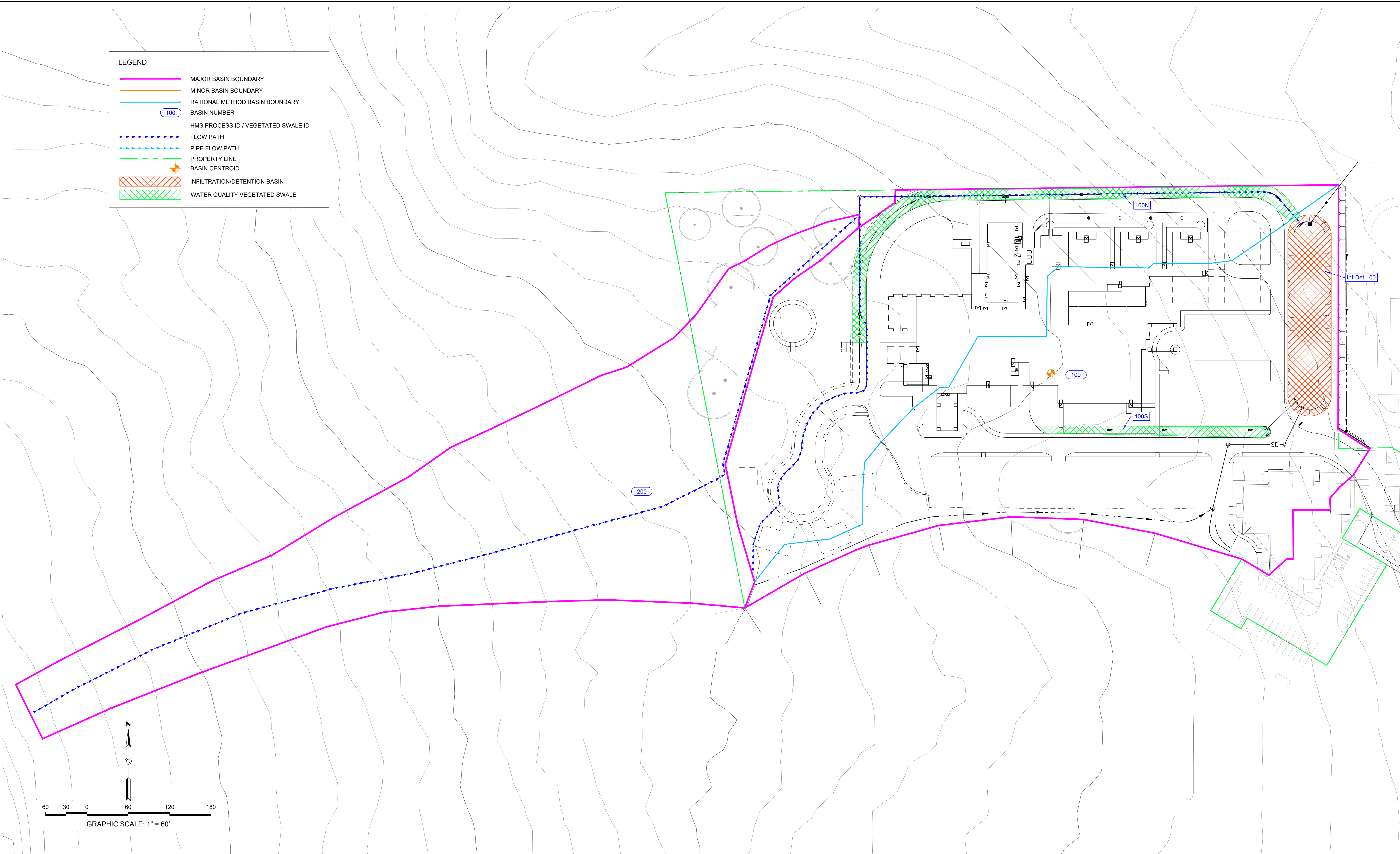


## **Attachment 1**

### Drainage Workmap

**LEGEND**

- MAJOR BASIN BOUNDARY
- MINOR BASIN BOUNDARY
- RATIONAL METHOD BASIN BOUNDARY
- BASIN NUMBER
- HMS PROCESS ID / VEGETATED SWALE ID
- FLOW PATH
- PIPE FLOW PATH
- PROPERTY LINE
- BASIN CENTROID
- INFILTRATION/DETENTION BASIN
- WATER QUALITY VEGETATED SWALE



DRAINAGE WORKMAP  
FOR  
CAH SENECA

SHEET 1 OF 1

**RICK**  
ENGINEERING COMPANY

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J-19512  
DATE: JUNE 29, 2022

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## **Attachment 2**

### Hydrologic Analysis



## Rational Method Calculations

Job Name: CAH Seneca

Job Number: 19512

Date: 6/29/2022

Basin	Area (ac)	Runoff Coefficient [C]	Time of Concentration [Tc] (min)	Intensity [i] (in/hr)			Peak Flow Rate [Q] (cfs)		
				2-Year	10-Year	100-Year	2-Year	10-Year	100-Year
100N	4.13	0.80	10.0	1.39	2.04	3.22	4.59	6.74	10.64
100S	5.53	0.80	10.0	1.39	2.04	3.22	6.15	9.02	14.24
200	5.46	0.35	20.0	0.99	1.46	2.30	1.90	2.78	4.39



## 20-Year 1-Hour Infiltration Volume Calculation

Job Name: CAH Seneca

Job Number: 19512

Date: 6/29/2022

$$V=C*P*A$$

Basin	Area [A] (ac)	Runoff Coefficient [C]	Precipitation [P]		Volume [V]	
			(in)	(ft)	(acft)	(cuft)
100	9.66	0.80	0.849	0.0708	0.55	23813



Project: 19512\_CAH\_Seneca Simulation Run: EX100

Start of Run: 01Jan1990, 12:00

Basin Model: Existing

End of Run: 02Jan1990, 12:01

Meteorologic Model: 100-Year, 24-Hour

Compute Time: 29Jun2022, 13:52:19

Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI <sup>2</sup> )	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
Downstream	0.01509	1.998	01Jan1990, 20:25	1.333
Site	0.01509	1.998	01Jan1990, 20:25	1.333
100	0.01509	1.998	01Jan1990, 20:25	1.333

Project: 19512\_CAH\_Seneca Simulation Run: PR100

Start of Run: 01Jan1990, 12:00

Basin Model: Proposed

End of Run: 02Jan1990, 12:01

Meteorologic Model: 100-Year, 24-Hour

Compute Time: 29Jun2022, 13:52:23

Control Specifications: Control 1

Hydrologic Element	Drainage Area (MI <sup>2</sup> )	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
Downstream	0.01509	1.930	01Jan1990, 21:55	1.727
Inf-Det-100	0.01509	1.930	01Jan1990, 21:55	1.727
Site	0.01509	1.930	01Jan1990, 21:55	1.727
Undet	0.01509	6.406	01Jan1990, 20:03	2.323
100	0.01509	6.406	01Jan1990, 20:03	2.323



## Lag Time Calculations

Job Name: CAH Seneca  
 Job Number: 19512  
 Date: 6/29/2022

Condition	Basin	Coefficient <i>C</i>	Roughness Coefficient <i>n</i> *	Length (ft)	Length (mi) <i>L</i>	Length from Point Closest to Centroid (ft)	Length from Point Closest to Centroid (mi) <i>L<sub>c</sub></i>	Elevation Upstream (ft)	Elevation Downstream (ft)	Slope (ft/ft)	Slope (ft/mi) <i>S</i>	Lag Time (min) <i>L<sub>g</sub></i>
Existing	100	1560	0.115	1,290	0.24	390	0.07	4544	4536	0.006	32.7	26.8
Proposed	100	1560	0.040	1,290	0.24	390	0.07	4544	4536	0.006	32.7	9.3

Corps Basin "n" lag equation
$L_g = C \bullet n ([L \bullet L_c] / S^{0.5})^{0.33}$



## Land Use Calculations

Job Name: CAH Seneca

Job Number: 19512

Date: 6/29/2022

Condition	Basin	Area (sqft)	Area (ac)	Area (sqmi)	Soil	Land Use	Curve Number
Existing	100	420726	9.66	0.01509	A	Woods-grass combination, Poor	57
Proposed	100	420726	9.66	0.01509	A	Industrial	72



**NOAA Atlas 14, Volume 6, Version 2**  
**Location name: Chester, California, USA\***  
**Latitude: 40.3073°, Longitude: -121.2369°**  
**Elevation: 4546.39 ft\*\***

\* source: ESRI Maps

\*\* source: USGS



### POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF\\_tabular](#) | [PF\\_graphical](#) | [Maps\\_&\\_aerials](#)

**LINEAR INTERPOLATE**  
**20-YR, 1-HOUR=0.849**

### PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.133 (0.113-0.157)	0.161 (0.138-0.191)	0.202 (0.172-0.240)	0.237 (0.199-0.284)	0.288 (0.233-0.359)	0.329 (0.260-0.422)	0.374 (0.287-0.493)	0.423 (0.313-0.575)	0.615 (0.435-0.879)	0.866 (0.588-1.29)
10-min	0.190 (0.162-0.225)	0.231 (0.197-0.274)	0.289 (0.246-0.344)	0.340 (0.286-0.408)	0.412 (0.333-0.515)	0.472 (0.372-0.604)	0.536 (0.411-0.706)	0.606 (0.449-0.825)	0.882 (0.623-1.26)	1.24 (0.842-1.85)
15-min	0.230 (0.196-0.272)	0.280 (0.239-0.332)	0.350 (0.298-0.416)	0.411 (0.346-0.493)	0.499 (0.403-0.623)	0.571 (0.450-0.731)	0.648 (0.497-0.854)	0.732 (0.543-0.997)	1.07 (0.753-1.52)	1.50 (1.02-2.23)
30-min	0.306 (0.261-0.362)	0.372 (0.317-0.441)	0.465 (0.395-0.553)	0.546 (0.459-0.655)	0.663 (0.536-0.828)	0.759 (0.599-0.971)	0.861 (0.660-1.14)	0.973 (0.722-1.33)	1.42 (1.00-2.03)	2.00 (1.35-2.97)
60-min	0.416 (0.355-0.492)	0.506 (0.432-0.600)	0.633 (0.538-0.753)	0.743 (0.625-0.892)	0.902 (0.730-1.13)	1.03 (0.815-1.32)	1.17 (0.899-1.55)	1.33 (0.983-1.81)	1.93 (1.36-2.76)	2.72 (1.84-4.04)
2-hr	0.581 (0.496-0.687)	0.712 (0.607-0.844)	0.884 (0.751-1.05)	1.02 (0.861-1.23)	1.21 (0.981-1.51)	1.36 (1.07-1.74)	1.50 (1.15-1.98)	1.65 (1.23-2.25)	1.95 (1.38-2.79)	2.74 (1.86-4.08)
3-hr	0.726 (0.620-0.858)	0.890 (0.759-1.06)	1.10 (0.934-1.31)	1.26 (1.06-1.52)	1.48 (1.20-1.85)	1.64 (1.30-2.10)	1.80 (1.38-2.38)	1.96 (1.46-2.67)	2.17 (1.53-3.10)	2.77 (1.88-4.12)
6-hr	1.06 (0.904-1.25)	1.30 (1.11-1.54)	1.60 (1.36-1.90)	1.82 (1.53-2.19)	2.11 (1.70-2.63)	2.31 (1.82-2.96)	2.50 (1.92-3.30)	2.69 (1.99-3.66)	2.92 (2.07-4.18)	3.09 (2.10-4.60)
12-hr	1.55 (1.33-1.84)	1.95 (1.66-2.31)	2.42 (2.06-2.87)	2.77 (2.33-3.32)	3.19 (2.58-3.99)	3.49 (2.75-4.47)	3.77 (2.89-4.96)	4.03 (2.99-5.48)	4.34 (3.07-6.21)	4.57 (3.10-6.80)
24-hr	2.27 (2.00-2.63)	2.93 (2.58-3.40)	3.70 (3.25-4.31)	4.28 (3.72-5.01)	4.97 (4.19-6.01)	5.45 (4.51-6.72)	5.89 (4.76-7.44)	6.30 (4.96-8.18)	6.81 (5.15-9.19)	7.16 (5.23-9.99)
2-day	3.05 (2.69-3.54)	4.02 (3.54-4.66)	5.17 (4.54-6.01)	6.03 (5.25-7.07)	7.10 (5.99-8.59)	7.85 (6.49-9.68)	8.55 (6.91-10.8)	9.22 (7.25-12.0)	10.0 (7.59-13.6)	10.6 (7.77-14.8)
3-day	3.58 (3.15-4.15)	4.75 (4.18-5.51)	6.17 (5.42-7.17)	7.25 (6.32-8.49)	8.61 (7.27-10.4)	9.58 (7.92-11.8)	10.5 (8.49-13.3)	11.4 (8.97-14.8)	12.5 (9.46-16.9)	13.3 (9.75-18.6)
4-day	4.01 (3.54-4.65)	5.34 (4.70-6.19)	6.96 (6.11-8.09)	8.20 (7.14-9.61)	9.78 (8.25-11.8)	10.9 (9.02-13.5)	12.0 (9.69-15.2)	13.1 (10.3-16.9)	14.4 (10.9-19.4)	15.4 (11.2-21.4)
7-day	4.91 (4.33-5.69)	6.48 (5.70-7.51)	8.41 (7.39-9.78)	9.91 (8.63-11.6)	11.8 (9.99-14.3)	13.2 (10.9-16.3)	14.6 (11.8-18.4)	15.9 (12.5-20.6)	17.6 (13.3-23.8)	18.8 (13.8-26.3)
10-day	5.59 (4.93-6.48)	7.34 (6.46-8.51)	9.50 (8.34-11.0)	11.2 (9.73-13.1)	13.3 (11.2-16.1)	14.9 (12.3-18.3)	16.4 (13.2-20.7)	17.8 (14.0-23.1)	19.7 (14.9-26.6)	21.1 (15.4-29.4)
20-day	7.47 (6.59-8.65)	9.77 (8.60-11.3)	12.6 (11.0-14.6)	14.7 (12.8-17.2)	17.4 (14.7-21.0)	19.3 (16.0-23.9)	21.2 (17.1-26.7)	22.9 (18.0-29.8)	25.2 (19.0-34.0)	26.8 (19.6-37.4)
30-day	9.00 (7.93-10.4)	11.7 (10.3-13.6)	15.0 (13.2-17.4)	17.5 (15.2-20.5)	20.5 (17.3-24.8)	22.7 (18.8-28.0)	24.7 (20.0-31.3)	26.7 (21.0-34.6)	29.1 (22.0-39.3)	30.9 (22.6-43.1)
45-day	11.2 (9.88-13.0)	14.5 (12.7-16.8)	18.3 (16.1-21.3)	21.2 (18.5-24.9)	24.7 (20.9-29.9)	27.2 (22.5-33.5)	29.4 (23.8-37.2)	31.6 (24.8-41.0)	34.2 (25.9-46.2)	36.0 (26.4-50.3)
60-day	13.3 (11.8-15.5)	17.1 (15.0-19.8)	21.4 (18.8-24.9)	24.6 (21.4-28.8)	28.5 (24.0-34.4)	31.1 (25.7-38.4)	33.6 (27.1-42.4)	35.8 (28.2-46.5)	38.6 (29.1-52.1)	40.4 (29.6-56.5)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

### PF graphical





**NOAA Atlas 14, Volume 6, Version 2**  
**Location name: Chester, California, USA\***  
**Latitude: 40.3073°, Longitude: -121.2369°**  
**Elevation: 4546.39 ft\*\***

\* source: ESRI Maps  
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### POINT PRECIPITATION FREQUENCY ESTIMATES

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NOAA, National Weather Service, Silver Spring, Maryland

[PF\\_tabular](#) | [PF\\_graphical](#) | [Maps\\_&\\_aerials](#)

### PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.60 (1.36-1.88)	1.93 (1.66-2.29)	2.42 (2.06-2.88)	2.84 (2.39-3.41)	3.46 (2.80-4.31)	3.95 (3.12-5.06)	4.49 (3.44-5.92)	5.08 (3.76-6.90)	7.38 (5.22-10.5)	10.4 (7.06-15.5)
10-min	1.14 (0.972-1.35)	1.39 (1.18-1.64)	1.73 (1.48-2.06)	2.04 (1.72-2.45)	2.47 (2.00-3.09)	2.83 (2.23-3.62)	3.22 (2.47-4.24)	3.64 (2.69-4.95)	5.29 (3.74-7.56)	7.45 (5.05-11.1)
15-min	0.920 (0.784-1.09)	1.12 (0.956-1.33)	1.40 (1.19-1.66)	1.64 (1.38-1.97)	2.00 (1.61-2.49)	2.28 (1.80-2.92)	2.59 (1.99-3.42)	2.93 (2.17-3.99)	4.26 (3.01-6.10)	6.00 (4.08-8.93)
30-min	0.612 (0.522-0.724)	0.744 (0.634-0.882)	0.930 (0.790-1.11)	1.09 (0.918-1.31)	1.33 (1.07-1.66)	1.52 (1.20-1.94)	1.72 (1.32-2.27)	1.95 (1.44-2.65)	2.83 (2.00-4.05)	3.99 (2.71-5.94)
60-min	0.416 (0.355-0.492)	0.506 (0.432-0.600)	0.633 (0.538-0.753)	0.743 (0.625-0.892)	0.902 (0.730-1.13)	1.03 (0.815-1.32)	1.17 (0.899-1.55)	1.33 (0.983-1.81)	1.93 (1.36-2.76)	2.72 (1.84-4.04)
2-hr	0.290 (0.248-0.344)	0.356 (0.304-0.422)	0.442 (0.376-0.526)	0.512 (0.430-0.614)	0.606 (0.490-0.757)	0.678 (0.536-0.869)	0.752 (0.576-0.990)	0.827 (0.614-1.13)	0.974 (0.688-1.39)	1.37 (0.931-2.04)
3-hr	0.242 (0.206-0.286)	0.296 (0.253-0.351)	0.366 (0.311-0.435)	0.421 (0.354-0.505)	0.494 (0.399-0.616)	0.547 (0.432-0.701)	0.600 (0.460-0.791)	0.653 (0.485-0.890)	0.723 (0.511-1.03)	0.922 (0.626-1.37)
6-hr	0.177 (0.151-0.209)	0.217 (0.185-0.257)	0.267 (0.226-0.317)	0.304 (0.256-0.365)	0.352 (0.284-0.439)	0.385 (0.304-0.493)	0.418 (0.320-0.550)	0.449 (0.333-0.611)	0.488 (0.345-0.698)	0.516 (0.351-0.768)
12-hr	0.129 (0.110-0.153)	0.162 (0.138-0.192)	0.201 (0.171-0.239)	0.230 (0.193-0.276)	0.265 (0.214-0.331)	0.290 (0.228-0.371)	0.312 (0.240-0.412)	0.334 (0.248-0.455)	0.361 (0.255-0.515)	0.379 (0.257-0.564)
24-hr	0.094 (0.083-0.109)	0.122 (0.107-0.141)	0.154 (0.135-0.179)	0.178 (0.155-0.209)	0.207 (0.175-0.250)	0.227 (0.188-0.280)	0.245 (0.198-0.310)	0.263 (0.207-0.341)	0.284 (0.214-0.383)	0.298 (0.218-0.416)
2-day	0.064 (0.056-0.074)	0.084 (0.074-0.097)	0.108 (0.095-0.125)	0.126 (0.109-0.147)	0.148 (0.125-0.179)	0.163 (0.135-0.202)	0.178 (0.144-0.225)	0.192 (0.151-0.249)	0.209 (0.158-0.283)	0.221 (0.162-0.309)
3-day	0.050 (0.044-0.058)	0.066 (0.058-0.076)	0.086 (0.075-0.100)	0.101 (0.088-0.118)	0.120 (0.101-0.145)	0.133 (0.110-0.164)	0.146 (0.118-0.184)	0.158 (0.125-0.205)	0.174 (0.131-0.235)	0.185 (0.135-0.258)
4-day	0.042 (0.037-0.048)	0.056 (0.049-0.064)	0.072 (0.064-0.084)	0.085 (0.074-0.100)	0.102 (0.086-0.123)	0.114 (0.094-0.140)	0.125 (0.101-0.158)	0.136 (0.107-0.176)	0.150 (0.113-0.202)	0.160 (0.117-0.223)
7-day	0.029 (0.026-0.034)	0.039 (0.034-0.045)	0.050 (0.044-0.058)	0.059 (0.051-0.069)	0.070 (0.059-0.085)	0.079 (0.065-0.097)	0.087 (0.070-0.110)	0.095 (0.074-0.123)	0.105 (0.079-0.141)	0.112 (0.082-0.156)
10-day	0.023 (0.021-0.027)	0.031 (0.027-0.035)	0.040 (0.035-0.046)	0.047 (0.041-0.055)	0.055 (0.047-0.067)	0.062 (0.051-0.076)	0.068 (0.055-0.086)	0.074 (0.058-0.096)	0.082 (0.062-0.111)	0.088 (0.064-0.123)
20-day	0.016 (0.014-0.018)	0.020 (0.018-0.024)	0.026 (0.023-0.030)	0.031 (0.027-0.036)	0.036 (0.031-0.044)	0.040 (0.033-0.050)	0.044 (0.036-0.056)	0.048 (0.038-0.062)	0.052 (0.040-0.071)	0.056 (0.041-0.078)
30-day	0.012 (0.011-0.014)	0.016 (0.014-0.019)	0.021 (0.018-0.024)	0.024 (0.021-0.028)	0.028 (0.024-0.034)	0.032 (0.026-0.039)	0.034 (0.028-0.043)	0.037 (0.029-0.048)	0.040 (0.031-0.055)	0.043 (0.031-0.060)
45-day	0.010 (0.009-0.012)	0.013 (0.012-0.016)	0.017 (0.015-0.020)	0.020 (0.017-0.023)	0.023 (0.019-0.028)	0.025 (0.021-0.031)	0.027 (0.022-0.034)	0.029 (0.023-0.038)	0.032 (0.024-0.043)	0.033 (0.024-0.047)
60-day	0.009 (0.008-0.011)	0.012 (0.010-0.014)	0.015 (0.013-0.017)	0.017 (0.015-0.020)	0.020 (0.017-0.024)	0.022 (0.018-0.027)	0.023 (0.019-0.029)	0.025 (0.020-0.032)	0.027 (0.020-0.036)	0.028 (0.021-0.039)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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### PF graphical



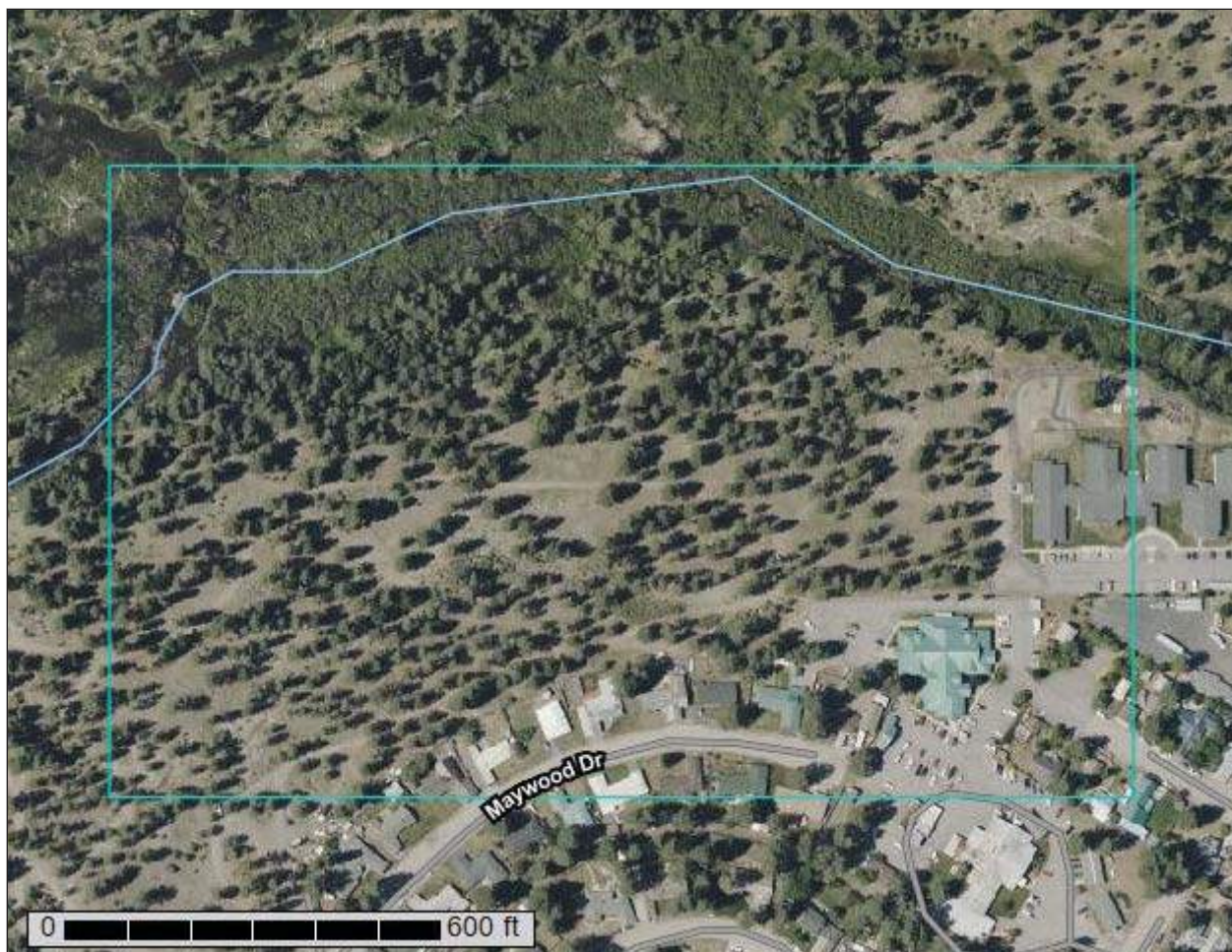
United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

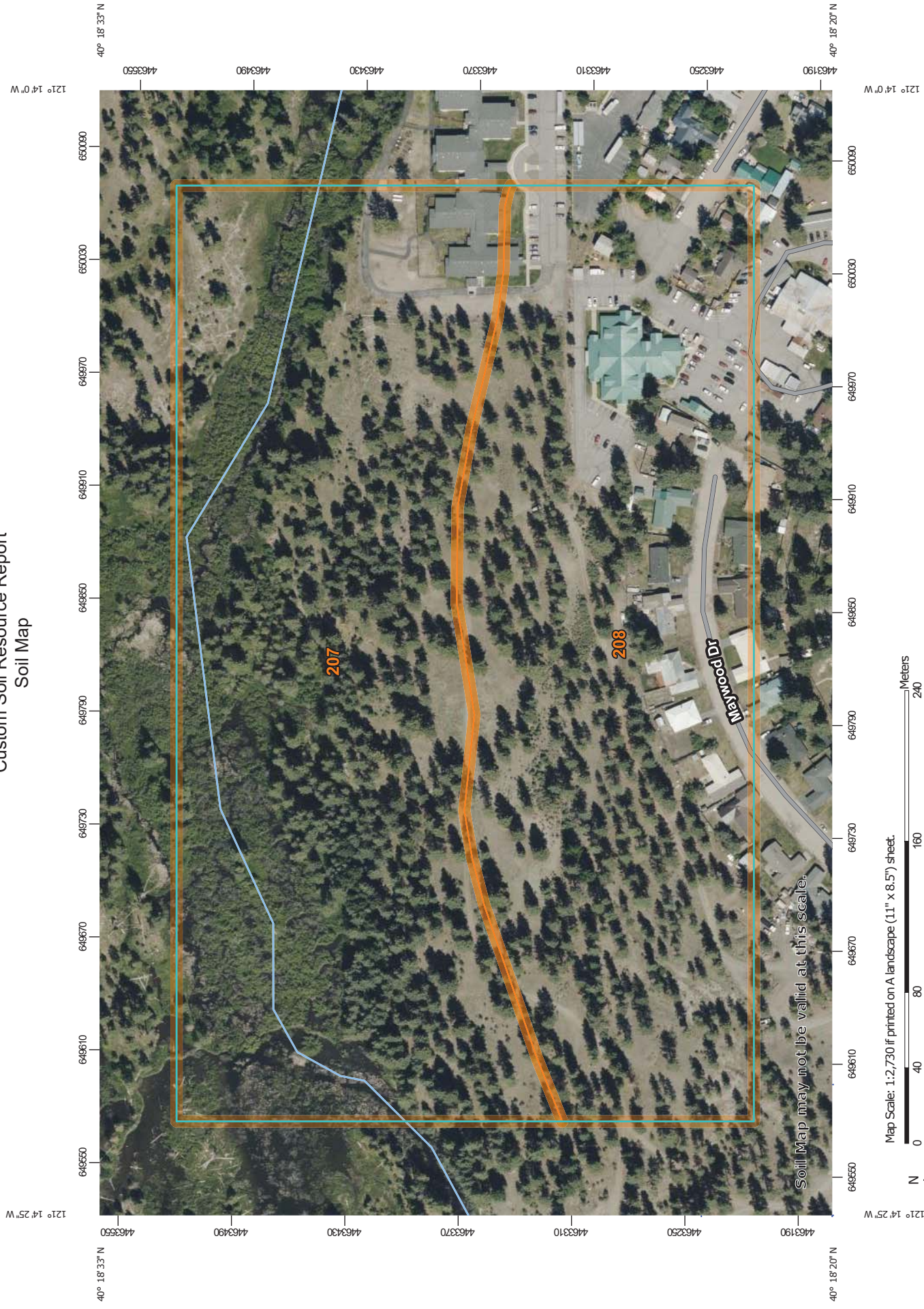
# Custom Soil Resource Report for Susanville Area, Parts of Lassen and Plumas Counties, California



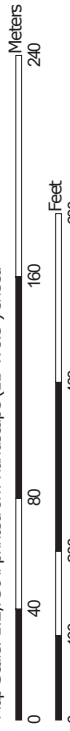


# Custom Soil Resource Report

## Soil Map





Map Scale: 1:2,730 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
207 	Forgay very gravelly sandy loam, 0 to 2 percent slopes	20.2	53.7%
208 	Forgay extremely gravelly sandy loam, 0 to 2 percent slopes	17.5	46.3%
<b>Totals for Area of Interest</b>		<b>37.7</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the



## Susanville Area, Parts of Lassen and Plumas Counties, California

### 207—Forgay very gravelly sandy loam, 0 to 2 percent slopes

#### Map Unit Setting

*National map unit symbol:* jc8h  
*Elevation:* 4,500 to 5,200 feet  
*Mean annual precipitation:* 30 to 40 inches  
*Mean annual air temperature:* 43 to 48 degrees F  
*Frost-free period:* 60 to 80 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Forgay and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Forgay

##### Setting

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from mixed rocks

##### Typical profile

*H1 - 0 to 11 inches:* extremely gravelly sandy loam  
*H2 - 11 to 40 inches:* extremely gravelly coarse sandy loam  
*H3 - 40 to 60 inches:* stratified extremely gravelly loamy coarse sand to very gravelly sandy loam

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat excessively drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* About 42 to 60 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Very low (about 2.0 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6s  
*Hydrologic Soil Group:* A  
*Ecological site:* F022BF204CA - Low Slope (15% or less) Hills and Mountains  
*Hydric soil rating:* No

#### Minor Components

##### Mountmed

*Percent of map unit:* 8 percent



## Custom Soil Resource Report

*Landform:* Flood plains

*Hydric soil rating:* Yes

### Urban land

*Percent of map unit:* 7 percent

*Landform:* Alluvial fans

*Hydric soil rating:* No

## 208—Forgay extremely gravelly sandy loam, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* jc8k

*Elevation:* 4,000 to 4,560 feet

*Mean annual precipitation:* 9 to 40 inches

*Mean annual air temperature:* 44 to 52 degrees F

*Frost-free period:* 80 to 130 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Forgay and similar soils:* 80 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Forgay

#### Setting

*Landform:* Alluvial fans

*Parent material:* Alluvium derived from mixed rocks

#### Typical profile

*H1 - 0 to 11 inches:* extremely gravelly sandy loam

*H2 - 11 to 40 inches:* extremely gravelly coarse sandy loam

*H3 - 40 to 60 inches:* stratified extremely gravelly loamy coarse sand to very gravelly sandy loam

#### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Somewhat excessively drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* Very low (about 2.0 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* A

## **Attachment 3**

### Hydraulic Analysis



## Inlet Capacity Calculations

Job Name: CAH Seneca  
Job Number: 19512  
Date: 5/20/2022

Weir Equation:

$$Q = C * L * H^{1.5}$$

Inlet Size	Weir Length (ft)	Weir Coefficient	Headwater (in)	Q (cfs)	50% Clogging Wier Length (ft)	50% Clogging Q (cfs)
12"x12" Grate Inlet	4	2.6	2	0.71	2	0.35
24"x24" Grate Inlet	8	2.6	2	1.42	4	0.71
36"x36" Grate Inlet	12	2.6	2	2.12	6	1.06
12"x12" Grate Inlet	4	2.6	3	1.30	2	0.65
24"x24" Grate Inlet	8	2.6	3	2.60	4	1.30
36"x36" Grate Inlet	12	2.6	3	3.90	6	1.95
12"x12" Grate Inlet	4	2.6	12	10.40	2	5.20
24"x24" Grate Inlet	8	2.6	12	20.80	4	10.40
36"x36" Grate Inlet	12	2.6	12	31.20	6	15.60



## Preliminary Pipe Sizing Calculations

Job Name: CAH Seneca

Job Number: 19512

Date: 5/20/2022

Manning's Equation:

$$V = (1.49 / n) \times (A / P_w)^{2/3} \times (S)^{1/2}$$

$$Q = V \times A$$

Calculation Assumes Pipe is Flowing Full in Order to be Conservative

Manning's n [n]	0.015
-----------------	-------

Pipe Diameter (in)	Pipe Slope [S] (ft/ft)	Area [A] (ft <sup>2</sup> )	Wetted Perimeter [P <sub>w</sub> ] (ft)	Velocity [V] (fps)	Flow [Q] (cfs)
6	0.0110	0.20	1.57	2.60	0.51
8	0.0070	0.35	2.09	2.52	0.88
10	0.0060	0.55	2.62	2.70	1.47
12	0.0050	0.79	3.14	2.79	2.19
15	0.0035	1.23	3.93	2.71	3.32
18	0.0035	1.77	4.71	3.06	5.40
24	0.0035	3.14	6.28	3.70	11.63
30	0.0035	4.91	7.85	4.30	21.09
36	0.0035	7.07	9.42	4.85	34.29
42	0.0035	9.62	11.00	5.38	51.72
48	0.0020	12.57	12.57	4.44	55.82



## Interception Ditches

Job Name: CAH Seneca  
 Job Number: 19512  
 Date: 5/20/2022

Manning's Equation:

$$V = (1.49 / n) \times (A / P_w)^{2/3} \times (S)^{1/2}$$

$$Q = VA$$

Notes:

No. 2 Backing 1.1' Min Thickness

If Velocity is greater than 10fps, use grouted riprap

If Velocity is greater than 20fps, reduce slope.

Side Slope (xH:1V)	2.0		2.0		2.0		2.0		2.0		2.0		2.0		2.0		2.0	
Depth + 0.5' Freeboard (ft)	0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5	
Base Width (ft)	0		1		2		3		4		5		6		8		10	
Manning's n Value Un-Grouted	0.037		0.037		0.037		0.037		0.037		0.037		0.037		0.037		0.037	
Manning's n Value Grouted	0.030		0.030		0.030		0.030		0.030		0.030		0.030		0.030		0.030	
Slope (ft/ft)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)	Velocity (fps)	Flow (cfs)
0.005	1.0	0.5	1.3	1.3	1.4	2.1	1.5	3.0	1.5	3.9	1.6	4.7	1.6	5.6	1.6	7.4	1.7	9.2
0.01	1.5	0.7	1.8	1.8	2.0	3.0	2.1	4.2	2.2	5.5	2.2	6.7	2.3	8.0	2.3	10.5	2.4	13.0
0.02	2.1	1.0	2.6	2.6	2.9	4.3	3.0	6.0	3.1	7.7	3.2	9.5	3.2	11.3	3.3	14.8	3.3	18.4
0.03	2.6	1.3	3.2	3.2	3.5	5.2	3.7	7.3	3.8	9.5	3.9	11.6	3.9	13.8	4.0	18.1	4.1	22.5
0.04	3.0	1.5	3.7	3.7	4.0	6.0	4.2	8.5	4.4	10.9	4.5	13.4	4.6	15.9	4.7	21.0	4.7	26.0
0.05	3.3	1.7	4.1	4.1	4.5	6.8	4.7	9.5	4.9	12.2	5.0	15.0	5.1	17.8	5.2	23.4	5.3	29.1
0.06	3.6	1.8	4.5	4.5	4.9	7.4	5.2	10.4	5.4	13.4	5.5	16.5	5.6	19.5	5.7	25.7	5.8	31.8
0.07	3.9	2.0	4.9	4.9	5.3	8.0	5.6	11.2	5.8	14.5	5.9	17.8	6.0	21.1	6.2	27.7	6.3	34.4
0.08	4.2	2.1	5.2	5.2	5.7	8.6	6.0	12.0	6.2	15.5	6.3	19.0	6.4	22.5	6.6	29.6	6.7	36.8
0.09	4.5	2.2	5.5	5.5	6.0	9.1	6.4	12.7	6.6	16.4	6.7	20.2	6.8	23.9	7.0	31.4	7.1	39.0
0.1	4.7	2.3	5.8	5.8	6.4	9.6	6.7	13.4	6.9	17.3	7.1	21.2	7.2	25.2	7.4	33.1	7.5	41.1
0.15	5.7	2.9	7.1	7.1	7.8	11.7	8.2	16.4	8.5	21.2	8.7	26.0	8.8	30.9	9.0	40.6	9.2	50.3
0.25	7.4	3.7	9.2	9.2	12.4	18.6	13.1	26.1	13.5	33.8	13.8	41.4	14.0	49.1	14.4	64.6	14.6	80.1
0.33	8.5	4.3	13.0	13.0	14.3	21.4	15.0	30.0	15.5	38.8	15.9	47.6	16.1	56.4	16.5	74.2	16.7	92.1
0.5	12.9	6.5	16.1	16.1	17.6	26.4	18.5	37.0	19.1	47.7	19.5	58.6	19.9	69.5	20.3	91.4	20.6	113.3
0.67	15.0	7.5	18.6	18.6	20.3	30.5	21.4	42.8	22.1	55.3	22.6	67.8	23.0	80.4	23.5	105.8	23.9	131.2



## **Attachment 4**

FEMA FIRMette

JOINS PANEL 0150



MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

0 0 600 1200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0175E

# **FIRM** **FLOOD INSURANCE RATE MAP** PLUMAS COUNTY, CALIFORNIA AND INCORPORATED AREAS

## **PANEL 175 OF 1650**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX

PLUMAS COUNTY,  
UNINCORPORATED AREAS 060244 0175 E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



**MAP NUMBER**  
**06063C0175E**

**EFFECTIVE DATE:**  
**MARCH 2, 2005**

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.

## **Attachment 5**

### Water Quality Calculations

# Post-Construction Water Balance Calculator

User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.		(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below	(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.	PLUMAS	
			(Step 1c) If you would like a more precise value select the location closest to your site. If you do not recognize any of these locations, leave this drop-down menu at location. The average value for the County will be used.	HAMILTON BRANCH FIRE DE	
Project Information			Runoff Calculations		
Project Name:	CAH Seneca		(Step 2) Indicate the Soil Type (dropdown menu to right):	Group A Soils	High infiltration. Sand, loamy sand, or sandy loam. Infiltration rate > 0.3 inch/hr when wet.
Waste Discharge Identification (WDID):	--		(Step 3) Indicate the existing dominant non-built land Use Type (dropdown menu to right):	Wood & Grass: <50% ground cover	
Date:	6/29/2022		(Step 4) Indicate the proposed dominant non-built land Use Type (dropdown menu to right):	A mix of lawn, grass, pasture and tress covering more than 75% of the open space	
Sub Drainage Area Name (from map):	100			Complete Either	
Runoff Curve Numbers				Sq Ft	Acres
Existing Pervious Runoff Curve Number	57		(Step 5) Total Project Site Area:	420726	9.66
Proposed Development Pervious Runoff Curve Number	79		(Step 6) Sub-watershed Area:	420726	9.66
Design Storm			Percent of total project : 100%		
Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.	0.69	in			
The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)	1.52	In	(Step 7) Sub-watershed Conditions	Complete Either	
P used for calculations (in) (the greater of the above two criteria)	1.52	In	Sub-watershed Area (acres)	Sq Ft	Acres
<a href="#">^Available at www.cabmphandbooks.com</a>			Existing Rooftop Impervious Coverage		0.00
			Existing Non-Rooftop Impervious Coverage		0.00
			Proposed Rooftop Impervious Coverage	121169	2.78
			Proposed Non-Rooftop Impervious Coverage	181754	4.17
			Credits		
				Acres	Square Feet
			<a href="#">Porous Pavement</a>	0.00	0
			<a href="#">Tree Planting</a>	0.00	0
Pre-Project Runoff Volume (cu ft)	1	Cu.Ft.	<a href="#">Downspout Disconnection</a>	1.39	60,548
Project-Related Runoff Volume Increase w/o credits (cu ft)	35,534	Cu.Ft.	<a href="#">Impervious Area Disconnection</a>		
			<a href="#">Green Roof</a>	0.00	0
			<a href="#">Stream Buffer</a>	0.00	0
			<a href="#">Vegetated Swales</a>	6.95	302,742
Project-Related Volume Increase with Credits (cu ft)	-1,529	Cu.Ft.	Subtotal	8.34	363,290
			Subtotal Runoff Volume Reduction Credit	15501 Cu. Ft.	
You have achieved your minimum requirements			(Step 9) Impervious Volume Reduction Credits	Volume (cubic feet)	
			<a href="#">Rain Barrels/Cisterns</a>	21,562	Cu. Ft.
			<a href="#">Soil Quality</a>	0	Cu. Ft.
			Subtotal Runoff Volume Reduction	21,562	Cu. Ft.
			Total Runoff Volume Reduction Credit	37,063	Cu. Ft.

### Downspout Disconnection Credit Worksheet

Please fill out a downspout disconnection credit worksheet for each project subwatershed. If you answer yes to all questions, all rooftop area draining to each downspout will be subtracted from your proposed rooftop impervious coverage.

Downspout Disconnection Credit Criteria					
Do downspouts and any extensions extend at least six feet from a basement and two feet from a crawl space or concrete slab?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
Is the area of rooftop connecting to each disconnected downspout 600 square feet or less?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
Is the roof runoff from the design storm event fully contained in a raised bed or planter box or does it drain as sheet flow to a landscaped area large enough to contain the roof runoff from the design storm event?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
The Stream Buffer and/or Vegetated Swale credits <b>will not</b> be taken in this sub-watershed area?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
Percentage of existing	0.00	Acres	of rooftop surface has disconnected downspouts	100	
Percentage of the proposed	2.78	Acres	of rooftop surface has disconnected downspouts	100	
				<a href="#">Return to Calculator</a>	



### Vegetated Swale Credit Worksheet

Please fill out a vegetated swale worksheet for each project subwatershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout Disconnection credit.

#### Vegetated Swale Credit Criteria

Have all vegetated swales been designed in accordance with Treatment Control BMP 30 (TC-30 - Vegetated Swale) from the California Stormwater BMP Handbook, New Development and Redevelopment (available at [www.cabmphandbooks.com](http://www.cabmphandbooks.com))?

☒ Yes ☐ No

Is the maximum flow velocity for runoff from the design storm event less than or equal to 1.0 foot per second?

☒ Yes ☐ No

Percentage of existing	0.00	Acres of impervious area draining to a vegetated swale	
Percentage of the proposed	6.95	Acres of impervious area draining to a vegetated swale	100.00

%

[Return to Calculator](#)

### Rain Barrel/Cistern Credit Worksheet

Please fill out a rain barrel/cistern worksheet for each project sub-watershed.

Rain Barrel/Cistern Credit Criteria		Response
Total number of rain barrel(s)/cisterns		1
Average capacity of rain barrel(s)/cistern(s) (in gallons)		179206
Total capacity rain barrel(s)/cistern(s) (in cu ft) <sup>1</sup>		21562

<sup>1</sup> accounts for 10% loss

[Return to Calculator](#)



### Vegetated Swale Sizing

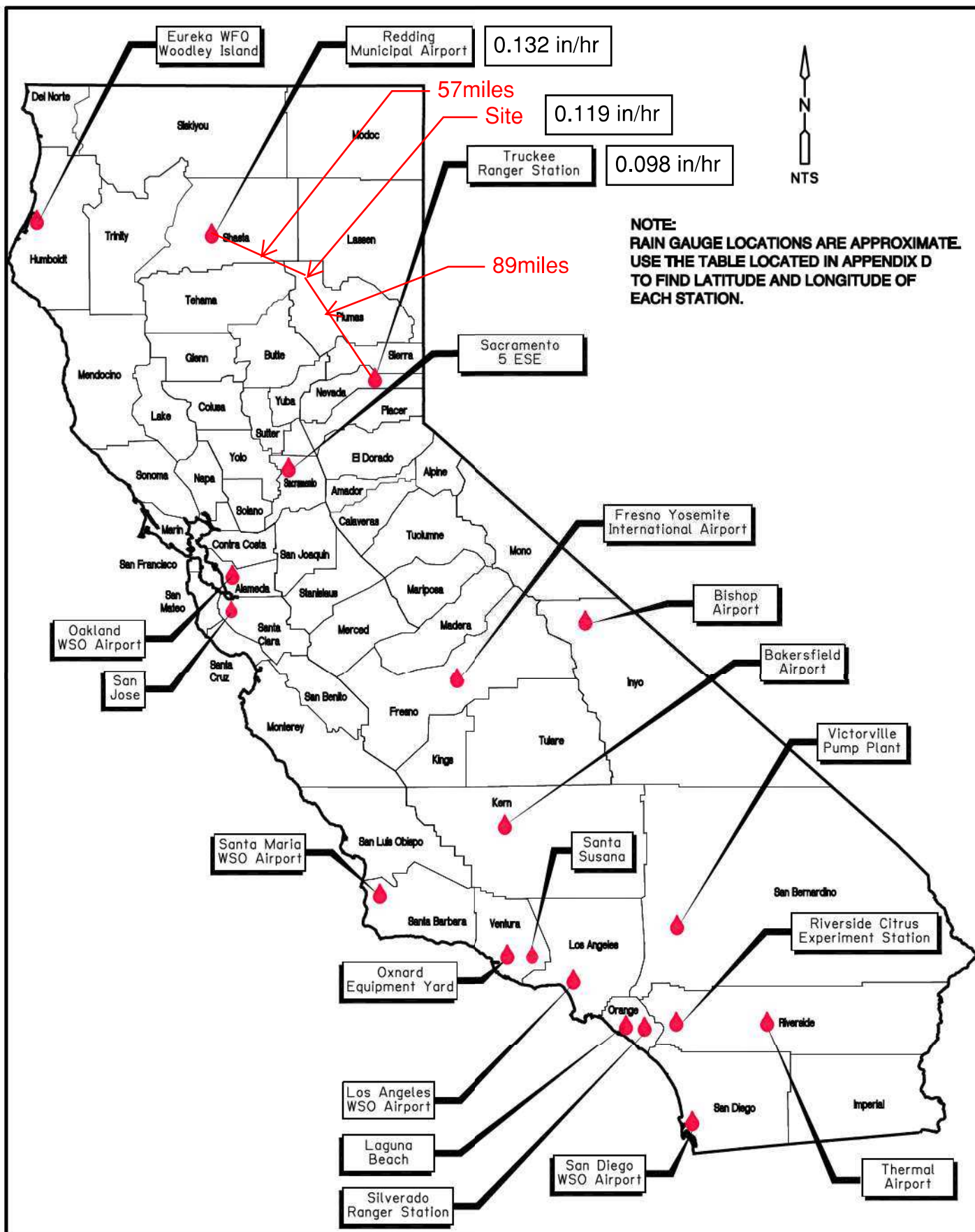
Job Name: CAH Seneca

Job Number: 19512

Date: 6/29/2022

Design Intensity (in/hr)	0.119
Design Manning's n	0.25

[illegible]



## **Attachment 6**

Electronic Files





GEOTECHNICAL INVESTIGATION REPORT  
SENECA HEALTHCARE DISTRICT NEW BUILDING  
CHESTER, CALIFORNIA

BSK PROJECT G21-176-11S

PREPARED FOR:

SENECA HEALTHCARE DISTRICT  
199 REYNOLDS ROAD  
CHESTER, CA 96020

JUNE 21, 2021

GEOTECHNICAL INVESTIGATION REPORT  
SENECA HEALTHCARE DISTRICT NEW BUILDING  
CHESTER, CALIFORNIA

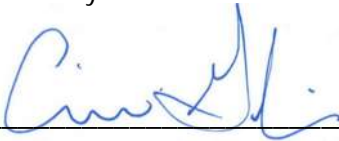
Prepared for:

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Sacramento Project: G21-176-11S

June 21, 2021

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## Appendices

### Appendix A: Field Exploration

Figure A-1:	Site Vicinity Map
Figure A-2:	Boring Location Map
Figure A-3:	Soil Classification Chart and Log Key
Boring Logs:	Borings B-1 through B-16

### Appendix B: Laboratory Testing

Table B-1:	Summary of Plasticity Index Results
Table B-2:	Summary of Corrosion Test Results
Figures B-1 and B-2:	Direct Shear Test Results
Figure B-3 and B-4:	Laboratory Compaction Curve Test Results
Figure B-5 through B-7:	Sieve Analysis Test Results
Figure B-8 and B-9:	R-Value Test Results

### Appendix C: Geologic and Seismic Hazards Assessment



## 1. INTRODUCTION

This report presents the results of a Geotechnical Engineering Investigation conducted by BSK Associates (BSK), for the Seneca Healthcare District New Building in Chester, California (Site). The Site is located at the existing facility at 130 Brentwood Drive in Chester, California, as shown on the Site Vicinity Map, Figure A-1. The geotechnical engineering investigation was conducted in accordance with BSK Proposal GS21-21855, dated May 12, 2020, and our Preliminary Site Evaluation, dated November 15, 2017 (BSK Job No. G17-203-10S).

This report provides a description of the geotechnical conditions at the Site and provides specific recommendations for earthwork and foundation design with respect to the planned structure. In the event that changes occur in the design of the project, this report's conclusions and recommendations will not be considered valid unless the changes are reviewed with BSK and the conclusions and recommendations are modified or verified in writing. Examples of such changes would include location, size of structures, foundation loads, etc.

### 1.1. Planned Construction

Based on the provided preliminary site plan, BSK understands the planned development includes constructing a new single-story structure with a concrete slab-on-grade floor. The new planned structure will be approximately 43,000 square feet in area on the northwest corner of the existing facility in Chester, California. Additional improvements will consist of exterior concrete flatwork, lighting, and underground utilities as well as an ambulance carport at the existing facility to the south.

Grading is anticipated to be minor because the site is relatively flat. Excavations for new utilities are anticipated to be less than 5 feet deep.

In the event that significant changes occur in the design of the proposed improvements, this report's conclusions and recommendations will not be considered valid unless the changes are reviewed with BSK and the conclusions and recommendations are modified or verified in writing.

### 1.2. Purpose and Scope of Services

The objective of this geotechnical investigation was to characterize the subsurface conditions in the area of the proposed structure and provide geotechnical engineering recommendations for the project. The scope of the investigation included a field exploration, laboratory testing, engineering analyses, and preparation of this report.

## 2. FIELD INVESTIGATION AND LABORATORY TESTING

### 2.1. Field Exploration

The field exploration for this investigation was conducted under the oversight of a BSK Engineer. Sixteen (16) borings were drilled at the site on June 1 through 3, 2021 by Taber Drilling from West Sacramento, California. The borings were drilled to maximum depths of approximately 3 and 50.5 feet below ground





surface (BGS). A soil boring permit was obtained through County of Plumas Environmental Health Department prior to drilling.

The soil materials encountered in the borings were visually classified in the field, and the logs were recorded during the drilling and sampling operations. Visual classification of the materials encountered in the borings were made in general accordance with the Unified Soil Classification System (ASTM D 2488). A soil classification chart is presented in Appendix A.

Boring logs are presented in Appendix A and should be consulted for more details concerning subsurface conditions. Stratification lines were approximated by the field staff based on observations made at the time of drilling, while the actual boundaries between soil types may be gradual and soil conditions may vary at other locations.

## 2.2 Laboratory Testing

Laboratory tests were performed on selected soil samples to evaluate in-place moisture content and dry density, plasticity index, shear strength, moisture-density relationship, R-Value, and corrosion characteristics. A description of the laboratory test methods and results are presented in Appendix B.

## 3. SITE AND GEOLOGY/SEISMICITY CONDITIONS

The following sections address the Site descriptions and surface conditions, regional geology and seismic hazards, subsurface conditions, and groundwater conditions at the Site. This information is based on BSK's field exploration and published maps and reports.

### 3.1 Site Description and Surface Conditions

The Site is currently a vacant field with trees and grassy vegetation up to 2 feet tall. The vacant field is on the north side of the existing healthcare facility where Reynolds Road ends. The NAD 83 GPS coordinates for the center of the Site are 40.3073 degrees North latitude and 121.2360 degrees West longitude. Site elevations range from about 4530 to 4540 feet per Google Earth Pro elevations.

### 3.2 Geology and Seismic Hazards

We have conducted a geologic and seismic hazards assessment for this project which is included in Appendix C of this report. The assessment includes a description of the site geology and a summary of geologic and seismic hazards for the project.

### 3.3 Subsurface Conditions

Subsurface conditions at this Site generally consist of loose sandy gravel with cobbles to a depth of about 3 feet BGS underlain by very dense sandy gravel to the maximum depth explored of 30.5 feet BGS at which depth practical refusal was encountered. The upper 5 feet of on-site soil is considered to have a very low expansion potential.

The boring logs in Appendix A provide a more detailed description of the materials encountered, including the applicable Unified Soil Classification System symbols.



### 3.4 Groundwater Conditions

Groundwater was encountered at the time of drilling on June 1 to 3, 2021 at depths ranging from 9.5 to 13 feet BGS and at the time of our test pits on November 6, 2017 at depths ranging from 4.5 to 6.5 feet BGS. Based on the groundwater elevation data from the California Department of Water Resources, the historic high groundwater depth in the vicinity was recorded to be approximately 5 feet BGS.

Please note that the groundwater level may fluctuate both seasonally and from year to year due to variations in rainfall, temperature, pumping from wells and possibly as the result of other factors such as irrigation, that were not evident at the time of our investigation.

## 4. CONCLUSIONS AND RECOMMENDATIONS

Based upon the data collected during this investigation, and from a geotechnical engineering standpoint, it is our opinion that the soil conditions would not preclude the construction of the proposed improvements. The main geotechnical consideration for this project is the presence of loose and soft soils within the upper approximately 3 feet BGS. Provided the recommendations presented herein are incorporated into the design and construction of the project, the proposed improvements may be supported on shallow foundations or mat foundations.

### 4.1 Seismic Design Criteria

We have conducted a geologic and seismic hazards assessment for this project which is included in Appendix C of this report. The assessment includes the seismic design parameters.

### 4.2 Soil Corrosivity

A surface soil sample obtained from the Site was tested to provide a preliminary screening of the potential for concrete deterioration or steel corrosion due to attack by soil-borne soluble salts. The test results are presented in Appendix B.

The corrosivity evaluation was performed by BSK on a composite soil sample from B-1 in the upper 5 feet obtained at the time of drilling. The soil was evaluated for pH (ASTM D4972), and soluble sulfate and chlorides (CT 417 and CT 422). Based on the laboratory test results, the sample has a minimum resistivity of 31,440 and 39,640, pH is 6.2 to 7.2, sulfate is 5.6 to 7.3 mg/kg, and chloride was not detected.

The water-soluble sulfate content severity class is considered not severe to concrete (Exposure Category S0 per Table 19.3.1.1 of ACI 318-19). The site soils minimum resistivity is considered mildly corrosive to buried metal. Therefore, buried metal conduits, ferrous metal pipes, and exposed steel should have a protective coating in accordance with the manufacturer's specification. The above are general discussions. A more detailed investigation may include more or fewer concerns and should be directed by a corrosion expert. BSK does not practice corrosion engineering.



#### 4.3 Site Preparation Recommendations

The following procedures must be implemented during Site preparation for the proposed Site improvements. References to maximum dry density, optimum moisture content, and relative compaction are based on ASTM D 1557 (latest test revision) laboratory test procedures.

1. The areas of proposed improvements must be cleared of surface vegetation and debris. Materials resulting from the clearing and stripping operations must be removed and properly disposed of off-site. In addition, all undocumented fills should be removed where encountered and where fills or structural improvements will be placed.
2. Where existing utilities, inlets, or underground tanks are present, they should be removed to a point at least 2 feet horizontally outside the proposed foundation and pavement areas. Resultant cavities must be backfilled with engineered fill compacted in accordance with the recommendations presented in this report.
3. Following the stripping operations, the areas where shallow foundations are proposed must be overexcavated to a minimum depth of two (2) feet below the existing grade or one (1) foot below bottom of the footing elevation, whichever is greater. After overexcavation, the bottom of the exposed soil should be scarified 12 inches, moisturized to optimum moisture content, and compacted to 90% of ASTM D1557. Over excavation should extend laterally three (3) feet beyond the edge of foundations. Yielding areas should be observed by the geotechnical consultant and removed and recompacted if necessary.
4. Following the required stripping and overexcavation, in the areas of proposed shallow foundations, the exposed ground surface at the bottom of the overexcavation must be inspected by the Geotechnical Engineer to evaluate if loose or soft zones are present that will require additional overexcavation.
5. At the building pad and concrete flatwork, the upper two (2) feet of the finish subgrade should be non-expansive soil. Imported soil or native excavated soils, free of organic materials or deleterious substances, may be placed as compacted engineered fill. The material must be free of oversized fragments greater than 3-inches in greatest dimension. Engineered fill underneath and extending three (3) feet beyond the structure foundations and must be placed in uniform layers not exceeding 8-inches in loose thickness, moisture conditioned to at least 2 percent above optimum moisture content for clayey soils and near optimum moisture content for sandy soils and compacted to at least 90 percent relative compaction.
6. If possible, earthwork operations should be scheduled during a dry, warm period of the year. Should these operations be performed during or shortly following periods of inclement weather, unstable soil conditions may result in the soils exhibiting a "pumping" condition. This condition is caused by excess moisture in combination with moving construction equipment, resulting in saturation and zero air voids in the soils. If this condition occurs, the adverse soils will need to be over-excavated to the depth at which stable soils are encountered and replaced with suitable soils compacted as engineered fill. Alternatively, the Contractor may proceed with grading operations after utilizing a method to stabilize the soil subgrade, which should be subject to review and approval by BSK prior to implementation.
7. Import fill materials must be free from organic materials or deleterious substances. The project specifications must require the contractor to contact BSK to review the proposed import fill



materials for conformance with these recommendations at least one week prior to importing to the Site, whether from on-site or off-site borrow areas. Imported fill soils must be non-hazardous and derived from a single, consistent soil type source conforming to the following criteria:

Plasticity Index:	< 12
Expansion Index:	< 20 (Very Low Expansion Potential)
Maximum Particle Size:	3 inches
Percent Passing #4 Sieve:	65 - 100
Percent Passing #200 Sieve:	20 - 45
Low Corrosion Potential:	Soluble Sulfates < 1,500 ppm Soluble Chlorides < 150 ppm Minimum Resistivity > 3,000 ohm-cm

#### 4.4 Foundations

Provided the recommendations contained in this report are implemented during design and construction, it is our opinion that the building can be supported on shallow foundations or mat foundations. A structural engineer should evaluate reinforcement, embedment depth, and pier diameter based on the requirements for the structural loadings, shrinkage and temperature stresses.

##### 4.4.1 Shallow Foundations

Continuous and isolated spread footings must have a minimum width of 12 inches and 24 inches, respectively. The minimum foundation depth for spread footings is 18 inches. Continuous and isolated spread footing foundations may be designed using a net allowable bearing pressure of 3,000 pounds per square foot (psf). The net allowable bearing pressure applies to the dead load plus live load (DL + LL) condition; it may be increased by 1/3 for wind or seismic loads.

##### 4.4.2 Mat Foundations

If the building is supported on a mat foundation, it may be designed to impose a maximum allowable pressure of 3,000 pounds per square foot (psf) due to dead plus live loads. This value may be increased by one-third for transient loads such as seismic or wind. The concrete mat foundation should be embedded at least 12 inches below the lowest adjacent grade.

##### 4.4.3 Shallow/Mat Foundation Settlements

Static foundation settlements are expected to be less than 1 inch and differential settlements between similarly loaded (DL + LL) and sized footings are anticipated to be less than ½ inch over a lateral distance of 30 feet. Differential settlement of continuous footings or mat foundations, expressed in terms of angular distortion, is estimated to be approximately 1/600.

#### 4.5 Lateral Earth Pressures and Frictional Resistance

Provided the Site is prepared as recommended above, the following earth pressure parameters for footings or mat foundations may be used for design purposes. The parameters shown in the table below are for drained conditions of select engineered fill or undisturbed native soil.



Table 1: Recommended Static Lateral Earth Pressures for Footings	
Lateral Pressure Condition	Equivalent Fluid Density (pcf) Drained Condition
Active Pressure	30
At Rest Pressure	45
Passive Pressure	500

The lateral earth pressures listed herein are obtained by the conventional equation for active, at rest, and passive conditions assuming level backfill and a bulk unit weight of 120 pcf for the Site soils. A coefficient of friction of 0.35 may be used between soil subgrade and the bottom of footings.

The coefficient of friction and passive earth pressure values given above represent ultimate soil strength values. BSK recommends that a safety factor consistent with the design conditions be included in their usage in accordance with Sections 1806.3.1 through 1806.3.3 of the 2019 CBC. For stability against lateral sliding that is resisted solely by the passive earth pressure against footings or friction along the bottom of footings, a minimum safety factor of 1.5 is recommended. For stability against lateral sliding that is resisted by combined passive pressure and frictional resistance, a minimum safety factor of 2.0 is recommended. For lateral stability against seismic loading conditions, a minimum safety factor of 1.2 is recommended.

#### 4.6 Slab-On-Grade

Interior concrete floor slabs and exterior concrete flatwork, such as driveways, non-structural detached patios, sidewalks and trash enclosures may experience some cracking due to finishing, curing process, moisture content, mixed design and underlying soils. To reduce the possibility for cracking to occur on the concrete slab the following recommendation should be implemented.

All interior slabs should be a minimum of 6-inches thick and exterior slabs should be a minimum of 5-inches thick and reinforced with a minimum of No. 4 rebar spaced 18 inches center to center, each direction. For concrete slabs subject to heavy traffic loads, such as trash enclosures should be a minimum of 6-inches thick and reinforced with a minimum of No. 4 rebar spaced 12-inches center to center, each direction. Special attention should be taken so that reinforcement is placed at the slab mid-height and at proper clearances. The provided slab thickness recommendations are only a minimum, actual slab thickness and reinforcement should be determined by the project Structural Engineer according to loading conditions. All slabs should be underlain by a minimum of 6-inches of Class 2 Aggregate base or clean crushed rock to enhance subgrade support for the slab. If this material is desired to be used as a capillary break, it should be ¾ inch maximum size with no more than 10 percent by weight passing the #4 sieve.

The near-surface soils have a low to moderate expansion potential and would be subject to shrink/swell cycles with fluctuations in moisture content. Some of the adverse effects of swelling and shrinking can be reduced with proper moisture treatment. The intent is to reduce the fluctuations in moisture content





by moisture conditioning the soils, sealing the moisture in, and controlling it. Prior to placing concrete, the underlying soil should be thoroughly wetted to moisture condition the soil and to seal any desiccation cracks.

Subsurface moisture and moisture vapor migration upward to the surface of the concrete and adversely affect floor coverings. A vapor retarder membrane should be installed between the prepared aggregate base of the building pad and the interior slab to minimize moisture condensation under the floor coverings and/or upward vapor transmission. The vapor barrier membrane should be a minimum 15-mil extruded polyolefin plastic that complies with ASTM E1745 Class A and have a permeance of less than 0.01 perms per ASTM E96 or ASTM F1249. It is noted that polyethylene films (Visqueen) do not meet these specifications. The vapor barrier must be adequately lapped and taped/sealed at penetrations and seams in accordance with ASTM E1643 and the manufacturer's specifications. The vapor retarder must be placed continuously across the slab area. Building design and construction have a greater role in perceived moisture problems since sealed buildings/rooms or inadequate ventilation may produce excessive moisture in a building and affect indoor air quality.

It is emphasized that we are not floor moisture proofing experts. We make no guarantee nor provide any assurance that use of capillary break/vapor retarder system will reduce concrete slab-on-grade floor moisture penetration to any specific rate or level, particularly those required by floor covering manufacturers. The builder and designers should consider all available measures for floor slab moisture protection. Various factors such as surface grades, adjacent planters, the quality of slab concrete and the permeability of the on-site soils affect slab moisture and can control future performance. In many cases, floor moisture problems are the result of either improper curing of floors slabs or improper application of flooring adhesives. We recommend contacting a flooring consultant experienced in the area of concrete slab-on-grade floors for specific recommendations regarding your proposed flooring applications.

Special precautions must be taken during the placement and curing of all concrete slabs. Excessive slump (high water-cement ratio) of the concrete and/or improper curing procedures used during either hot or cold weather conditions could lead to excessive shrinkage, cracking, or curling of the slabs. High water-cement ratio and/or improper curing also greatly increase the water vapor permeability of concrete. We recommend that all concrete placement and curing operations be performed in accordance with the American Concrete Institute (ACI) manual.

Because of the moderately expansive soils present at the Site, interior and exterior slabs should have crack control saw cut control joints (i.e., weakened plane joints) to allow for expansion and contraction of the concrete. In general control joints should be spaced no more than 20 times the slab thickness in each direction. The actual joint layout and design should be provided by the Architect and/or Structural Engineer. Expansion joint material should be used between flatwork and buildings.

Because of the moderately expansive nature of the on-site soils, trees and other large plants can significantly contribute to differential settlement of a foundation, flatwork, and paved areas. The roots of trees and large plants can absorb the moisture from the soil, causing the soil to shrink much faster



than other soil areas exposed to the weather. The soil where the moisture is lost more rapidly will sink lower than the surrounding soil, causing differential settlement in overlying or adjacent improvements. Certain trees and plants are known to be more hydrophilic (water-demanding) than others. Research studies indicate that a tree should be at least as far away from a building, flatwork, and pavement as the mature height of the tree to minimize the effect of drying caused by the tree. If this is not possible, consideration should be given to installing a root barrier between areas planted with trees and nearby foundations and flatwork. Exterior grading will have an impact on potential moisture beneath the floor slab. Recommendations for exterior draining are provided in the "Drainage Considerations" section of this report.

#### 4.7 Pavements

We have made our flexible pavement design recommendations assuming the pavement subgrade soil will be similar to the near surface soils described in the boring logs. We ran R-Value tests on bulk samples collected from the upper 5 feet, which resulted in values of 63 and 57.

Pavement designs for various Traffic Indices (TIs) based on an R-Value of 50 are presented below. Each TI represents a different level of use. The appropriate traffic index (TI) should be determined by the project Civil Engineer in conformance with the County specifications.

Table 2: Pavement Design Recommendations R-Value = 50		
Traffic Index	AC <sup>1</sup> (inches)	AB <sup>2</sup> (inches)
4.0	2.5	4.5
5.0	2.5	4.5
6.0	3.0	4.5
7.0	4.0	5.0

1. Asphalt Concrete
2. Caltrans Class 2 Aggregate Base (Minimum R-Value = 78)

For preparation of the subgrade in areas to receive pavement and after required excess material has been removed, we recommend the upper 8-inches of the subgrade soil be scarified, moisture conditioned and compacted to a minimum relative compaction of 95% at a moisture content at or above optimum in accordance with the grading recommendations specified in this report. Should deflection/pumping conditions be encountered, supplemental recommendations will be provided. for constructing the aggregate base layer, all aggregate base material shall be ¾ inch Class 2 AB and conform with the latest addition of Caltrans Standards. Recycled aggregate base is not allowed per COF Standards. Aggregate base should be compacted to a minimum relative compaction of 95% at a moisture content at or above optimum in accordance with the grading recommendations specified in this report. The recommended aggregate base thicknesses for asphalt pavements are noted in Table 3. Asphalt concrete shall conform with the latest addition of Caltrans Standard Specifications.



Pavements will experience deteriorating quality, performance and decreased longevity where water is allowed to migrate into the aggregate base and subgrade soils layers. Therefore, paved areas should be sloped, and drainage gradients maintained to carry all surface water to appropriate collection points. Surface water ponding should not be allowed anywhere on the site during or after construction. We recommend that the pavement section be isolated from non-developed areas and areas of intrusion of irrigation water from landscaped areas. Concrete curbs should extend a minimum of 2 inches below the aggregate base and into the subgrade to provide a barrier against drying of the subgrade soils, or reduction of migration of landscape water, into the pavement section.

#### 4.8 Excavation Stability

Soils encountered within the depth explored are generally classified as Type C soils in accordance with OSHA (Occupational Safety and Health Administration). The slopes surrounding or along temporary excavations may be vertical for excavations that are less than five feet deep and exhibit no indication of potential caving, but should be no steeper than 1.5H:1V for excavations that are deeper than five feet, up to a maximum depth of 15 feet. Certified trench shields or boxes may also be used to protect workers during construction in excavations that have vertical sidewalls and are greater than 5 feet deep. Temporary excavations for the project construction should be left open for as short a time as possible and should be protected from water runoff. In addition, equipment and/or soil stockpiles must be maintained at least 10 feet away from the top of the excavations. Because of variability in soils, BSK must be afforded the opportunity to observe and document sloping and shoring conditions at the time of construction. Slope height, slope inclination, and excavation depths (including utility trench excavations) must in no case exceed those specified in local, state, or federal safety regulations, (e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations).

#### 4.9 Trench Backfill and Compaction

Processed on-site soils, which are free of organic material, are suitable for use as general trench backfill above the pipe envelope. Native soil with particles less than three inches in the greatest dimension may be incorporated into the backfill and compacted as specified above, provided they are properly mixed into a matrix of friable soils. The backfill must be placed in thin layers not exceeding 12 inches in loose thickness, be well-blended and consistent texture, moisture conditioned to at least optimum moisture content, and compacted to at least 90 percent of the maximum dry density as determined by the ASTM D1557. The uppermost 12 inches of trench backfill below pavement sections must be compacted to at least 95 percent of the maximum dry density as determined by ASTM D1557. Moisture content within two percent of optimum must be maintained while compacting this upper 12-inch trench backfill zone.

We recommend that trench backfill be tested for compliance with the recommended relative compaction and moisture conditions. Field density testing should conform to ASTM Test Methods D1556 or D6938. We recommend that field density tests be performed in the utility trench bedding, envelope and backfill for every vertical lift, at an approximate longitudinal spacing of not greater than 150 feet. Backfill that does not conform to the criteria specified in this section should be removed or reworked, as applicable over the trench length represented by the failing test so as to conform to BSK recommendations.



#### 4.10 Drainage Considerations

The control surface drainage in the project areas is an important design consideration. BSK recommends that final grading around shallow foundations must provide for positive and enduring drainage away from the structures, and ponding of water must not be allowed around, or near the shallow foundations. Ground surface profiles next to the shallow foundations must have at least a 2 percent gradient away from the structures.

### 5. PLANS AND SPECIFICATIONS REVIEW

BSK recommends that it be retained to review the draft plans and specifications for the project, with regard to foundations and earthwork, prior to their being finalized and issued for construction bidding.

### 6. CONSTRUCTION TESTING AND OBSERVATIONS

Geotechnical testing and observation during construction is a vital extension of this geotechnical investigation. BSK recommends that it be retained for those services. Field review during Site preparation and grading allows for evaluation of the exposed soil conditions and confirmation or revision of the assumptions and extrapolations made in formulating the design parameters and recommendations. BSK's observations must be supplemented with periodic compaction tests to establish substantial conformance with these recommendations. BSK must also be called to the Site to observe foundation excavations, prior to placement of reinforcing steel or concrete, in order to assess whether the actual bearing conditions are compatible with the conditions anticipated during the preparation of this report. BSK must also be called to the Site to observe placement of foundation and slab concrete.

If a firm other than BSK is retained for these services during construction, then that firm must notify the owner, project designers, governmental building officials, and BSK that the firm has assumed the responsibility for all phases (i.e., both design and construction) of the project within the purview of the Geotechnical Engineer. Notification must indicate that the firm has reviewed this report and any subsequent addenda, and that it either agrees with BSK's conclusions and recommendations, or that it will provide independent recommendations.

### 7. LIMITATIONS

The analyses and recommendations submitted in this report are based upon the data obtained from the borings performed at the locations shown on the Boring Location Map, Figure A-2. The report does not reflect variations which may occur between or beyond the borings. The nature and extent of such variations may not become evident until construction is initiated. If variations then appear, a re-evaluation of the recommendations of this report will be necessary after performing on-Site observations during the excavation period and noting the characteristics of the variations.

The validity of the recommendations contained in this report is also dependent upon an adequate testing and observation program during the construction phase. BSK assumes no responsibility for



construction compliance with the design concepts or recommendations unless it has been retained to perform the testing and observation services during construction as described above.

The findings of this report are valid as of the present. However, changes in the conditions of the Site can occur with the passage of time, whether caused by natural processes or the work of man, on this property or adjacent property. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, governmental policy or the broadening of knowledge.

BSK has prepared this report for the exclusive use of the Client and members of the project design team. The report has been prepared in accordance with generally accepted geotechnical engineering practices which existed in Plumas County at the time the report was written. No other warranties either expressed or implied are made as to the professional advice provided under the terms of BSK's agreement with Client and included in this report.





APPENDIX A  
FIELD EXPLORATION

## APPENDIX A FIELD EXPLORATION

The field exploration for this investigation was conducted under the oversight of a BSK Engineer. Sixteen (16) borings were drilled at the site on June 1 through 3, 2021 by Taber Drilling from West Sacramento, California. The borings were drilled to maximum depths of approximately 3 and 50.5 feet below ground surface (BGS). A soil boring permit was obtained through County of Plumas Environmental Health Department prior to drilling.

The soil materials encountered in the test borings were visually classified in the field, and the logs were recorded during the drilling and sampling operations. Visual classification of the materials encountered in the test borings was made in general accordance with the Unified Soil Classification System (ASTM D 2488). A soil classification chart is presented herein. Boring logs are presented herein and should be consulted for more details concerning subsurface conditions. Stratification lines were approximated by the field staff based on observations made at the time of drilling, while the actual boundaries between soil types may be gradual and soil conditions may vary at other locations.

Subsurface samples were obtained at the successive depths shown on the boring logs by driving samplers which consisted of a 2.5-inch inside diameter (I.D.) California Sampler and a 1.4-inch I.D. Standard Penetration Test (SPT) Sampler. The samplers were driven 18 inches using a 140-pound hammer dropped from a height of 30 inches by means of either an automatic hammer or a down-hole safety hammer. The number of blows required to drive the last 12 inches was recorded as the blow count (blows/foot) on the boring logs. The relatively undisturbed soil core samples were capped at both ends to preserve the samples at their natural moisture content. At the completion of the field exploration, the test borings were backfilled with grout to within 3 feet of the surface and backfilled with soil cuttings up to the surface.

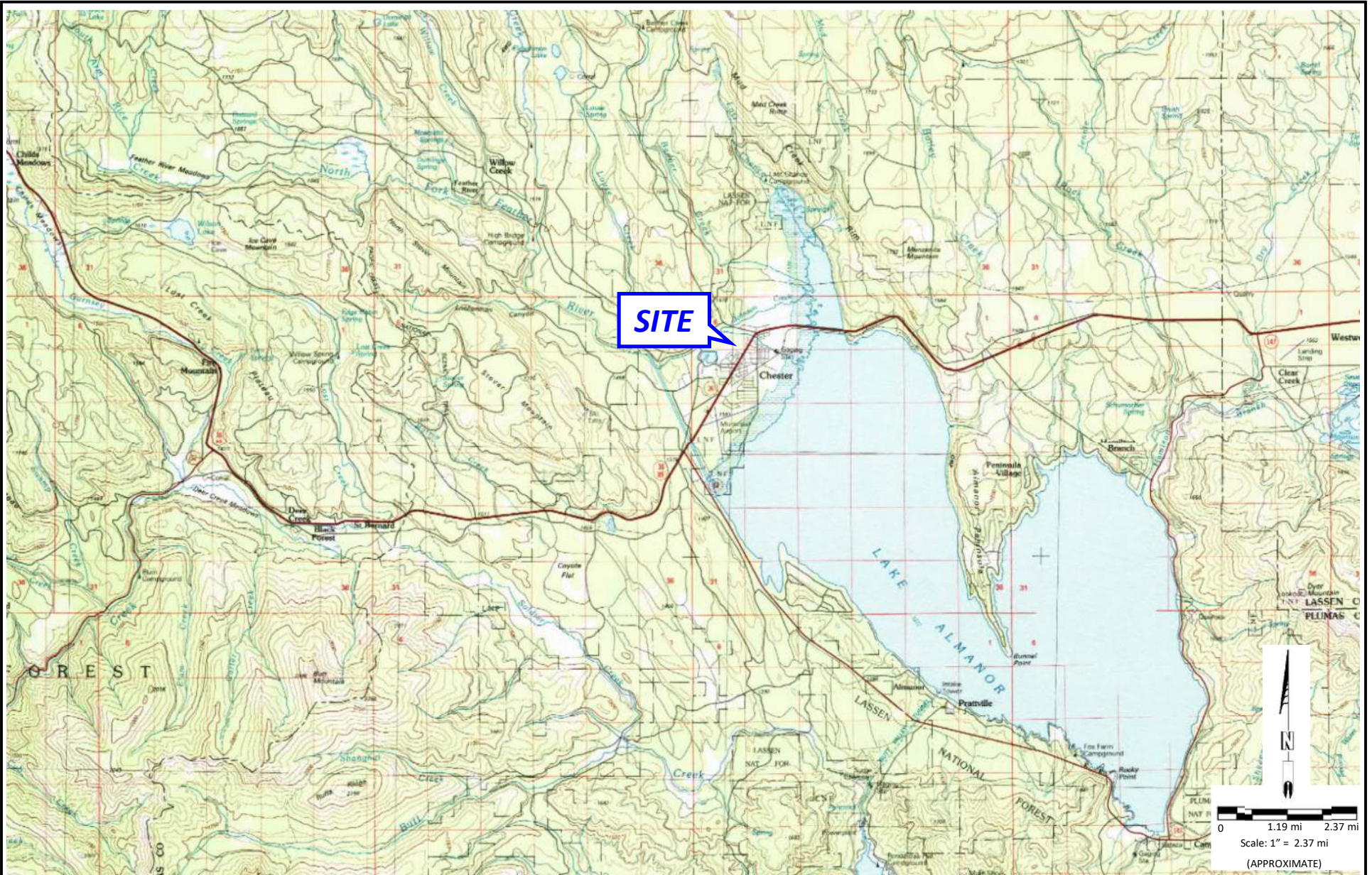
It should be noted that the use of terms such as "loose", "medium dense", "dense" or "very dense" to describe the consistency of a soil is based on sampler blow count and is not necessarily reflective of the in-place density or unit weight of the soils being sampled. The relationship between sampler blow count and consistency is provided in the following Tables A-1 and A-2 for coarse-grained (sandy and gravelly) soils and fine grained (silty and clayey) soils, respectively.



Table A-1: Consistency of Coarse-Grained Soil by Sampler Blow Count		
Consistency Descriptor	SPT Blow Count (#Blows / Foot)	2.5" I.D. California Sampler Blow Count (#Blows / Foot)
Very Loose	<4	<6
Loose	4 – 10	6 – 15
Medium Dense	10 – 30	15 – 45
Dense	30 – 50	45 – 80
Very Dense	>50	>80

Table A-2: Apparent Relative Density of Fine-Grained Soil by Sampler Blow Count		
Consistency Descriptor	SPT Blow Count (#Blows / Foot)	2.5" I.D. California Sampler Blow Count (#Blows / Foot)
Very Soft	<2	<3
Soft	2 – 4	3 – 6
Stiff	4 – 8	6 – 12
Very Stiff	8 – 15	12 – 24
Hard	15 – 30	24 – 45
Very Hard	>30	>45





REFERENCE IMAGE: USGS Topo

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 Rancho Cordova, CA 95670  
 Tel. (916) 853-9293

## SITE VICINITY MAP

Seneca Healthcare District New Building  
 130 Brentwood Drive  
 Chester, California

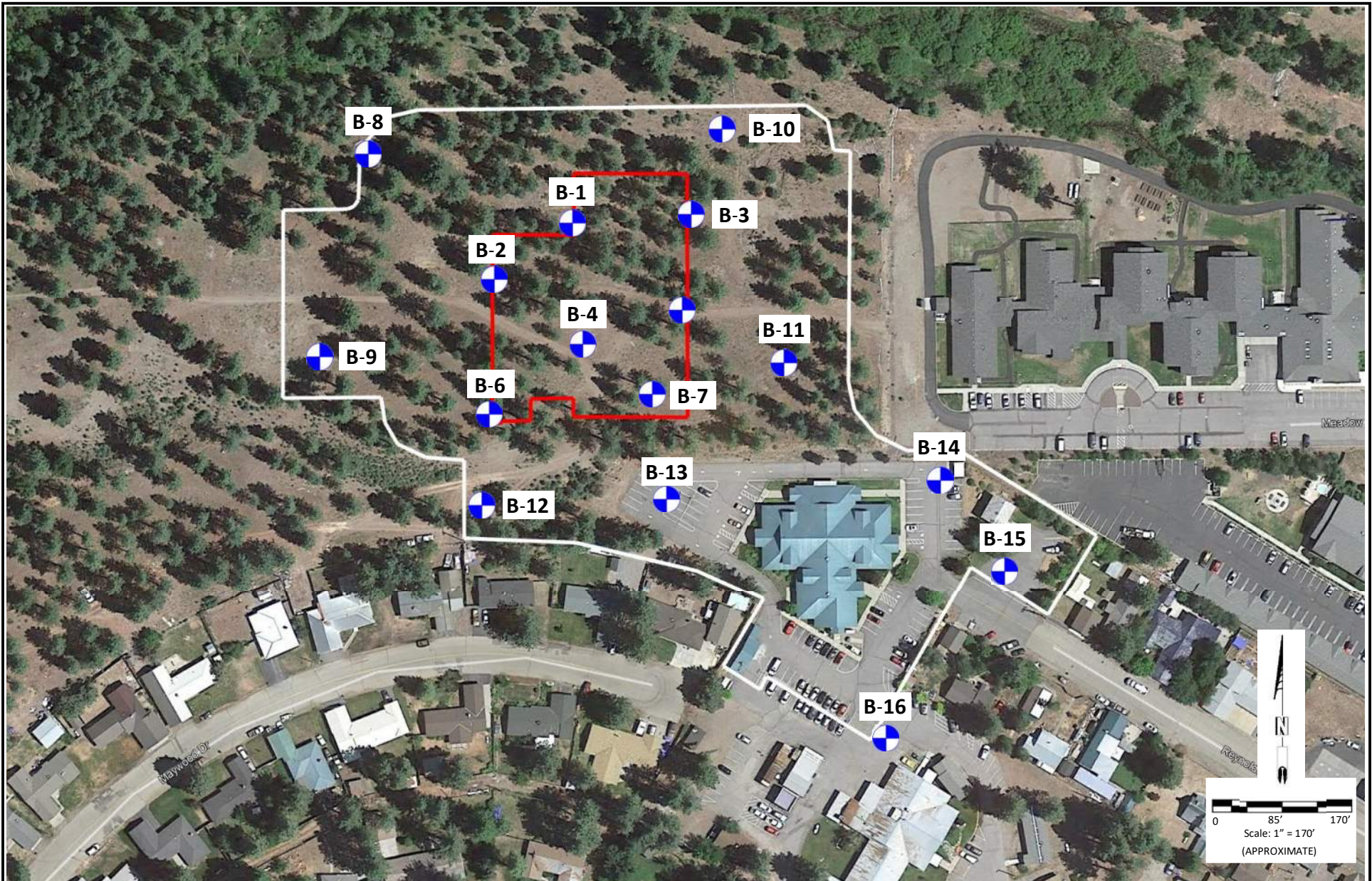
## FIGURE A-1

JOB NO. G21-176-11S  
 DATE June 2021

DR. BY CG  
 CH. BY OML  
 SCALE AS SHOWN

SHEET NO. 1  
 OF 2 SHEETS





**LEGEND:**



APPROXIMATE BORING LOCATIONS

**B-1**

REFERENCE IMAGE: Google Earth 2021

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**BORING LOCATION MAP**

Seneca Healthcare District New Building  
 130 Brentwood Drive  
 Chester, California
















**FIGURE A-2**

JOB NO. G21-176-11S  
 DATE June 2021

DR. BY CG  
 CH. BY OML  
 SCALE AS SHOWN

SHEET NO. 2  
 OF 2 SHEETS



MAJOR DIVISIONS				TYPICAL NAMES	
COARSE GRAINED SOILS More than Half >#200	GRAVELS  MORE THAN HALF COARSE FRACTION IS <u>LARGER THAN NO. 4 SIEVE</u>	<u>CLEAN</u> GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP		POORLY GRADED GRAVELS, GRAVEL- SAND MIXTURES
		GRAVELS WITH <u>OVER 15% FINES</u>	GM		SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC		CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS  MORE THAN HALF COARSE FRACTION IS <u>SMALLER THAN NO. 4 SIEVE</u>	<u>CLEAN</u> SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS, GRAVELLY SANDS
			SP		POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH <u>OVER 15% FINES</u>	SM		SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES
			SC		CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS More than Half <#200 sieve	SILTS AND CLAYS  LIQUID LIMIT <u>LESS THAN 50</u>		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS  LIQUID LIMIT <u>GREATER THAN 50</u>		MH		INORGANIC SILTS , MICACEOUS OR DIATOMACIOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS

Note: Dual symbols are used to indicate borderline soil classifications.

	Pushed Shelby Tube		Water Level measured <u>at time of Drilling</u> (with date noted)
	Standard Penetration Test (2-inch outside diameter)		Water Level measured <u>after Drilling</u> (with date noted)
	Modified California (3-inch outside diameter)		Hand Auger Cuttings
	Split Barrel Sampler (2 1/2-inch outside diameter)		Grab Sample
	Undisturbed Sample		Sample Attempt with No Recovery
	Continuous Core Sample		

SOIL CLASSIFICATION CHART AND LOG KEY  
Unified Soil Classification System (ASTM D 2487)  
Figure A-3





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Fax: 916.497.2886

## LOG OF BORING NO. B- 1

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4540 feet</b> Location: <b>40.307666°, -121.236084°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation										
		<b>SW-SM: Silty SAND w/ Gravel:</b> grayish brown, dry, fine to coarse grained sand and gravel, subangular, very dense, trace clay										
		Figure B-1: Direct Shear Test: $\phi = 36^\circ$ , $c = 0$ psf Figure B-3: Max Dry Density = 115.4 pcf, Optimum Moisture = 13.1%		1B 1C	73							
5		<b>GP: Sandy GRAVEL w/ Cobbles:</b> brown, slightly moist, fine to coarse grained sand and gravel, subrounded/subangular, very dense, up to 3-6" cobbles		2B	45, 50/ 4"							
10		<b>GP: GRAVEL:</b> dark gray, wet, angular		3B	30, 50/ 6"							
		Boring terminated at 11 feet. Groundwater encountered at 10 feet. Backfilled with soil cuttings.										
15												
20												

**Completion Depth:** 11.0  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid and Hollow Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21



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## LOG OF BORING NO. B-2

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4538 feet</b> Location: <b>40.307496°, -121.236399°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation										
		<b>SW-SM: Silty SAND w/ Gravel:</b> grayish brown, dry, fine to coarse grained sand and gravel, subangular, very dense, trace clay										
				1B 1C	96							
5		<b>GP: Sandy GRAVEL:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular  increased sand content, fine subangular gravel	X	2	100							
10		<b>GC: Clayey GRAVEL:</b> grayish brown, wet, very dense, fine to coarse grained sand and subangular gravel, cobbles present, organic odor, possible fill	X	3	65							
15		<b>GP: Sandy GRAVEL:</b> brown, wet, fine to coarse grained sand and gravel, subrounded/subangular	X	4	26, 50/ 3"							
20												

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21

**Completion Depth:** 50.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

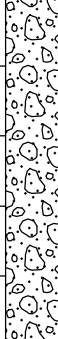







**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger and Mud Rotary  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings



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## LOG OF BORING NO. B- 2

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4538 feet</b> Location: <b>40.307496°, -121.236399°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
MATERIAL DESCRIPTION												
		<b>GP: Sandy GRAVEL:</b> brown, wet, fine to coarse grained sand and gravel, subrounded/subangular ( <i>continued</i> )		5	26, 50/ 5"							
25		<b>GP: GRAVEL:</b> dark gray, wet, angular		6	18, 50/ 6"							
30				7	27							
35		<b>GC: Clayey GRAVEL:</b> gray and brown, wet, very dense, fine to coarse grained sand and subangular gravel		8	27, 50/ 4"							
40												

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21

**Completion Depth:** 50.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger and Mud Rotary  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings



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## LOG OF BORING NO. B- 2

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4538 feet</b> Location: <b>40.307496°, -121.236399°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>GC: Clayey GRAVEL:</b> gray and brown, wet, very dense, fine to coarse grained sand and subangular gravel ( <i>continued</i> ) increased fines and sand content, angular/subangular gravel		9	50/ 6"							
45		decreased fines and sand content		10	93							
50				11	50/ 3"							
		Boring terminated at 50.5 feet. Groundwater encountered at 9.5 feet. Backfilled with neat cement and soil cuttings.										
55												
60												

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21

**Completion Depth:** 50.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger and Mud Rotary  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings





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## LOG OF BORING NO. B- 3

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4539 feet</b> Location: <b>40.307687°, -121.235602°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation										
		<b>SW-SM: Silty SAND w/ Gravel and Cobbles:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular, very dense, 3-6" cobbles										
					68							
5		<b>GP: GRAVEL:</b> dark gray, dry, angular			50/ 6"							
10		wet			31, 50/ 5"							
		Boring terminated at 11 feet. Groundwater encountered at 10 feet. Backfilled with soil cuttings.										
15												
20												

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21

**Completion Depth:** 11.0  
**Date Started:** 6/3/21  
**Date Completed:** 6/3/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings



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## LOG OF BORING NO. B- 4

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4533 feet</b> Location: <b>40.307284°, -121.236037°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>Surface:</b> loose soil, gravel and dry vegetation										
		<b>SW-SM: Silty SAND w/ Gravel and Cobbles:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular, very dense, 3-6" cobbles										
5		<b>GC: Clayey GRAVEL:</b> grayish brown, dry, very dense, fine to coarse grained sand and subangular gravel			21, 50/ 2"							
		<b>SW: Well Graded SAND:</b> brown, slightly moist, fine to coarse grained sand, very dense		2C								
		<b>GP: Sandy GRAVEL w/ Clay:</b> brown, moist, fine to coarse grained sand and gravel, subrounded/subangular, very dense										
10				3B 3C	30, 50/ 6"							
		Boring terminated at 11.5 feet. Groundwater not encountered. Backfilled with soil cuttings.										
15												
20												

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21

**Completion Depth:** 11.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid and Hollow Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings



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## LOG OF BORING NO. B- 5

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4537 feet</b> Location: <b>40.307391°, -121.235659°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>Surface:</b> loose soil, gravel and dry vegetation										
		<b>SW-SM: Silty SAND w/ Gravel:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular, very dense										
5												
		<b>GP: Sandy GRAVEL w/ Cobbles:</b> brown, slightly moist, fine to coarse grained sand and gravel, subrounded/subangular, very dense, up to 3-6" cobbles		2B 2C	46, 50/ 6"							
		<b>SW: Well Graded SAND w/ Gravel:</b> brown, slightly moist, fine to coarse grained sand and gravel, subangular/subrounded										
		<b>GP: GRAVEL:</b> dark gray, dry, angular										
10				3A	50/ 6"							
15		<b>SP: Poorly Graded SAND:</b> dark grayish brown mottled with red, wet, medium grained, trace clay and fine grained sand			50/ 6"							
		Boring terminated at 15.5 feet. Groundwater encountered at 11 feet. Backfilled with soil cuttings.										
20												

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21

**Completion Depth:** 15.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings



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Fax: 916.497.2886

## LOG OF BORING NO. B- 6

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4538 feet</b> Location: <b>40.307045°, -121.236426°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>Surface:</b> loose soil, gravel, cobbles and dry vegetation										
		<b>SW-SM: Silty SAND w/ Gravel and Cobbles:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular, very dense, 3-8" cobbles										
		subrounded, loose		1C	9							
5		<b>GP: Sandy GRAVEL w/ Cobbles:</b> brown, dry, fine to coarse grained sand and gravel, up to 6" cobbles		2A 2B	22, 50/ 6"							
		subrounded/subangular, very dense										
10				3B	22, 50/ 6"							
15					50/ 1"							
20												

**Completion Depth:** 15.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings

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## LOG OF BORING NO. B- 7

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4536 feet</b> Location: <b>40.307113°, -121.235733°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
MATERIAL DESCRIPTION												
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation										
		<b>SW-SM: Silty SAND w/ Gravel:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular, very dense										
		Figure B-1: Direct Shear Test: $\phi = 36^\circ$ , $c = 0$ psf Figure B-3: Max Dry Density = 115.4 pcf, Optimum Moisture = 13.1%		1B 1C	45, 50/ 6"							
5		<b>GP: Sandy GRAVEL w/ Silt:</b> grayish brown, dry, fine grained sand and fine gravel, subrounded/subangular		2B	24, 50/ 4"							
10		increased fines content		3B	25, 50/ 4"							
15		increased gravel content <1/2" diameter, wet, fine to coarse grained sand		4A 4B	27, 50/ 4"							
20												

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**Completion Depth:** 50.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger and Mud Rotary  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings





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## LOG OF BORING NO. B- 7

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4536 feet</b> Location: <b>40.307113°, -121.235733°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
MATERIAL DESCRIPTION												
		<b>GP: Sandy GRAVEL w/ Silt:</b> grayish brown, dry, fine grained sand and fine gravel, subrounded/subangular ( <i>continued</i> ) dark gray and brown, sub/angular		5	14, 50/ 6"							
25		increased sand content		6	38							
30		<b>Clayey SAND w/ Gravel:</b> mottled grayish brown, wet, fine to coarse grained sand and gravel, subrounded/subangular, high fines content, very dense		7	45, 50/ 5"							
35		brown, wet, medium dense		8	41		16		25			
40												

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**Completion Depth:** 50.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

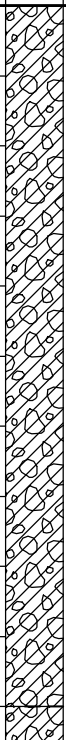



**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger and Mud Rotary  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings



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## LOG OF BORING NO. B- 7

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4536 feet</b> Location: <b>40.307113°, -121.235733°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>GC: Clayey GRAVEL:</b> brown mottled with red, wet, very dense, fine to coarse grained sand and sub/angular gravel, low fines content		9	35, 50/ 5"							
45				10	10, 50/ 5"							
50		<b>GC: Clayey GRAVEL:</b> gray and brown, wet, very dense, fine to coarse grained sand and subangular gravel		11	50/ 4"							
		Boring terminated at 50.5 feet. Groundwater encountered at 13 feet. Backfilled with neat cement and soil cuttings.										
55												
60												

GEO\_TARGET G2117611S BORING LOGS.GPJ GEOTECHNICAL 08.GDT 6/21/21

**Completion Depth:** 50.5  
**Date Started:** 6/2/21  
**Date Completed:** 6/2/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger and Mud Rotary  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 8 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings



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## LOG OF BORING NO. B- 8

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4539 feet</b> Location: <b>40.307880°, -121.236916°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		MATERIAL DESCRIPTION										
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation <b>GP: Sandy GRAVEL w/ Silt:</b> very dark brown, dry, fine to coarse grained sand and gravel, subrounded/subangular										
5		Boring terminated at 3 feet. Groundwater not encountered. Backfilled with soil cuttings.										
10												
15												
20												
<b>Completion Depth:</b> 3.0 <b>Date Started:</b> 6/3/21 <b>Date Completed:</b> 6/3/21 <b>California Sampler:</b> 2.4 inch inner diameter <b>SPT Sampler:</b> 1.4 inch inner diameter			<b>Drilling Equipment:</b> CME 55 w/ auto hammer <b>Drilling Method:</b> Solid Stem Auger <b>Drive Weight:</b> 140 lbs <b>Hole Diameter:</b> 4 inches <b>Drop:</b> 30 inches <b>Remarks:</b> Boring backfilled with neat cement and soil cuttings									

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## LOG OF BORING NO. B- 9

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4538 feet</b> Location: <b>40.307214°, -121.237045°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetrometer, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
MATERIAL DESCRIPTION												
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation										
		<b>SC: Clayey SAND w/ Gravel:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular										
		Figure B-8: R-Value = 63										
5		Boring terminated at 3 feet. Groundwater not encountered. Backfilled with soil cuttings.										
10												
15												
20												

**Completion Depth:** 3.0  
**Date Started:** 6/3/21  
**Date Completed:** 6/3/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 4 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings


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## LOG OF BORING NO. B-10

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4533 feet</b> Location: <b>40.307933°, -121.235488°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		MATERIAL DESCRIPTION										
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation <b>GP: Sandy GRAVEL w/ Silt:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular  Figure B-9: R-Value = 57										
5		Boring terminated at 3 feet. Groundwater not encountered. Backfilled with soil cuttings.										
10												
15												
20												
<b>Completion Depth:</b> 3.0 <b>Date Started:</b> 6/3/21 <b>Date Completed:</b> 6/3/21 <b>California Sampler:</b> 2.4 inch inner diameter <b>SPT Sampler:</b> 1.4 inch inner diameter			<b>Drilling Equipment:</b> CME 55 w/ auto hammer <b>Drilling Method:</b> Solid Stem Auger <b>Drive Weight:</b> 140 lbs <b>Hole Diameter:</b> 4 inches <b>Drop:</b> 30 inches <b>Remarks:</b> Boring backfilled with neat cement and soil cuttings									

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## LOG OF BORING NO. B-11

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4533 feet</b> Location: <b>40.307213°, -121.235230°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		MATERIAL DESCRIPTION										
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation <b>GP: Sandy GRAVEL w/ Silt:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular										
5		Boring terminated at 3 feet. Groundwater not encountered. Backfilled with soil cuttings.										
10												
15												
20												
<b>Completion Depth:</b> 3.0 <b>Date Started:</b> 6/3/21 <b>Date Completed:</b> 6/3/21 <b>California Sampler:</b> 2.4 inch inner diameter <b>SPT Sampler:</b> 1.4 inch inner diameter			<b>Drilling Equipment:</b> CME 55 w/ auto hammer <b>Drilling Method:</b> Solid Stem Auger <b>Drive Weight:</b> 140 lbs <b>Hole Diameter:</b> 4 inches <b>Drop:</b> 30 inches <b>Remarks:</b> Boring backfilled with neat cement and soil cuttings									

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## LOG OF BORING NO. B-12

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4534 feet</b> Location: <b>40.306786°, -121.236459°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>Surface:</b> loose, soft soil, wildflowers and dry vegetation										
		<b>SC: Clayey SAND w/ Gravel:</b> brown, dry, fine to coarse grained sand and gravel, subrounded/subangular, low fines content										
5		Boring terminated at 3 feet. Groundwater not encountered. Backfilled with soil cuttings.										
10												
15												
20												
<b>Completion Depth:</b> 3.0 <b>Date Started:</b> 6/3/21 <b>Date Completed:</b> 6/3/21 <b>California Sampler:</b> 2.4 inch inner diameter <b>SPT Sampler:</b> 1.4 inch inner diameter			<b>Drilling Equipment:</b> CME 55 w/ auto hammer <b>Drilling Method:</b> Solid Stem Auger <b>Drive Weight:</b> 140 lbs <b>Hole Diameter:</b> 4 inches <b>Drop:</b> 30 inches <b>Remarks:</b> Boring backfilled with neat cement and soil cuttings									


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## LOG OF BORING NO. B-13

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4532 feet</b> Location: <b>40.306805°, -121.235702°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
MATERIAL DESCRIPTION												
		<b>ASPHALT CONCRETE:</b> AC = 4 inches <b>SM: Silty SAND w/ Gravel:</b> grayish brown, slightly moist, fine to coarse grained sand, fine gravel <1/2" diameter										
5		Boring terminated at 3 feet. Groundwater not encountered. Backfilled with soil cuttings.										
20												

**Completion Depth:** 3.0  
**Date Started:** 6/3/21  
**Date Completed:** 6/3/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 4 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings

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## LOG OF BORING NO. B-14

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4533 feet</b> Location: <b>40.306820°, -121.234579°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		MATERIAL DESCRIPTION										
		<b>ASPHALT CONCRETE:</b> AC = 4 inches <b>GP: Sandy GRAVEL w/ Silt:</b> brown, slightly moist, fine to coarse grained sand and gravel <1" diameter, subrounded/subangular										
5		Boring terminated at 3 feet. Groundwater not encountered. Backfilled with soil cuttings.										
10												
15												
20												
Completion Depth: 3.0 Date Started: 6/3/21 Date Completed: 6/3/21 California Sampler: 2.4 inch inner diameter SPT Sampler: 1.4 inch inner diameter			Drilling Equipment: CME 55 w/ auto hammer Drilling Method: Solid Stem Auger Drive Weight: 140 lbs Hole Diameter: 4 inches Drop: 30 inches Remarks: Boring backfilled with neat cement and soil cuttings									




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## LOG OF BORING NO. B-15

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4532 feet</b> Location: <b>40.306593°, -121.234283°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		MATERIAL DESCRIPTION										
		<b>ASPHALT CONCRETE:</b> AC = 4 inches										
		<b>GP: Sandy GRAVEL w/ Silt:</b> brown, slightly moist, fine to coarse grained sand and gravel <1" diameter, subrounded/subangular										
		<b>SM: Silty SAND w/ Gravel:</b> grayish brown, moist, fine to coarse grained sand, fine gravel subrounded/subangular										
5		Boring terminated at 3.5 feet. Groundwater not encountered. Backfilled with soil cuttings.										
10												
15												
20												
<b>Completion Depth:</b> 3.0 <b>Date Started:</b> 6/3/21 <b>Date Completed:</b> 6/3/21 <b>California Sampler:</b> 2.4 inch inner diameter <b>SPT Sampler:</b> 1.4 inch inner diameter			<b>Drilling Equipment:</b> CME 55 w/ auto hammer <b>Drilling Method:</b> Solid Stem Auger <b>Drive Weight:</b> 140 lbs <b>Hole Diameter:</b> 4 inches <b>Drop:</b> 30 inches <b>Remarks:</b> Boring backfilled with neat cement and soil cuttings									

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## LOG OF BORING NO. B-16

Project Name: **Seneca Healthcare New Building**  
Project Number: **G21 176 11S**  
Project Location: **130 Brentwood Drive, Chester, CA**  
Logged by: **C. Goodwin**  
Checked by: **O. Lau**

Depth, feet	Graphic Log	Surface El.: <b>4530 feet</b> Location: <b>40.306004°, -121.234776°</b>	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro- meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		<b>MATERIAL DESCRIPTION</b>										
		<b>ASPHALT CONCRETE:</b> AC = 4 inches										
		<b>AGGREGATE BASE:</b> AB = 1.5 inches										
		<b>GP: Sandy GRAVEL:</b> brown, moist, fine to coarse grained sand and gravel <2", subrounded/subangular, very dense										
		Figure B-2: Direct Shear Test: $\phi = 39^\circ$ , $c = 0$ psf Figure B-4: Max Dry Density = 124.3 pcf, Optimum Moisture = 11.3%										
5		grayish brown, slightly moist			22, 50/ 6"							
10					15, 50/ 6"							
15		Boring terminated at 11 feet. Groundwater not encountered. Backfilled with neat cement and soil cuttings.										
20												

**Completion Depth:** 11.0  
**Date Started:** 6/3/21  
**Date Completed:** 6/3/21  
**California Sampler:** 2.4 inch inner diameter  
**SPT Sampler:** 1.4 inch inner diameter

**Drilling Equipment:** CME 55 w/ auto hammer  
**Drilling Method:** Solid Stem Auger  
**Drive Weight:** 140 lbs  
**Hole Diameter:** 4 inches  
**Drop:** 30 inches  
**Remarks:** Boring backfilled with neat cement and soil cuttings

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APPENDIX B

LABORATORY TESTING RESULTS

## APPENDIX B LABORATORY TESTING

### Moisture-Density Tests

The field moisture content, as a percentage of dry weight of the soils, was determined by weighing the samples before and after oven drying in accordance with ASTM D2216 test procedures. Dry densities, in pounds per cubic foot, were also determined for undisturbed core samples in general accordance with ASTM D2937 test procedures. Test results are presented on the boring logs in Appendix A.

### Direct Shear Test

Two (2) Direct Shear Tests were performed on relatively undisturbed soil samples obtained at the time of drilling in the area of planned construction. These samples were remolded in the laboratory to 90% of D1557. The tests were conducted to determine the soil strength characteristics. The standard test method is ASTM D3080, Direct Shear Test for Soil under Consolidated Drained Conditions. The direct shear test results are presented graphically on Figures B-1 and B-2.

### Moisture-Density Relationship Test

Two (2) Moisture-Density Relationship Tests were performed on bulk soil samples obtained at the time of drilling in the area of planned construction. The soil samples were tested for optimum moisture content and maximum dry density per ASTM Test Method D1557. The test results are presented on Figures B-3 and B-4.

### Sieve Analysis Test

Three (3) Sieve Analysis Tests were performed on selected soil samples obtained at the time of drilling in the area of planned construction to determine the particle size distribution of the subsurface material. The tests were performed in general accordance with Test Method ASTM D422. The test results are presented on Figures B-5 through B-7.

### R-Value Test

Two (2) Resistance-Value (R-Value) tests were performed on bulk soil samples obtained at the time of drilling in the area of planned construction to evaluate the subgrade material for pavement design. The soil was evaluated in accordance with California Department of Transportation's Test Method CT 301/ ASTM Test Method D2844. The test results are presented on Figures B-8 and B-9.



### Soil Corrosivity

Two (2) Corrosivity Evaluations were performed on bulk soil samples obtained at the time of drilling in the area of planned construction. The soil was evaluated for minimum resistivity (ASTM G57), sulfate ion concentration (ASTM D4327), chloride ion concentration (ASTM D4327), and pH of soil (ASTM D4972). The test results are presented in Table B-1.

Table B-1: Summary of Corrosion Test Results				
Sample Location	Minimum Resistivity (ohm-cm)	pH	Sulfate, ppm	Chloride, ppm
B-1&7 @ 1-5 feet bgs	31,440	6.2	7.3	Not Detected
B-16 @ 1-5 feet bgs	39,640	7.2	5.6	Not Detected

### Minus #200 Wash Tests

Four (4) #200 Wash Tests were performed on selected soil samples obtained at the time of drilling in the area of planned construction. The tests were performed to determine the amount of fine material present in the subsurface material. The tests were performed in general accordance with ASTM Test Method D1140. The test results are presented in Table B-2 and the boring logs in Appendix A.

Table B-2: Summary of Minus #200 Wash Test Results	
Test Location	Percent Fines
B-1&7 @ 1-5 feet bgs	5
B-7 @ 35 feet bgs	16
B-13 @ 2-3 feet bgs	24
B-16 @ 1-5 feet bgs	15





## Direct Shear Test

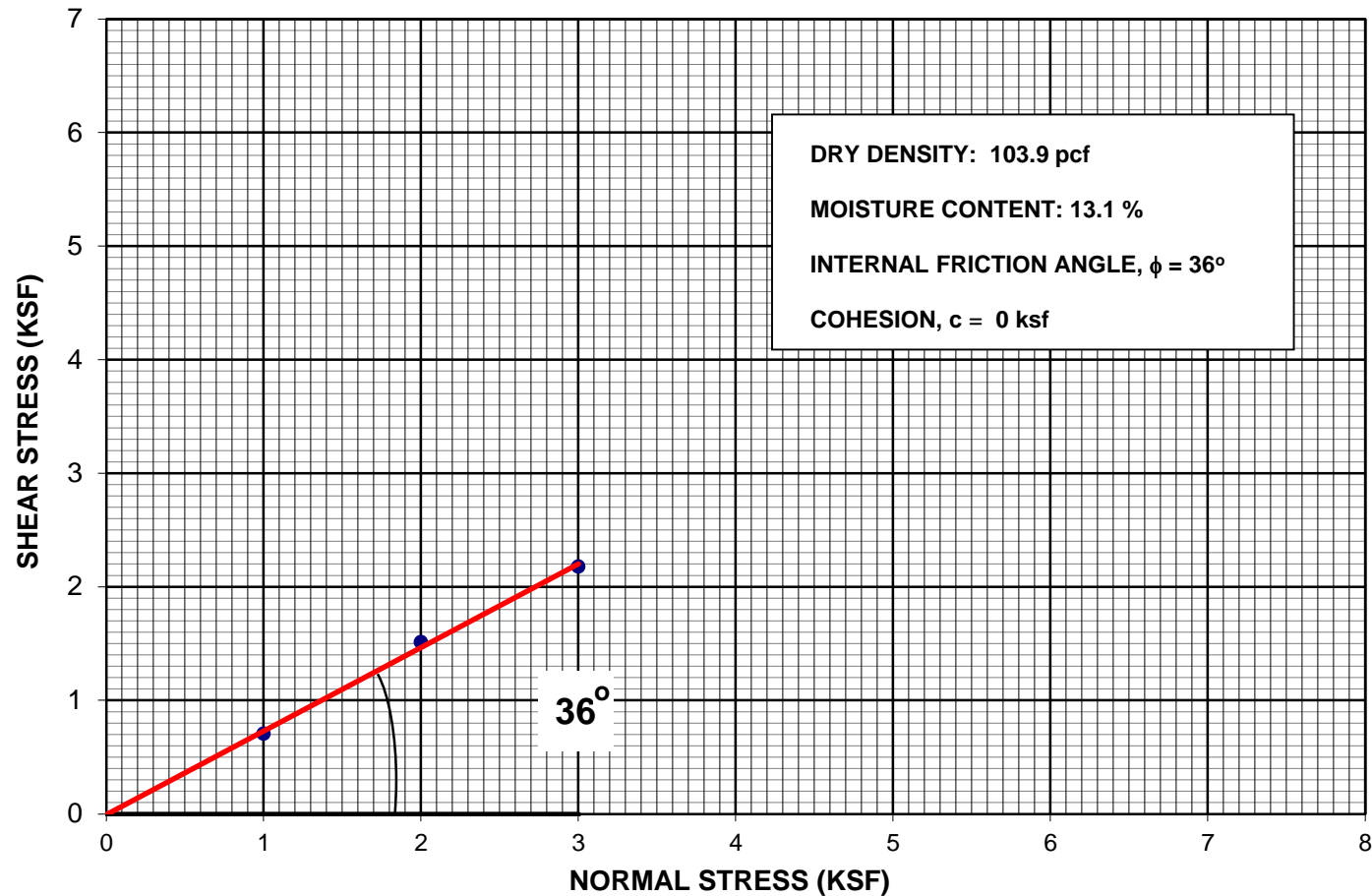
ASTM D-3080

### FIGURE B-1

550 W. Locust  
Fresno, CA 93650  
Ph: (559) 497-2880

Project Name:	Seneca Healthcare New Building	Sampled By:	C.G.	Sample Date:	6/1-3-2021
		Tested By:	D.M.	Test Date:	6/11/2021
Project Number:	G21-176-11S	Lab Tracking ID:	N/A	Report Date:	6/11/2021
Sample Location:	B-1&7 @ 1-5'	Sample Description:	SC: Clayey SAND: yellowish brown, moist, medium dense, fine to medium grained		

### SHEAR STRENGTH DIAGRAM







## Direct Shear Test

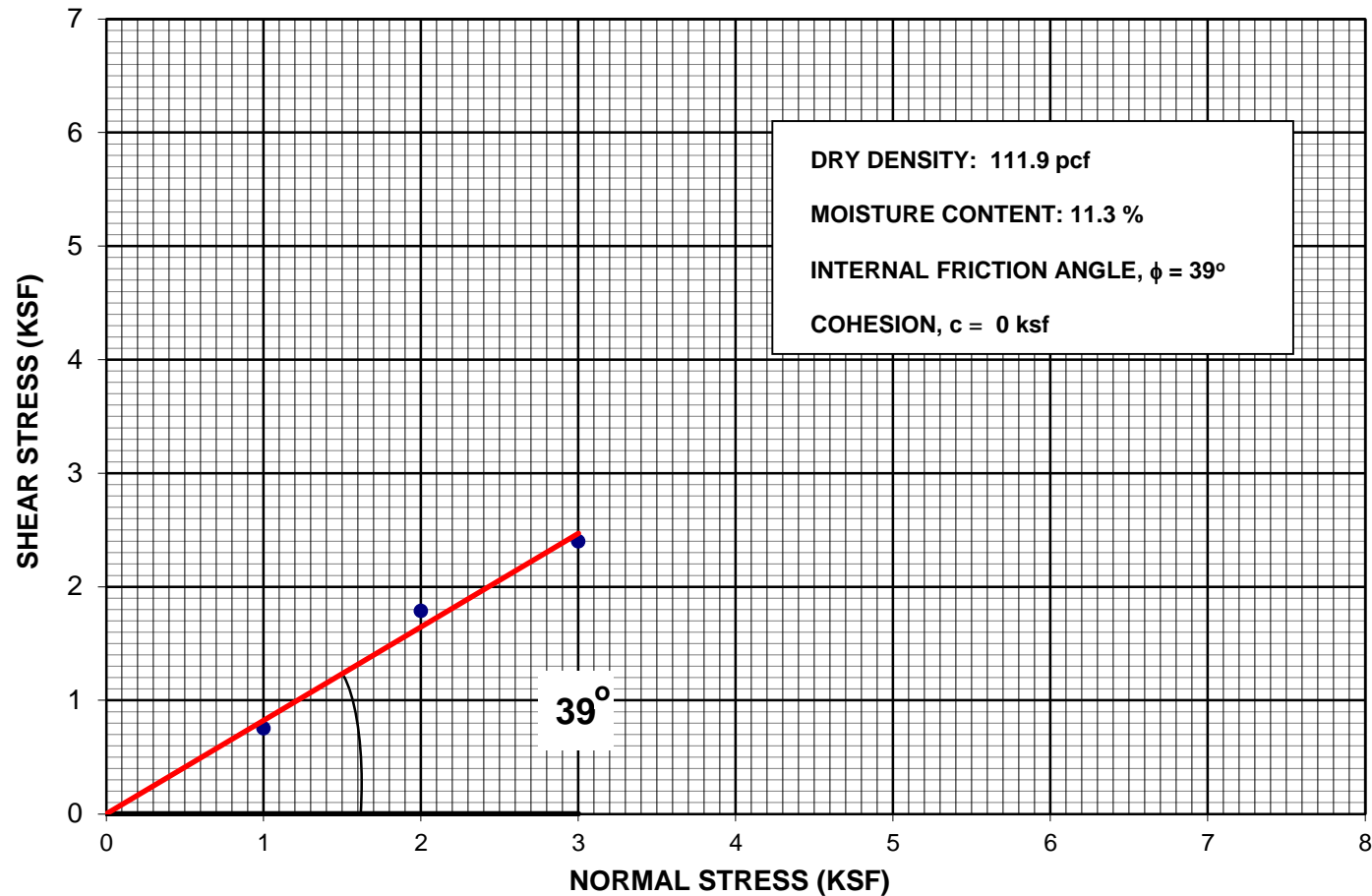
ASTM D-3080

### FIGURE B-2

550 W. Locust  
Fresno, CA 93650  
Ph: (559) 497-2880

Project Name:	Seneca Healthcare New Building	Sampled By:	C.G.	Sample Date:	6/3/2021
		Tested By:	D.M.	Test Date:	6/11/2021
Project Number:	G21-176-11S	Lab Tracking ID:	N/A	Report Date:	6/11/2021
Sample Location:	B-16 @ 1-5'	Sample Description:	SC: Clayey SAND: yellowish brown, moist, medium dense, fine to medium grained		

### SHEAR STRENGTH DIAGRAM





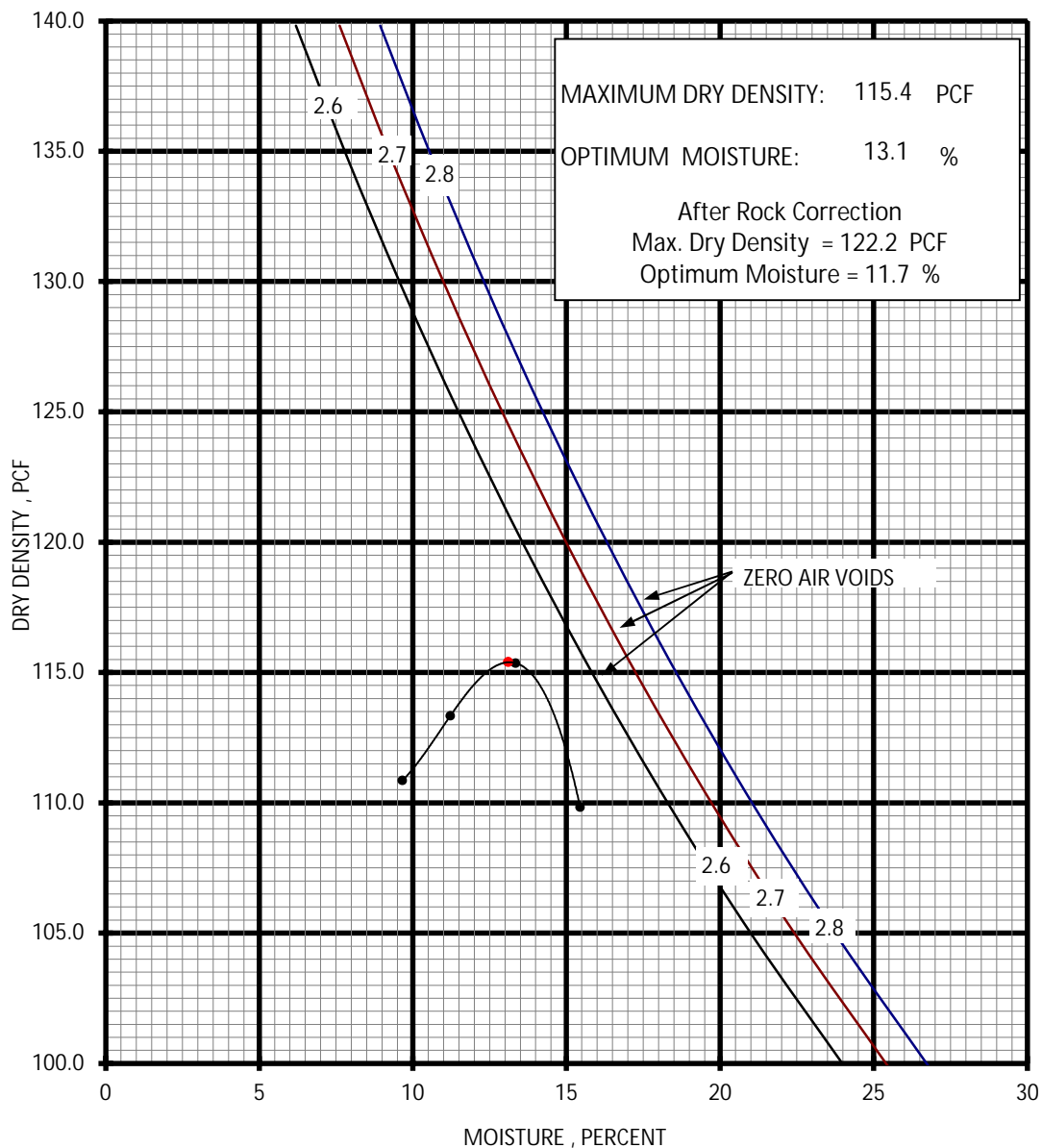
# Laboratory Compaction Curve ASTM D-1557

**FIGURE B-3**  
550 W. Locust Ave.  
Fresno, CA 93650  
Ph: (559) 497-2868

Project Name: Seneca Healthcare New Building Sample Date: 6/3/2021  
Project Number: G21 - 159 - 10F Sampled By: C.G. Test Date: 6/9/2021  
Lab Tracking ID: \_\_\_\_\_ Tested By: A.S  
Sample Location: B - 1 & B - 7 @ 1' - 5'  
Sample Description: SP: Gravelly Sand: grayish brown, dry, fine to coarse grained

## PROCEDURE USED

Procedure A X Procedure B \_\_\_\_\_ Procedure C \_\_\_\_\_

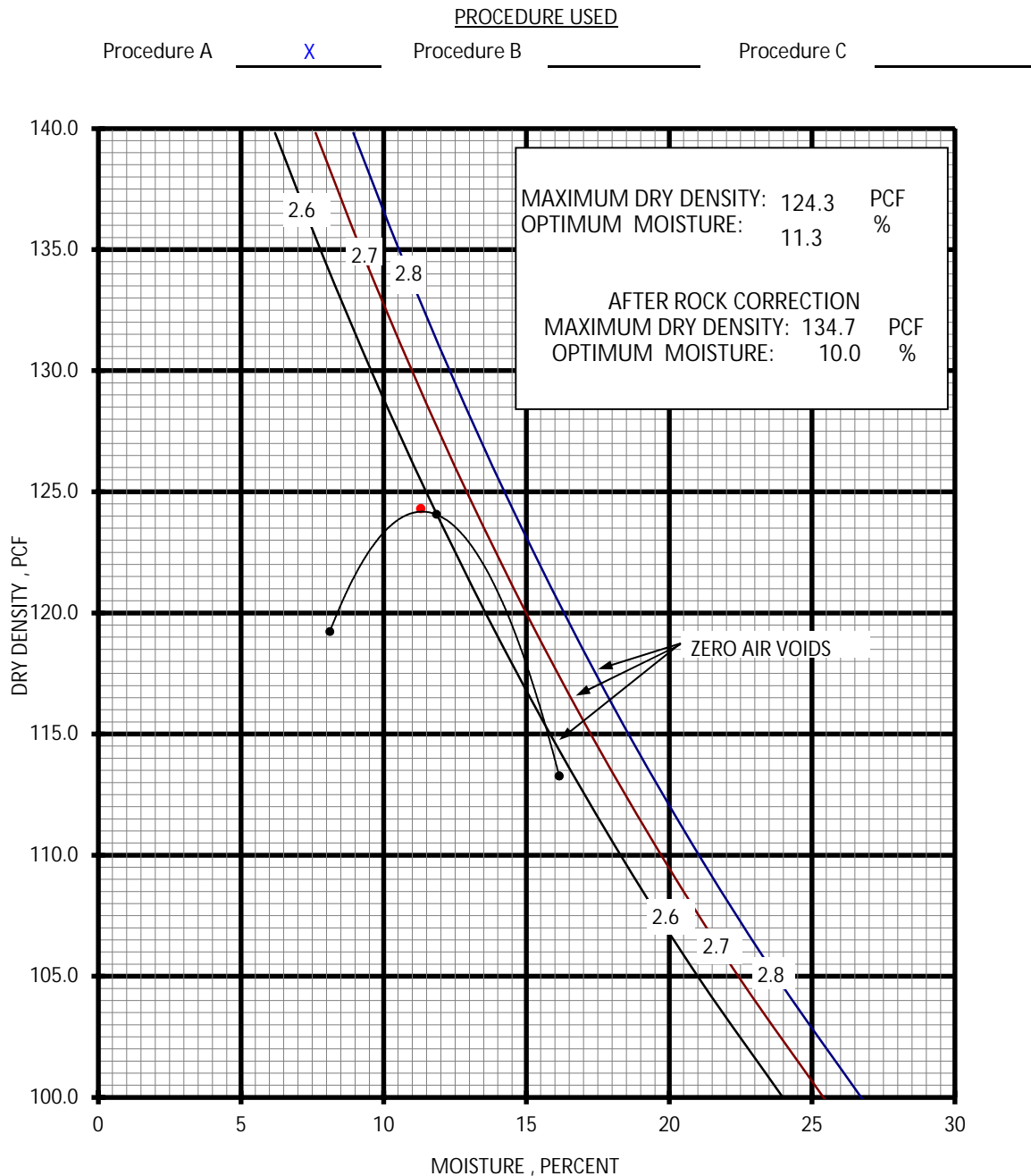




# Laboratory Compaction Curve ASTM D-1557

**FIGURE B-4**  
550 W. Locust Ave.  
Fresno, CA 93650  
Ph: (559) 497-2868

Project Name:	Seneca Healthcare New Building		Sample Date:	6/3/2021	
Project Number:	G21 - 176 - 11S	Sampled By:	CG	Test Date:	6/10/2021
Lab Tracking ID:	NA	Tested By:	AS		
Sample Location:	B - 16 @ 1' - 5'				
Sample Description:	Silty Sand with Gravel				





# Gradation Analysis Report ASTM D-422 / ASTM C-136

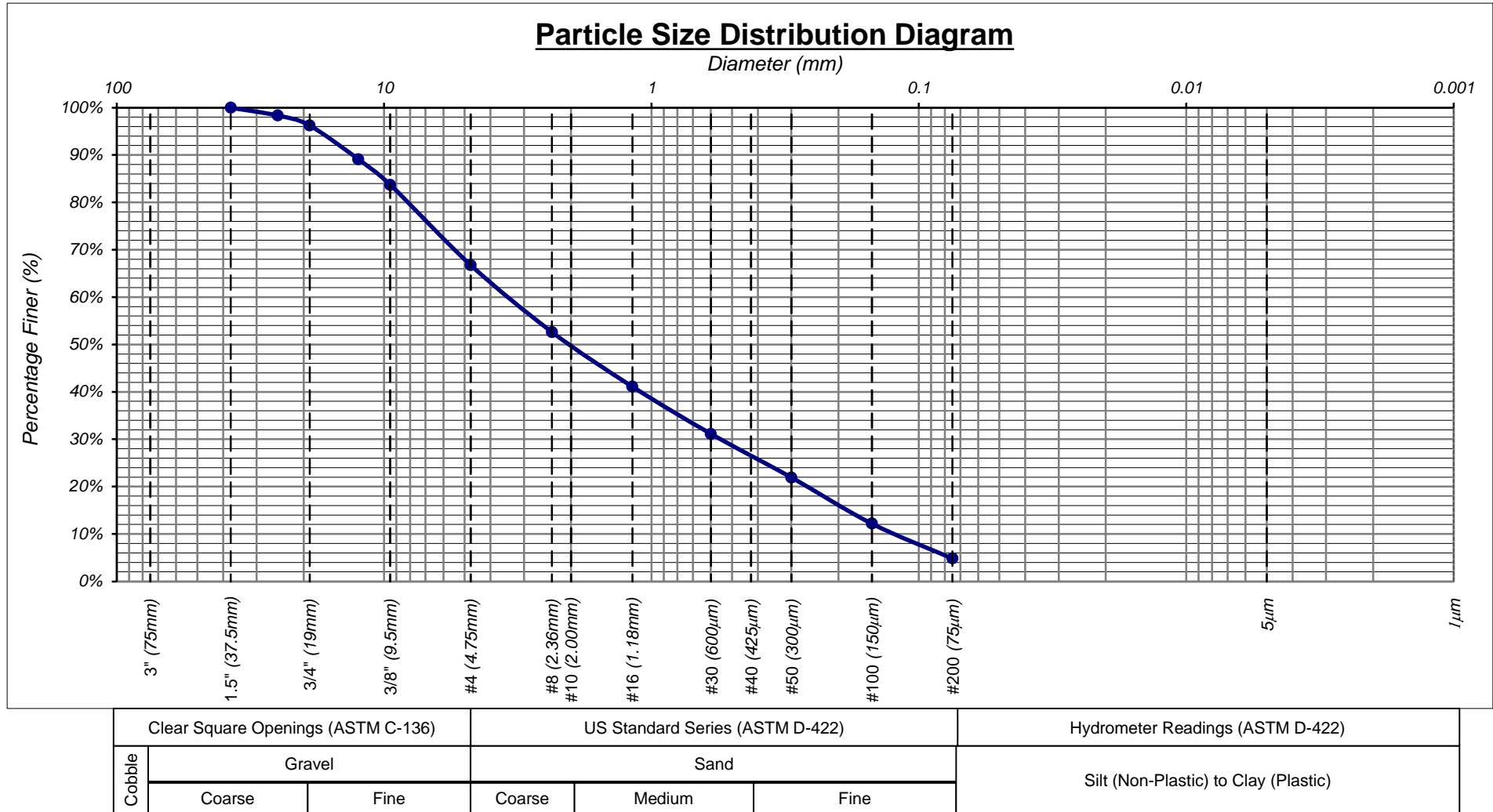
**FIGURE B-5**

550 W. Locust Ave.  
Fresno, CA 93650  
Ph: (559) 497-2880

**Project Name:** Seneca Healthcare New Building  
**Sample Location:** B - 1 & B - 7 @ 1' - 5'  
**Sample Description:** SW-SM: Well Graded Sand with Gravel

**Project Number:** G21 - 176 - 11S  
**Sample Lab ID:**

**Report Date:** 6/11/2021  
**Sample Date:** 6/3/2021  
**Test Date:** 6/8/2021



**% Gravel = 33%**

**% Sand = 62%**

**% Fines = 5%**

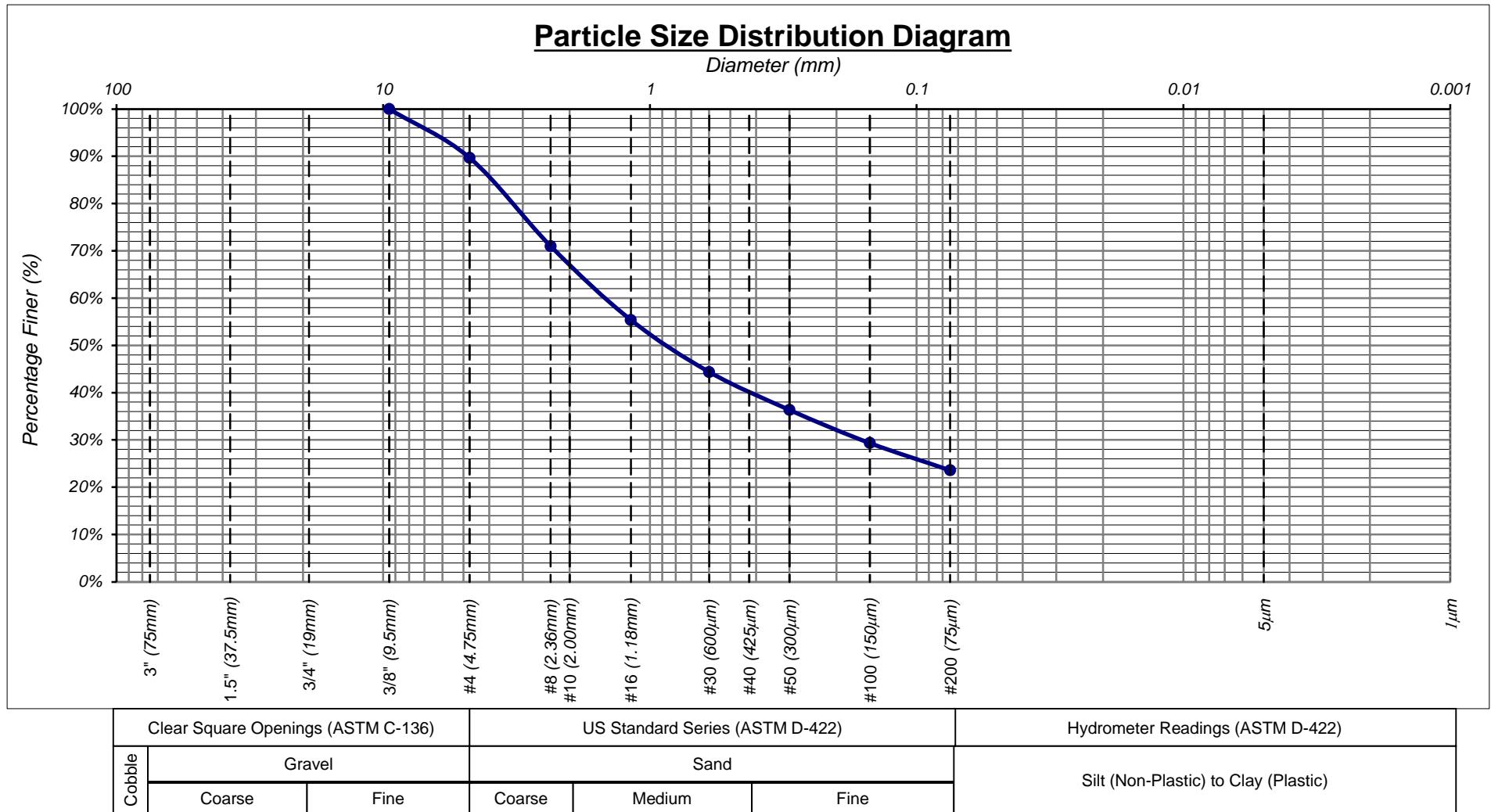


## Gradation Analysis Report ASTM D-422 / ASTM C-136

### FIGURE B-6

550 W. Locust Ave.  
Fresno, CA 93650  
Ph: (559) 497-2880

Project Name:	Seneca Healthcare New Building	Project Number:	G21 - 176 - 11S	Report Date:	6/11/2021
Sample Location:	B - 13 @ 2' - 3'	Sample Lab ID:		Sample Date:	6/3/2021
Sample Description:	SM: Silty Sand			Test Date:	6/8/2021



% Gravel = 10%

% Sand = 66%

% Fines = 24%

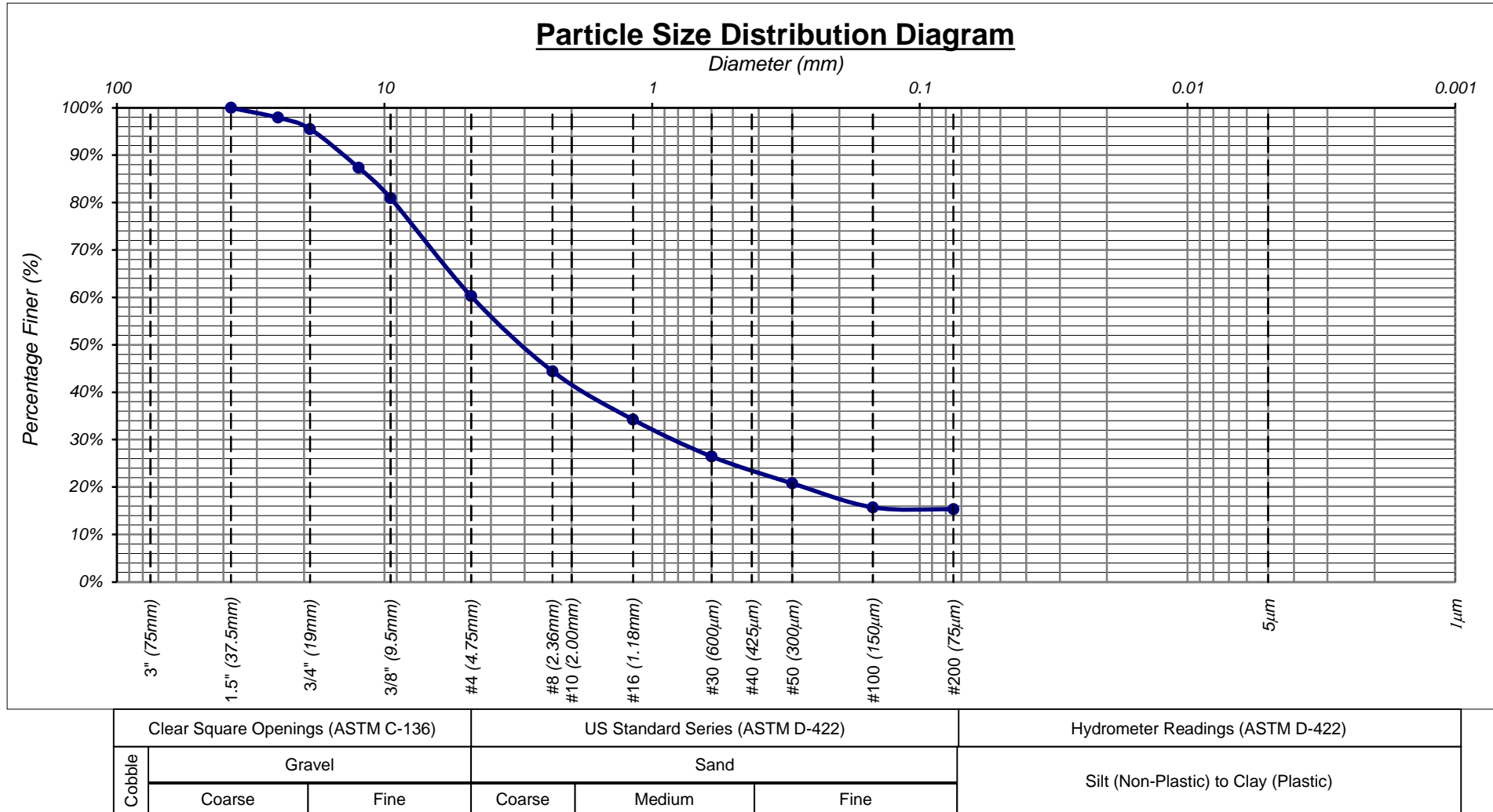


## Gradation Analysis Report ASTM D-422 / ASTM C-136

### FIGURE B-7

550 W. Locust Ave.  
Fresno, CA 93650  
Ph: (559) 497-2880

Project Name:	Seneca Healthcare New Building	Project Number:	G21 - 176 - 11S	Report Date:	6/11/2021
Sample Location:	B - 16 @ 1' - 5'	Sample Lab ID:		Sample Date:	6/3/2021
Sample Description:	SM: Silty Sand with Gravel			Test Date:	6/8/2021



**% Gravel = 40%**

**% Sand = 45%**

**% Fines = 15%**



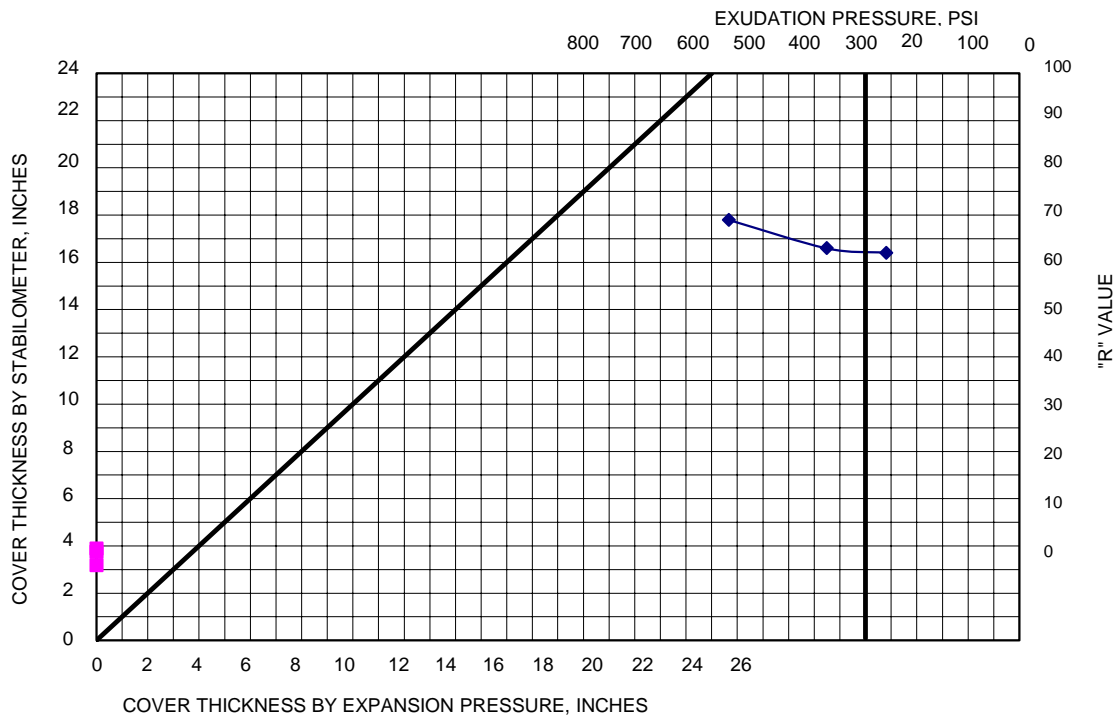


Standard Test Methods for Resistance R-Value and  
Expansion Pressure of Compacted Soil  
**ASTM D-2844**

**FIGURE B-8**  
700 22nd St.  
Bakersfield, CA 93301  
Ph: (661) 327-0670

**Project Name:** Seneca Healthcare New Bldg Center  
**Project Number:** G21-176-11S  
**Lab Tracking ID:** B21-092  
**Sample Location:** B-9 @ 0-3 feet bgs

**Sample Date:** 6/3/2021  
**Test Date:** 6/17/2021  
**Report Date:** 6/18/2021  
**Tested By:** ILT Remotique



Sample Description: SM: Silty SAND: Dark Brown; fine to coarse grained, some gravels

SPECIMEN	A	B	C
EXUDATION PRESSURE, LOAD (lb)	7123.6	4726.3	3263.2
EXUDATION PRESSURE, PSI	567	376	260
EXPANSION, * 0.0001 IN	0.0017	0.002	0.0029
EXPANSION PRESSURE, PSF	0	0	0
STABILOMETER PH AT 2000 LBS	35	43	46
DISPLACEMENT	4.02	3.92	3.78
RESISTANCE VALUE "R"	69	63	62
"R" VALUE CORRECTED FOR HEIGHT	69	63	62
% MOISTURE AT TEST	8.6	9.6	10.6
DRY DENSITY AT TEST, PCF	127.1	124.5	119.0
"R" VALUE AT 300 PSI EXUDATION PRESSURE	63		
"R" VALUE BY EXPANSION PRESSURE TI = 4.0, GF=1.50	N/A		

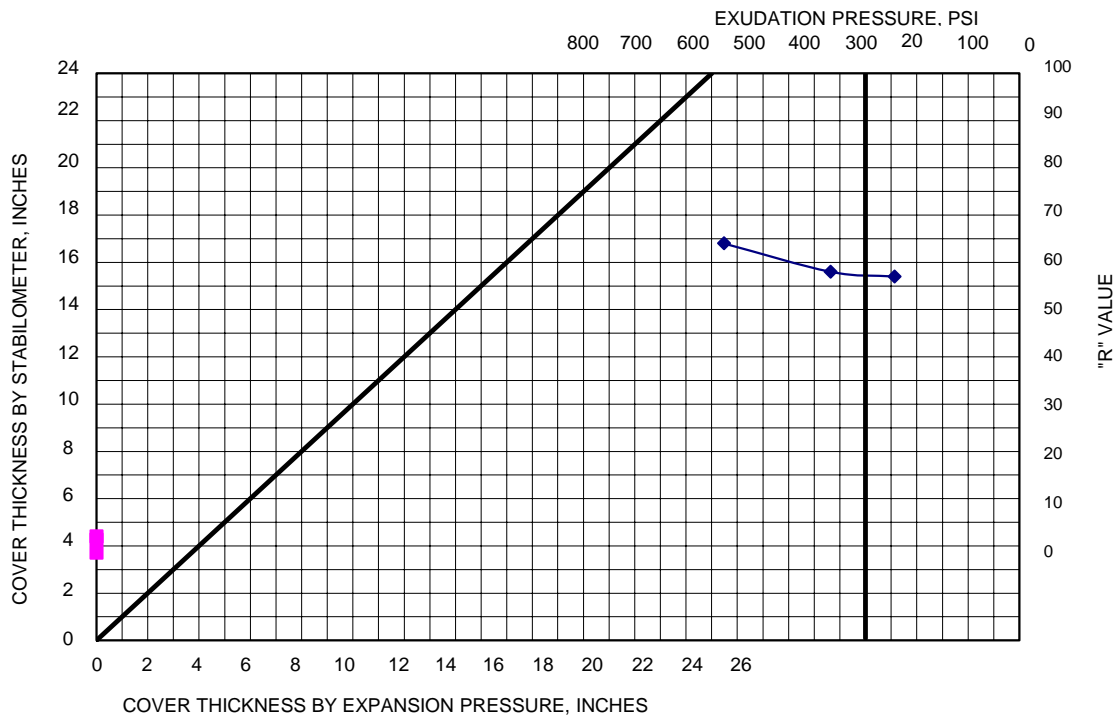


Standard Test Methods for Resistance R-Value and  
Expansion Pressure of Compacted Soil  
**ASTM D-2844**

**FIGURE B-9**  
700 22nd St.  
Bakersfield, CA 93301  
Ph: (661) 327-0670

**Project Name:** Seneca Healthcare New Bldg Center  
**Project Number:** G21-176-11S  
**Lab Tracking ID:** B21-092  
**Sample Location:** B-10 @ 0-3 feet bgs

**Sample Date:** 6/3/2021  
**Test Date:** 6/17/2021  
**Report Date:** 6/18/2021  
**Tested By:** ILT Remotigue



Sample Description: SM: Silty SAND: Dark Brown, fine to coarse grained, some gravels

SPECIMEN	A	B	C
EXUDATION PRESSURE, LOAD (lb)	7236.3	4632.1	3063.2
EXUDATION PRESSURE, PSI	576	369	244
EXPANSION, * 0.0001 IN	0.0019	0.0022	0.0031
EXPANSION PRESSURE, PSF	0	0	0
STABILOMETER PH AT 2000 LBS	42	51	53
DISPLACEMENT	3.98	3.82	3.81
RESISTANCE VALUE "R"	64	58	57
"R" VALUE CORRECTED FOR HEIGHT	64	58	57
% MOISTURE AT TEST	7.9	8.9	9.9
DRY DENSITY AT TEST, PCF	124.9	122.6	118.3
"R" VALUE AT 300 PSI EXUDATION PRESSURE	57		
"R" VALUE BY EXPANSION PRESSURE TI = 4.0, GF=1.50	N/A		

APPENDIX C

GEOLOGIC AND SEISMIC HAZARDS ASSESSMENT



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## C1.0 INTRODUCTION

This report presents the geologic and seismic hazards assessment prepared in accordance with the 2019 California Building Code (CBC), CCR Title 24, Chapters 16A and 18A requirements for a Geotechnical/Engineering Geologic Report. The assessment was performed in conformance with California Geological Survey (CGS) Note 48 (2019).

### C1.1 Objective and Scope of Services

The purpose of the geologic and seismic hazards assessment is to provide the Client with an evaluation of potential geologic or seismic hazards which may be present at the site or due to regional influences. BSK's scope of services for this assessment included the following:

1. Review of published geologic literature, and current investigation at the site;
2. Evaluation of the data collected and preparation of geologic cross sections;
3. Evaluation of potential geologic hazards affecting the site;

### C1.2 Site Location

The Seneca Healthcare District New Building is located at 130 Brentwood Drive, Chester, Plumas County, California (Site). The Site coordinates of the center of the new building are:

Latitude 40.30731°

Longitude -121.23605°

### C1.3 Site Topography

As shown on Figure C-1, the Site is relatively flat with a ground surface elevation of approximately 4,540 feet msl, USGS datum. A creek, that appears to be related to flow from the lumber mill east of the Site, is located approximately 200 feet north of the Site.

### C1.4 Groundwater Conditions

The Site is located in the Lake Almanor Groundwater Basin. At the time of the field exploration in June 2021, groundwater was encountered in our borings at depth of 9.5 feet to 13 feet below the ground surface (bgs).

To ascertain groundwater levels for the area during other time periods, groundwater elevation data from the California Department of Water Resources (DWR) were obtained for the period 1974 to 2018. The water level hydrographs from well 28N07E05M001Mare presented on Figure C-2. The hydrograph indicates that the shallowest historic depth to groundwater in the general area of the Site was approximately 10 feet in 2006.

## C2.0 GEOLOGIC SETTING

The site is located in the Cascade Range geomorphic province. The Cascade Range, a chain of volcanic cones, extends through Washington and Oregon into California. It is dominated by Mt. Shasta, a glacier-





mantled volcanic cone, rising 14,162 feet above sea level. The southern termination is Lassen Peak, which last erupted in the early 1900s (CGS Note 36).

This Site is in an area dominated by Plio-Pleistocene volcanic rocks ranging from andesite to basalt (Clynne, 2010 and Lydon, 1960). There are numerous volcanic vents in the region with eruptions related to the migration of the area over the Cascade arc. Lake Almanor east of the Site is a structural graben related to crustal extension and normal faulting in the area.

As shown on Figure C-3, the Site is located on units describe as Pleistocene nonmarine. Clynne, 2010 describes this unit as Outwash gravel, younger glaciations (late Pleistocene). Approximately 4,000 feet east of the Site are Quaternary lake deposits associated with Lake Almanor.

Nearby active faults include the Almanor fault located approximately 3.2 miles northeast of the Site, the Butt Creek fault zone approximately 2.6 miles southwest of the Site and the Walker Spring fault located approximately 9.5 miles southeast of the Site.

## C2.1 Subsurface Soil Conditions

Subsurface conditions are described in the main body of the report. The Site was the subject of a field investigation program in June 2021 consisting of 16 soil borings at location shown on Figure C-4. The subsurface units consist of dense to very dense sandy gravel, clayey gravel and gravel with cobbles. A cross section presenting the subsurface conditions in the proposed improvement area is presented on Figure C-5, Cross Section A-A'.

## C3.0 GEOLOGIC/SEISMIC HAZARDS

The types of geologic and seismic hazards assessed include surface ground fault rupture, liquefaction, seismically induced settlement, slope failure, flood hazards and inundation hazards.

### C3.1 Fault Rupture Hazard Zones in California

The purpose of the Alquist-Priolo Geologic Hazards Zones Act, as summarized in CDMG Special Publication 42 (SP 42), is to "prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." As indicated by SP 42, "the State Geologist is required to delineate "Earthquake Fault Zones" (EFZs) along known active faults in California. Cities and counties affected by the zones must regulate certain development 'projects' within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

The Site is not located in an Earthquake Fault Zone. The closest Earthquake Fault Zone is associated with the Hat Creek fault zone located approximately 23 miles north of the Site.



### C3.2 State of California Seismic Hazard Zones (Liquefaction and Landslides)

Zones of Required Investigation referred to as "Seismic Hazard Zones" in CCR Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. The site is within the Chester 7.5 Minute Quadrangle and there are no mapped areas that have Seismic Hazard Zones in the project area.

### C3.3 Local General Plans Safety Element

According to the 2013 Plumas County General Plan the Site area does not appear to be located in a liquefaction or geologic hazard zone.

### C3.4 Slope Stability and Potential for Slope Failure

The Site is essentially flat and the potential hazard due to landslides in the project area is minimal. Review of CGS Geologic Hazard Webmaps (CGS, 2020) did not show landslide hazard areas mapped near the Site. The potential for slope instability near the Site appears to be low.

### C3.5 Flood and Inundation Hazards

An evaluation of flooding at the Site includes review of potential hazards from flooding during periods of heavy precipitation and flooding due to a catastrophic dam breach from up-gradient surface impoundments.

#### C3.5.1 Flood Hazards

Federal Emergency Management Agency (FEMA) flood hazard data was obtained to present information regarding the potential for flooding at the Site. As shown on Figure C-6, according to FEMA Flood Hazard Map Layer GIS data, NFHL 06063C, dated 10/8/2020, the Site area lies in Zone X outside the 100-year flood and 500-year flood zones.

#### C3.5.2 Inundation Hazards – Dams

As shown on Figure C-8, according to the GIS data obtained from California Department of Water Resource (CDWR, 2020) and Dam Inundation GIS data from California Emergency Management Agency, dated 2013 (Federal Jurisdiction Dams), the Site is located in the Chester Diversion inundation area.

### C3.6 Volcanic Hazards

According to USGS Bulletin 1847, dated 1989, the Site is located in an area which would be subject to hazards from volcanic eruptions. According to the USGS 1989 map, presented as Figure C-8, the site may be located in a volcanic debris flow area and is located in a Pyroclastic-flow hazard area and in zone volcanic ash zone Y (5-cm or 2-inches of compacted ash. The zones are related to potential eruptions from Lassen volcanic center that had a historic event in 1915. Robinson and Clynnne, 2019 published more detailed maps related to potential threats from Lassen volcanic center. Figure C-8a presents hazard zones that may impact the Site. The maps indicate that the Site is not located in a Lahar Hazard Zone (Debris Flow) but is in an Ash Hazard Zone. The building design should incorporate measures to address potential ash deposits of a couple inches in depth.



### C3.7 Corrosion

Please refer to the section titled “Soil Corrosivity” in the geotechnical report for discussion of the corrosivity of the site soils.

### C3.8 Expansive Soils

As discussed in the geotechnical report, the near-surface soils was non-cohesive soil with very low expansion potential.

### C3.9 Tsunami Hazard

According to the Tsunami Inundation Map for Emergency Planning (Cal-EMA, 2009) and the ASCE Tsunami Hazard Tool (ASCE 2016) the Site is not located in a Tsunami hazard zone.

## C4.0 SEISMIC HAZARD ASSESSMENT

### C4.1 Seismic Source Deaggregation

Figures C-9 and C-10 present fault maps showing the major faults that may impact the Site in the future. Seismically induced ground motion at a Site can be caused by earthquakes on any of the sources surrounding the site. Deaggregation of the seismic hazard was performed by using the USGS Interactive Deaggregation website. The deaggregation determination, at the maximum considered earthquake (MCE) hazard level, results in distance, magnitude and epsilon (ground-motion uncertainty) for each source that contributes to the hazard. Each source has a corresponding epsilon, which is the probabilistic value relative to the mean value of ground motion for that source.

Deaggregation based on a probabilistic model developed by the USGS indicates that the extreme seismic source with the highest magnitude that contributes to the peak ground acceleration (PGA) is a magnitude 9.14 earthquake from the Cascade Megathrust located at a distance of approximately 150 km. For liquefaction and seismic settlement, the modal magnitude ( $M_w$ ) of 6.28 with a distance of 5.3 km would be appropriate for probabilistic input parameter that is consistent with the design earthquake ground motion.

### C4.2 Historical Seismicity

Table C-1 provides the location, earthquake magnitude, site to earthquake distances, dates and the resulting site peak horizontal acceleration for the period 1800 to 2021. Figure C-11 presents historical earthquake magnitudes and locations relative to the Site.

The Table C-1 shows that the Site has experienced mean plus one sigma peak horizontal acceleration up to 0.29g from a nearby low magnitude earthquake that occurred in 1965. In general, the Site has been subjected to moderate intensity ground motion, primarily from moderate local earthquakes in the region.



TABLE C-1 HISTORIC EARTHQUAKES WITHIN 100 MILES OF THE SITE GROUND MOTION GREATER THAN 0.06G							
File Code	Latitude (North)	Longitude (West)	Date	Depth (km)	Earthquake Magnitude	Site Acceleration (g)	Distance mi (km)
DMG	40.290	121.230	2/13/1965	0	4.3	0.29	1.2( 2.0)
DMG	40.270	121.230	8/21/1949	0	4.5	0.28	2.6( 4.2)
GSB	40.192	121.060	5/24/2013	9.7	5.7	0.23	12.3( 19.7)
DMG	40.450	121.470	3/20/1950	0	5.5	0.17	15.8( 25.4)
GSB	40.183	121.072	5/24/2013	5.2	4.9	0.15	12.2( 19.6)
GSB	40.188	121.065	5/24/2013	4.4	4.6	0.13	12.2( 19.7)
DMG	40.500	120.700	06/20/1889	0	5.9	0.13	31.2( 50.2)
MGI	40.450	121.300	7/6/1936	0	4.3	0.12	10.4( 16.7)
MGI	40.450	121.300	7/2/1936	0	4.3	0.12	10.4( 16.7)
MGI	40.450	121.300	7/6/1936	0	4.3	0.12	10.4( 16.7)
MGI	40.450	121.300	7/13/1936	0	4.3	0.12	10.4( 16.7)
MGI	40.450	121.300	7/1/1936	0	4.3	0.12	10.4( 16.7)
MGI	40.450	121.300	7/6/1936	0	4.3	0.12	10.4( 16.7)
MGI	40.450	121.300	7/1/1936	0	4.3	0.12	10.4( 16.7)
MGI	40.450	121.300	7/6/1936	0	4.3	0.12	10.4( 16.7)
DMG	40.000	121.600	2/8/1940	0	5.7	0.12	28.6( 46.0)

### C4.3 Earthquake Ground Motion, 2019 California Building Code

#### C4.3.1 Site Class

Based on Section 1613A.2.2 of the 2019 California Building Code (CBC), the Site shall be classified as Site Class A, B, C, D, E or F based on the Site soil properties and in accordance with Chapter 20 of ASCE 7-16. The Site is located on dense Pleistocene gravels that would be classified as the Site Class D.

#### C4.3.2 Seismic Design Criteria

The 2019 California Building Code (CBC) utilizes ground motion based on the Risk-Targeted Maximum Considered Earthquake ( $MCE_R$ ) that is define in the 2019 CBC as the most severe earthquake effects considered by this code, determined for the orientation that results in the largest maximum response to horizontal ground motions and with adjustment for targeted risk. Ground motion parameters in the 2019 CBC are based on ASCE 7-16, Chapter 11.

The United States Geologic Survey (USGS) has prepared maps presenting the Risk-Targeted MCE spectral acceleration (5% damping) for periods of 0.2 seconds (SS) and 1.0 seconds (S1). The values of SS and S1 can be obtained from the OSHPD Seismic Design Maps Application available at:

<https://seismicmaps.org/>



Table C-2 below presents the spectral acceleration parameters produced for Site Class D by the OSHPD Ground Motion Parameter Application and Chapter 16 of the 2019 CBC based on ASCE 7-16.

TABLE C-2 SPECTRAL ACCELERATION PARAMETERS RISK TARGETED MAXIMUM CONSIDERED EARTHQUAKE			
Criteria	Value		Reference
MCE Mapped Spectral Acceleration (g)	$S_S = 1.387$	$S_1 = 0.470$	USGS Mapped Value
Site Coefficients (Site Class D)	$F_a = 1.000$	$F_v = \text{Null}^1 (1.830)^1$	ASCE Table 11.4
Site Adjusted MCE Spectral Acceleration (g)	$S_{MS} = 0.387$	$S_{M1} = \text{Null}^1 (0.860)^1$	ASCE Equations 11.4.1-2
Design Spectral Acceleration (g)	$S_{DS} = 0.925$	$S_{D1} = \text{Null}^1 (0.573)^1$	ASCE Equations 11.4.3-4
Site Short Period - $T_s$ (Seconds)	$T_s = 0.620$		$T_s = S_{D1} / S_{DS}$
Site Long-Period - $T_L$ (Seconds)	$T_L = 16$		USGS Mapped Value

ASCE 7-16 Section 11.4.8 requires a site-specific ground motion analysis with Site Class D and E sites with  $S_1$  greater than or equal to 0.2. It is assumed that the ASCE 7-16 Section 11.4.8 exception #2 will be used for this Site.

#### C4.3.3 Geometric Mean Peak Ground Acceleration

As per Section 1803A.5.12 of the CBC, peak ground acceleration (PGA) utilized for dynamic lateral earth pressures and liquefaction, shall be based on a site-specific study (ASCE 7-16, Section 21.5) or ASCE 7-16, Section 11.8.3. The USGS Ground Motion Parameter Application based on ASCE 7-16, Section 11.8.3 produced the values shown in Table C-3 based on Site Class D.

TABLE C-3 GEOMETRIC MEAN PEAK GROUND ACCELERATION MAXIMUM CONSIDERED EARTHQUAKE		
Criteria	Value	Reference
Mapped Peak Ground Acceleration (g)	$PGA = 0.565$	USGS Mapped Value
Site Coefficients (Site Class D)	$F_{PGA} = 1.100$	ASCE Table 11.8-1
Geometric Mean PGA (g)	$PGA_M = 0.622$	ASCE Equations 11.8-1

<sup>1</sup> Values from ASCE 7-16 supplement, shall only be used to calculate  $T_s$



## C4.4 Seismically Induced Ground Failure

### C4.4.1 Liquefaction

Settlement of the ground surface with consequential differential movement of structures is a major cause of seismic damage for buildings founded on alluvial deposits. Vibration settlement of relatively dry and loose granular deposits beneath structures can be readily induced by the horizontal components of ground shaking associated with even moderate intensity earthquakes. Silver and Seed (1971) have demonstrated that settlement of dry sands due to cyclic loading is a function of 1) the relative density of the soil; 2) the magnitude of the cyclic shear stress; and 3) the number of strain cycles. As indicated above, seismically-induced ground settlement can also occur due to the liquefaction of relatively loose, saturated granular deposits.

In order for liquefaction triggering to occur due to ground shaking, it is generally accepted that four conditions will exist:

1. The subsurface soils are in a relatively loose state,
2. The soils are saturated,
3. The soils have low plasticity, and
4. Ground shaking is of sufficient intensity to act as a triggering mechanism.

The Site is located on dense to very dense Pleistocene age glacial outwash soil that have a low potential for liquefaction.

### C4.4.2 Lateral Spread

Lateral spreading is a potential hazard commonly associated with liquefaction where extensional ground cracking and settlement occur as a response to lateral migration of subsurface liquefiable material. These phenomena typically occur adjacent to free faces such as slopes and creek channels. Sloped ground or channel free-faces are not present in the area and the liquefaction potential is low, therefore the potential for lateral spreading to take place at the site is low.

### C4.4.3 Dynamic Compaction/Seismic Settlement

Another type of seismically induced ground failure, which can occur as a result of seismic shaking, is dynamic compaction, or seismic settlement. Such phenomena typically occur in unsaturated, loose granular material or uncompacted fill soils.

The Site is located on dense Pleistocene age soils that would experience minimal settlement during a seismic event.





## C5.0 REFERENCES

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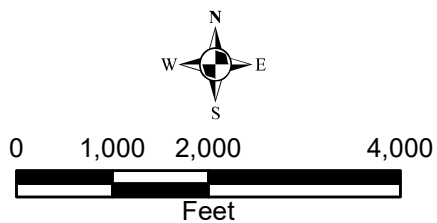
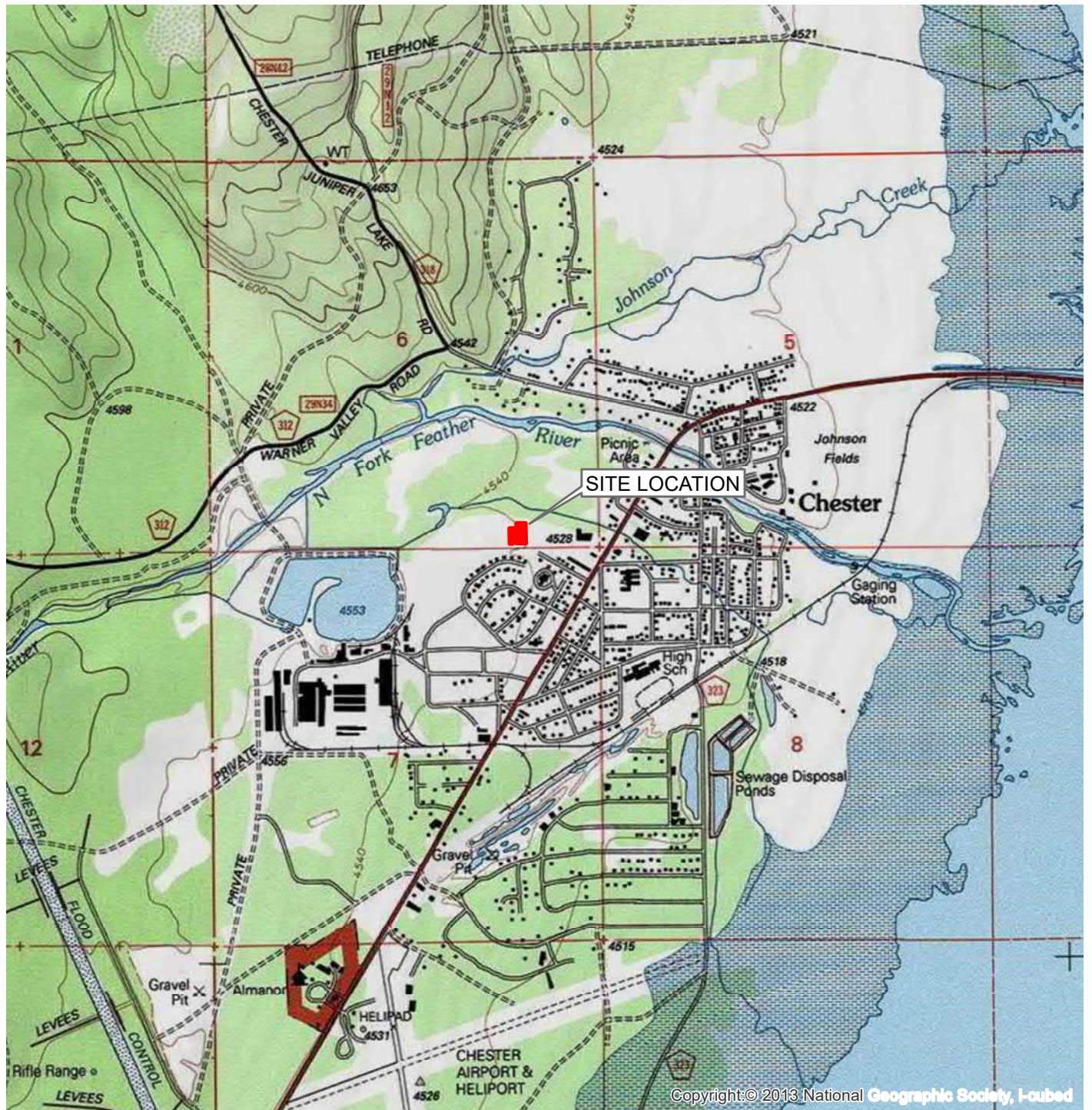
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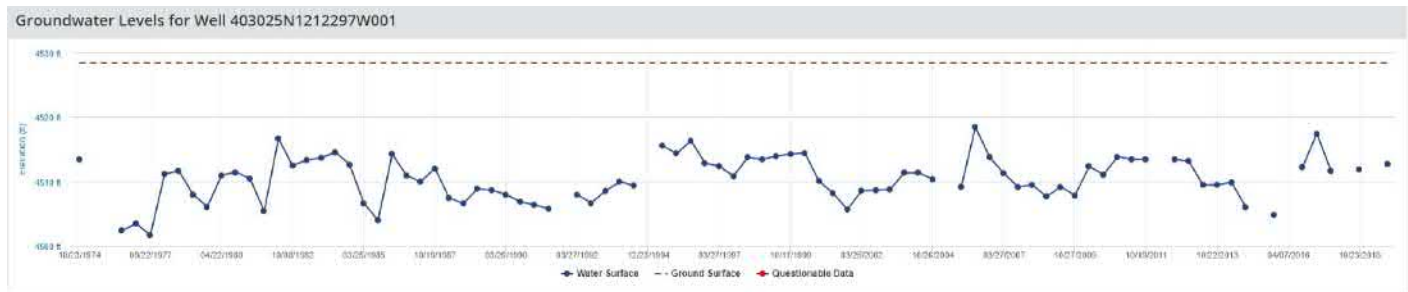


Map Date: 6/8/2021



Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

Figure 1  
Topographic Map  
BSK Project G2117611S



Measurement Date (PST)	Reference Point Elevation	Ground Surface Elevation	Distance from RP to WS	Groundwater Elevation	Ground Surface to Water Surface	Measurement Issue	Collecting Agency
04/24/2006 00:00:00	4531.450	4528.450	13	4518.45	10		Department of Water Resou...
04/05/2017 12:00:00	4531.450	4528.450	14	4517.45	11		Department of Water Resou...
04/29/1982 00:00:00	4531.450	4528.450	14.8	4516.65	11.8		Department of Water Resou...
03/18/1996 00:00:00	4531.450	4528.450	15.1	4516.35	12.1		Department of Water Resou...
04/03/1995 00:00:00	4531.450	4528.450	15.9	4515.55	12.9		Department of Water Resou...
03/26/1984 00:00:00	4531.450	4528.450	16.9	4514.55	13.9		Department of Water Resou...

State Well Number: □ 28N07E05M001M  
Latitude (NAD83): □ 40.3025  
Longitude (NAD83): -121.2297  
Groundwater Basin (code): Lake Almanor Valley (5-007)  
Reference Point Elevation (NAVD88 ft): □ 4531.450  
Ground Surface Elevation (NAVD88 ft): □ 4528.450

Map Date: 6/8/2021

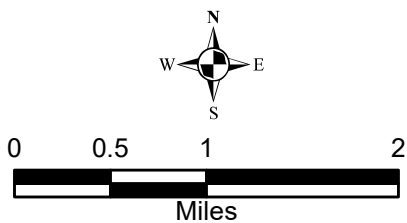
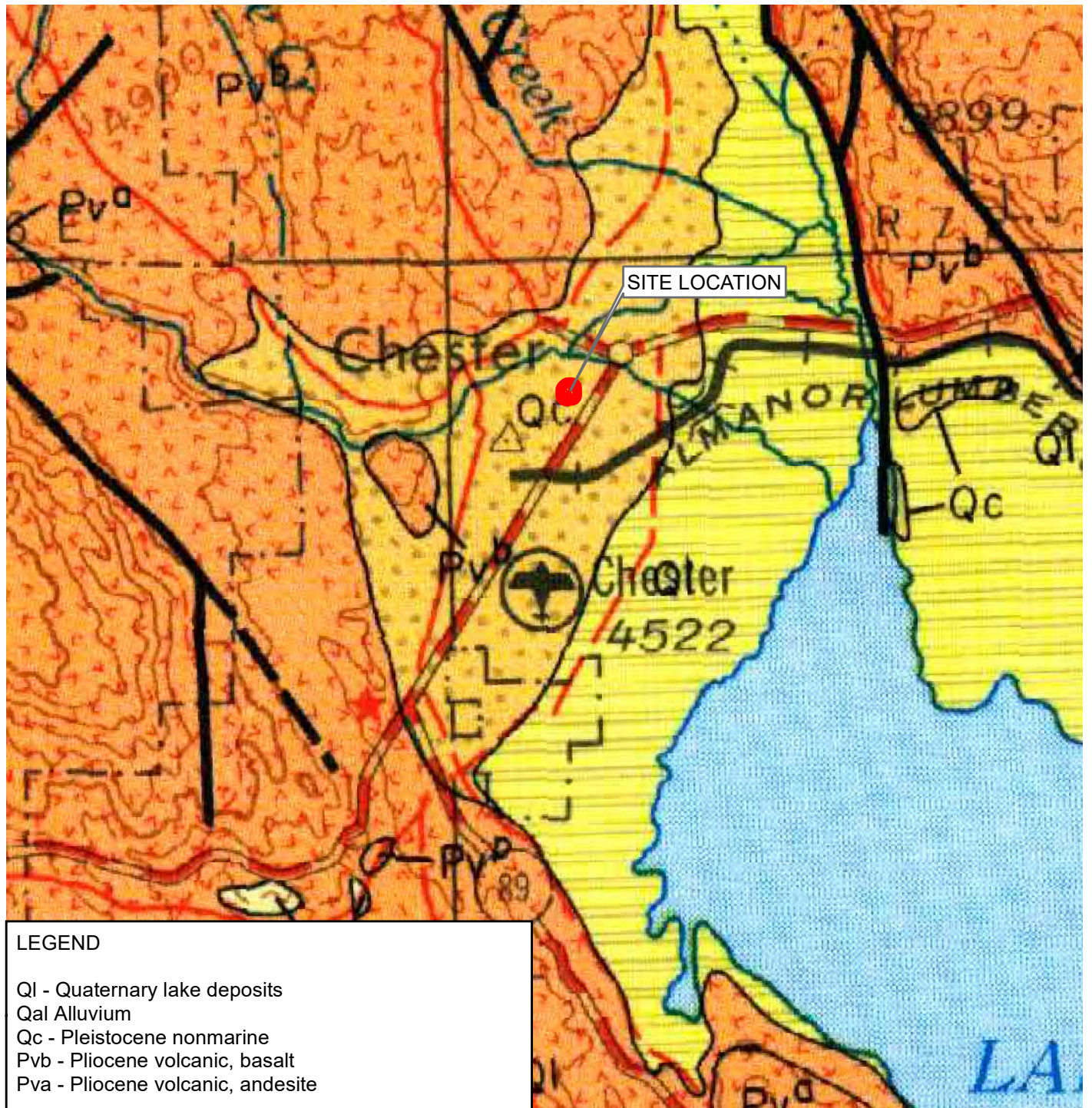
Reference: <https://wdl.water.ca.gov/waterdatalibrary/>



Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.

Figure C-2  
Area Hydrographs  
BSK Project G2117611S





Reference: Lydon, P, Gay, T, Jennings, C., Geologic Map of California Westwood Sheet, 960, CGS GAM Map 27

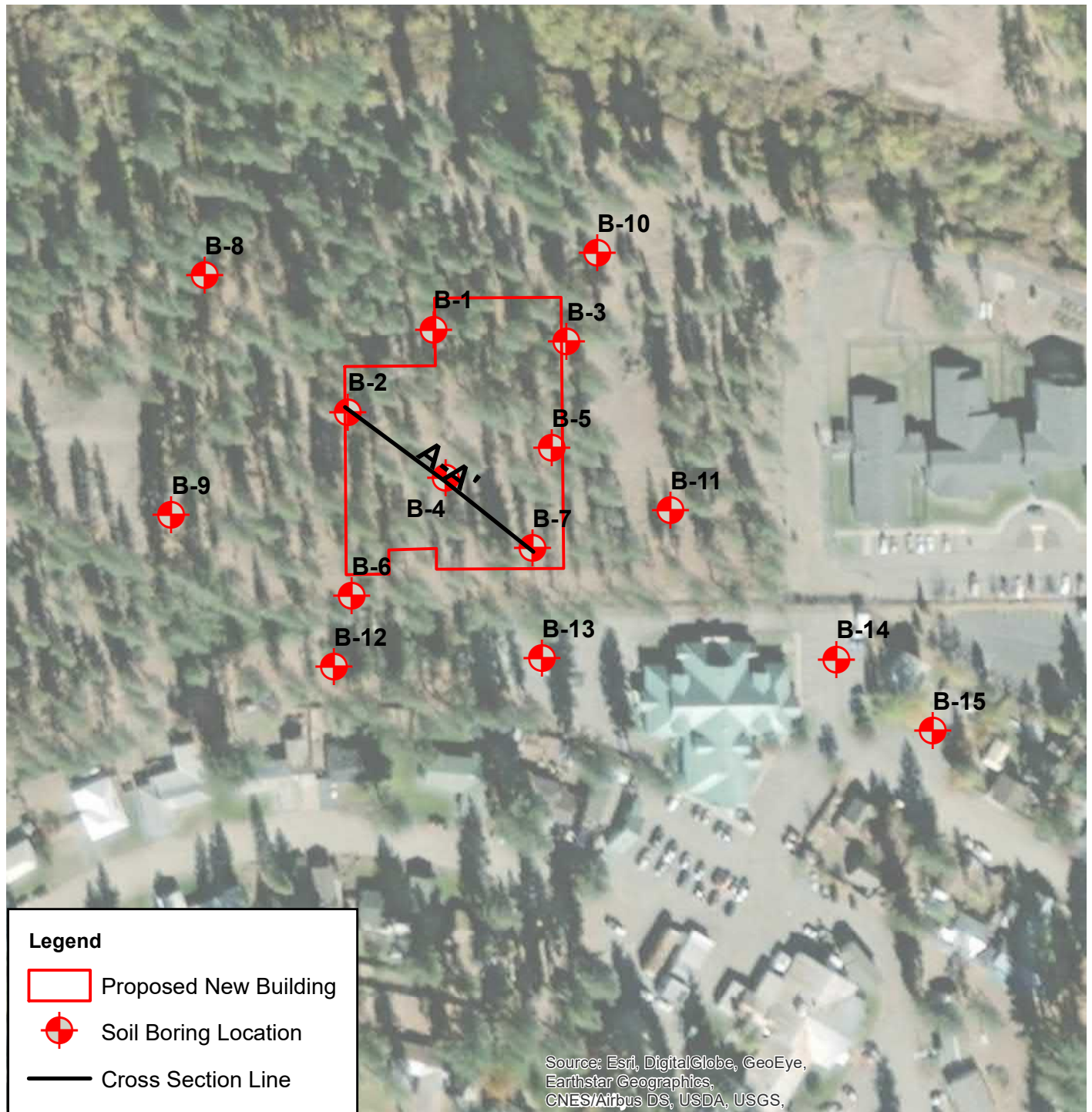
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Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

Figure 3  
Geologic Map  
BSK Project G2117611S





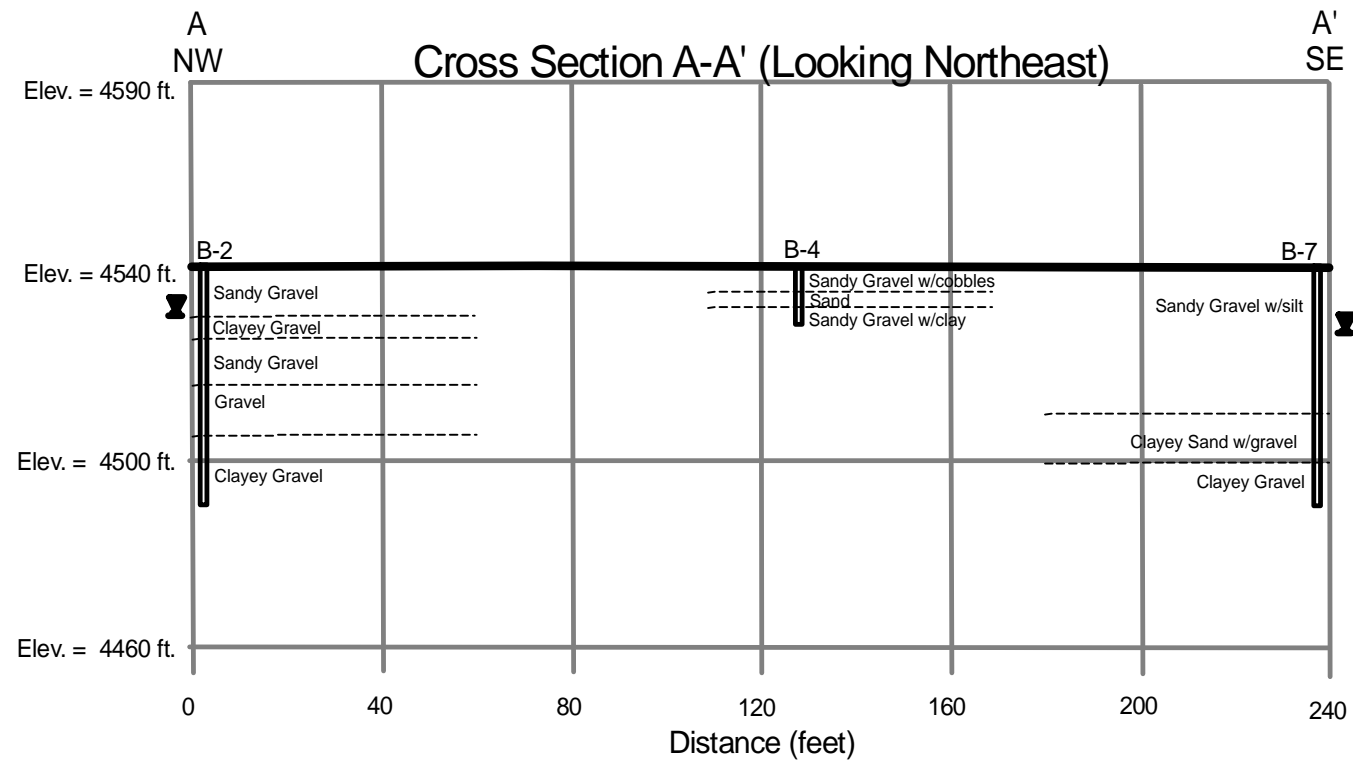
Map Date: 6/10/2021

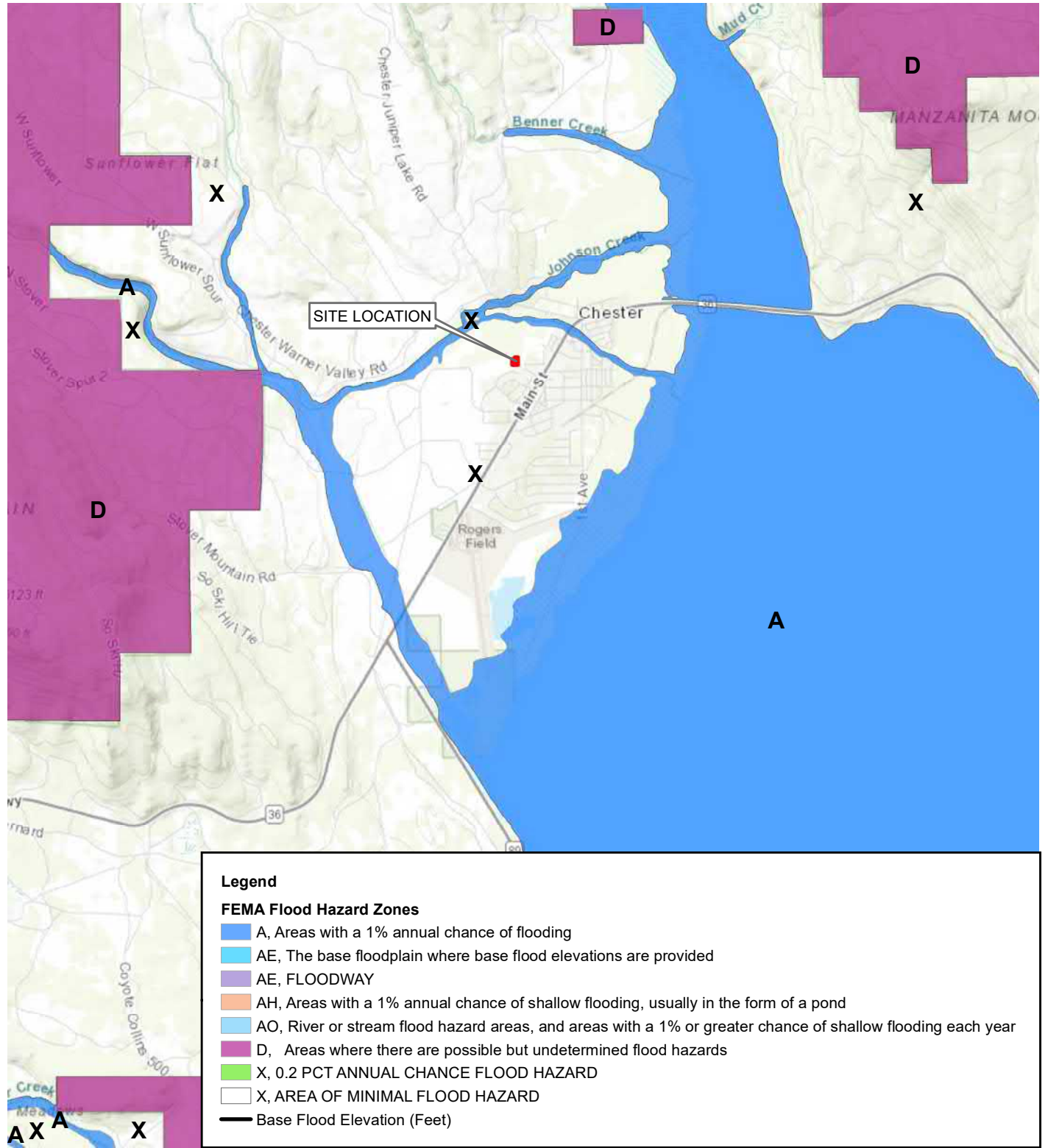


Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

Figure 4  
Site Map  
BSK Project G2117611S







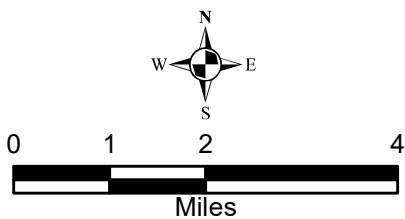
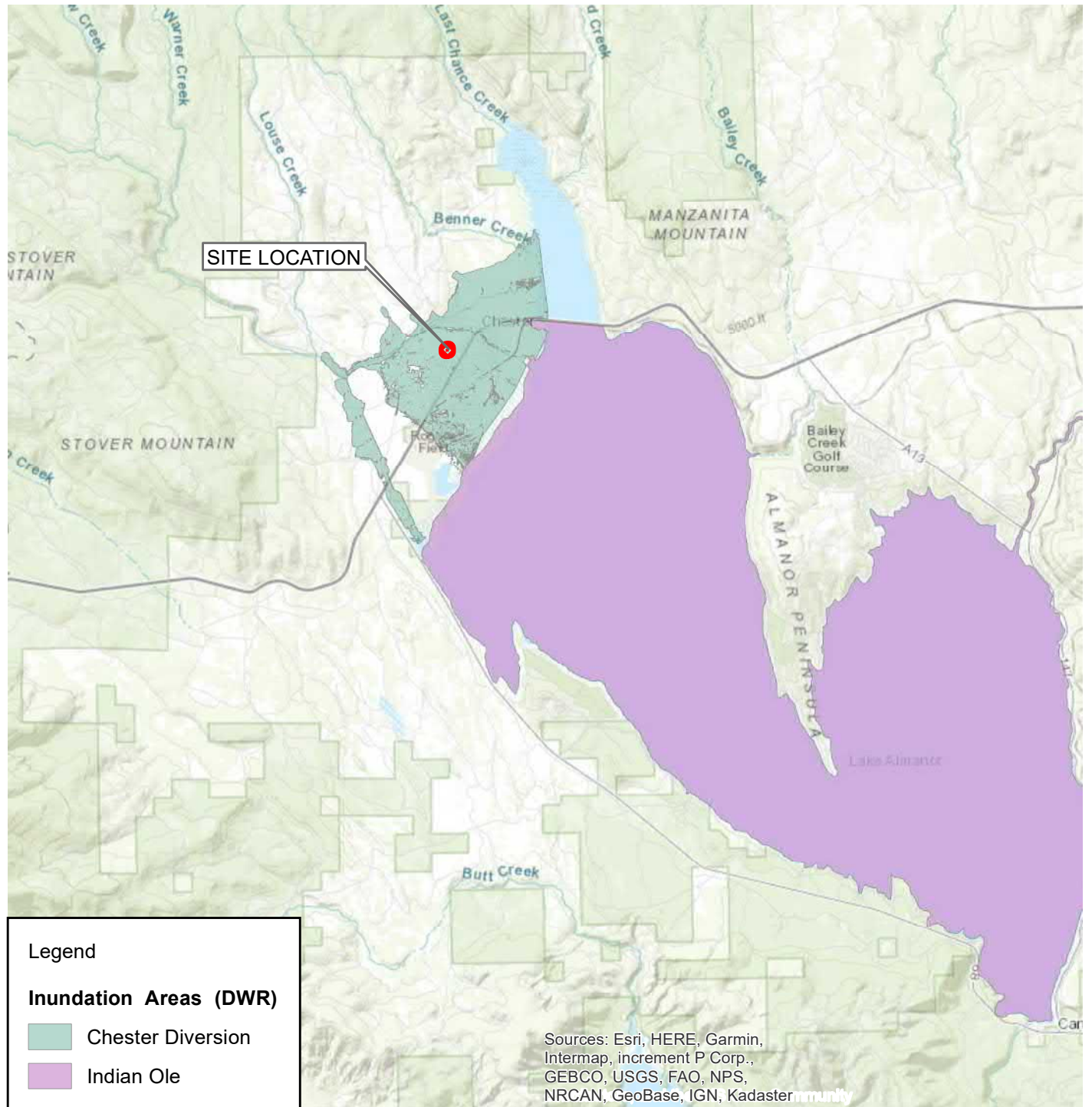
Reference: Reference: FEMA Flood Hazard Layer, 06063C-NFHL, Plumas County NFHL, 10/08/2020

Map Date: 6/10/2021



Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

Figure 6  
Flood Hazard Map  
BSK Project G2117611S



Reference: Department of Water Resources, Dam Breach  
Inundation Map Web Publisher, July 1, 2020  
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Federal Dams: California Emergency Management Agency, Flood Inundation GIS files

Map Date: 6/10/2021



Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

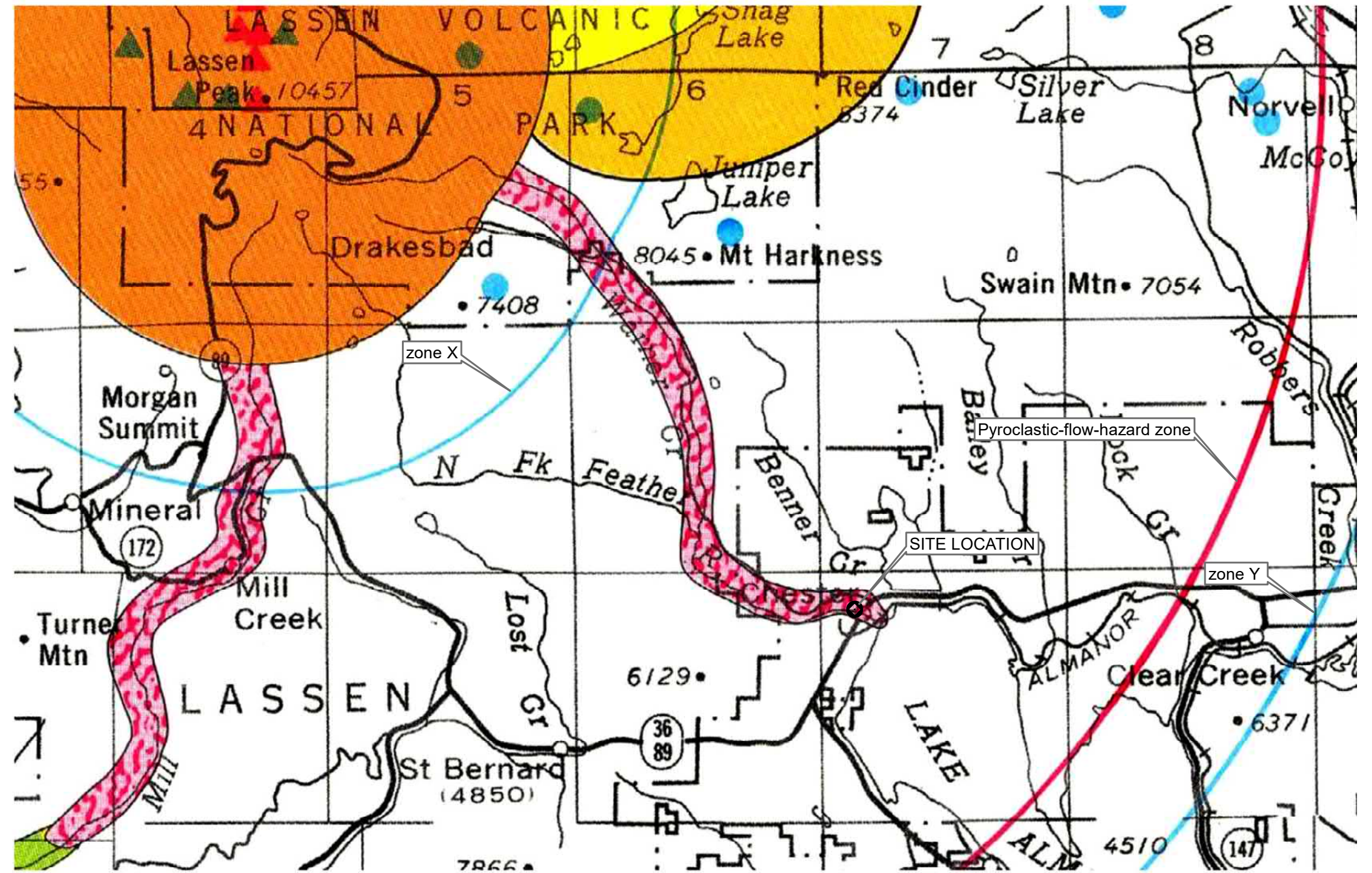
Figure C-7  
Dam Inundation  
Hazard Map  
BSK Project G2117611S



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Legend

- Areas subject to flowage hazards**
- Combined flowage-hazard zone (locally precededent)—Areas adjacent to explosive volcanoes or vents, subject to eruption of domes, pyroclastic flows, and lava flows, and at some volcanoes debris flows and floods, associated with future eruptions as large as those during Holocene time at that volcano or a similar volcano in the Cascade Range. Not all parts of the hazard zone shown at each volcano have been affected by flowage events during Holocene time, but any part of the zone could be so affected in the future.
  - Pyroclastic-flow-hazard zone (locally unprecedent)—Areas subject to hot pyroclastic flows similar to the largest such events of the last 10,000 yr at a similar Cascade Range volcano. Hazard zone defined from extent of the products erupted by climactic eruptions of Mount Mazama (about 6,800 yr ago); zones are circles with a radius of 40 km (25 mi) around silicic vents in California which are considered possible sites of such a large future eruption. Pyroclastic flows as voluminous as those at Mount Mazama might affect valleys and low-lying areas as far as 65 km (40 mi) from the vent.
  - Volcanic debris flow (mudflow)-hazard zone (locally precededent)<sup>1</sup>—Areas subject to volcanic debris flows from eruptions similar to the largest event of the last 10,000 yr at that specific volcano.
- Areas subject to tephra hazards**
- Tephra-hazard zones are shown for vents which have erupted explosively during Holocene time and are thought to be likely sources for future explosive eruptions of fragmental material.
- Tephra-hazard zone (locally precededent)—Areas subject to ash falls from vents considered relatively likely to erupt explosively. Extent of zone at each volcano is based on distribution-thickness relations of largest ash fall from that volcano during the last 10,000 yr.
- zone X—Area beyond flanks of volcano subject to 20 cm (8 in.) or more of compacted ash.
  - zone Y—Area subject to 5 cm (2 in.) or more of compacted ash.



0 1.5 3 6  
Miles

Reference: Miller, C.D., 1989, Potential Hazards from Volcanic Eruptions in California, U. S. Geological Survey Bulletin 1847.

Map Date: 6/10/2021

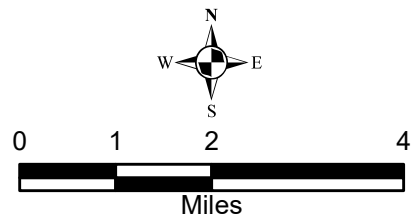
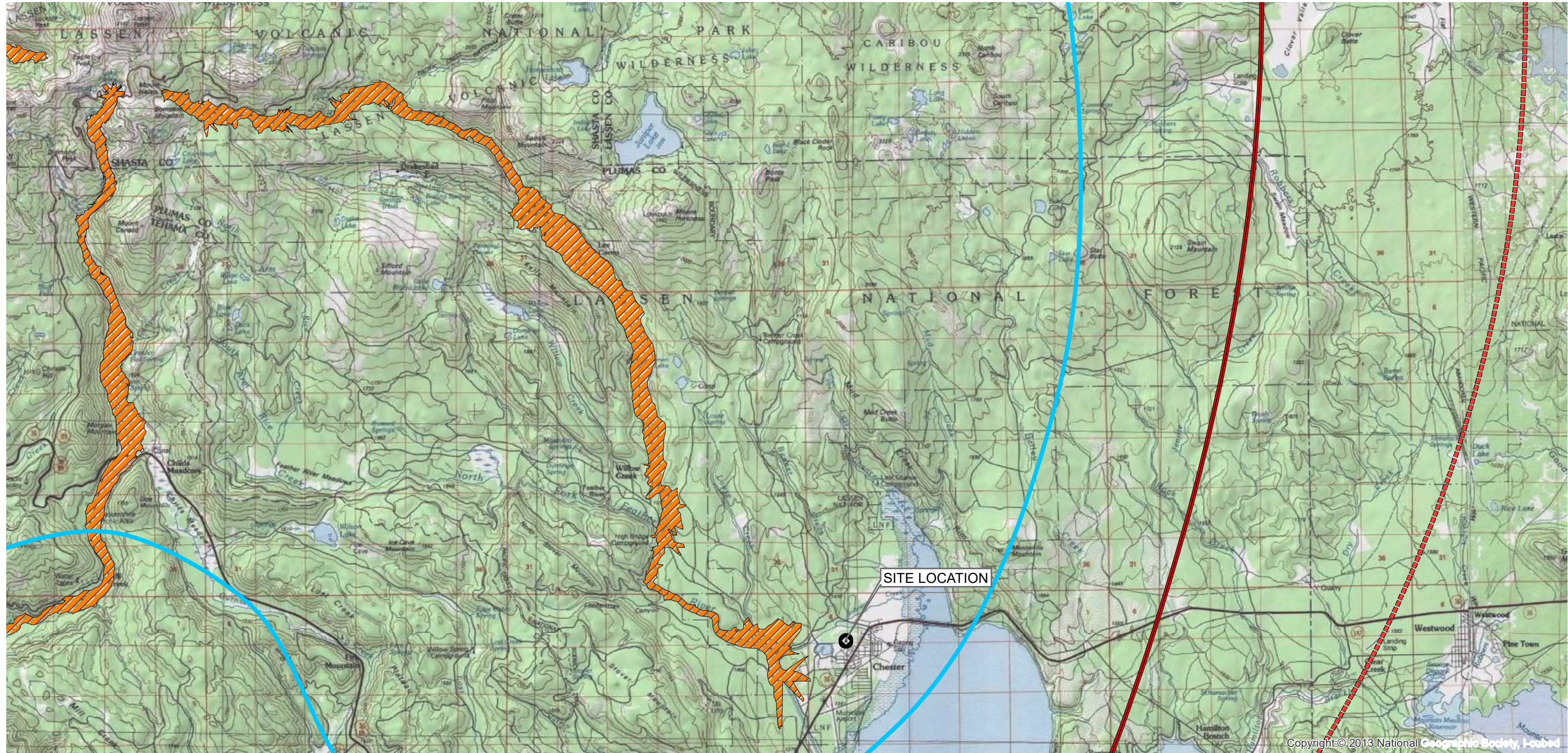
**ESK**  
ASSOCIATES

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New Building  
130 Brentwood Dr.  
Chester, California

Figure C-8  
Volcanic Hazard Zones  
BSK Project G2117611S







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Reference: Robinson, J.E., Clynne, M.A., and Muffler, L.J.P., 2019, Hazard zone boundaries from the volcano hazards assessment for the Lassen region, Northern California: U.S. Geological Survey data release, <https://doi.org/10.5066/P9SG00U6>.

#### Legend

-  Lahar Hazard Zone
-  Mafic Lava Hazard Zone
-  Silicic Ash Hazard
-  Mafic Ash Hazard

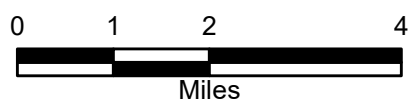
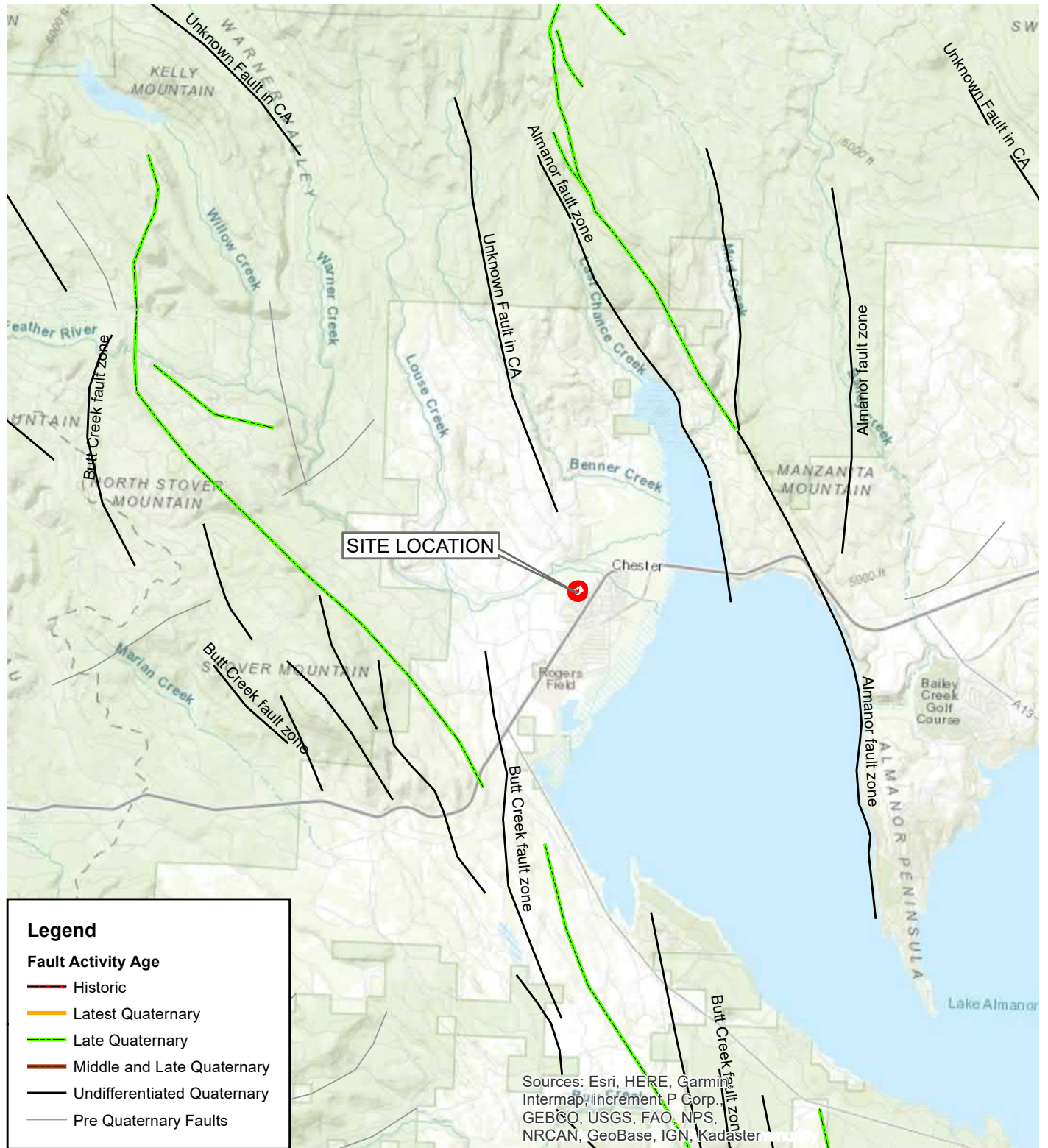
Map Date: 6/10/2021

**ESK**  
ASSOCIATES

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New Building  
130 Brentwood Dr.  
Chester, California

Figure C-8a  
Volcanic Hazard Zones  
BSK Project G2117611S





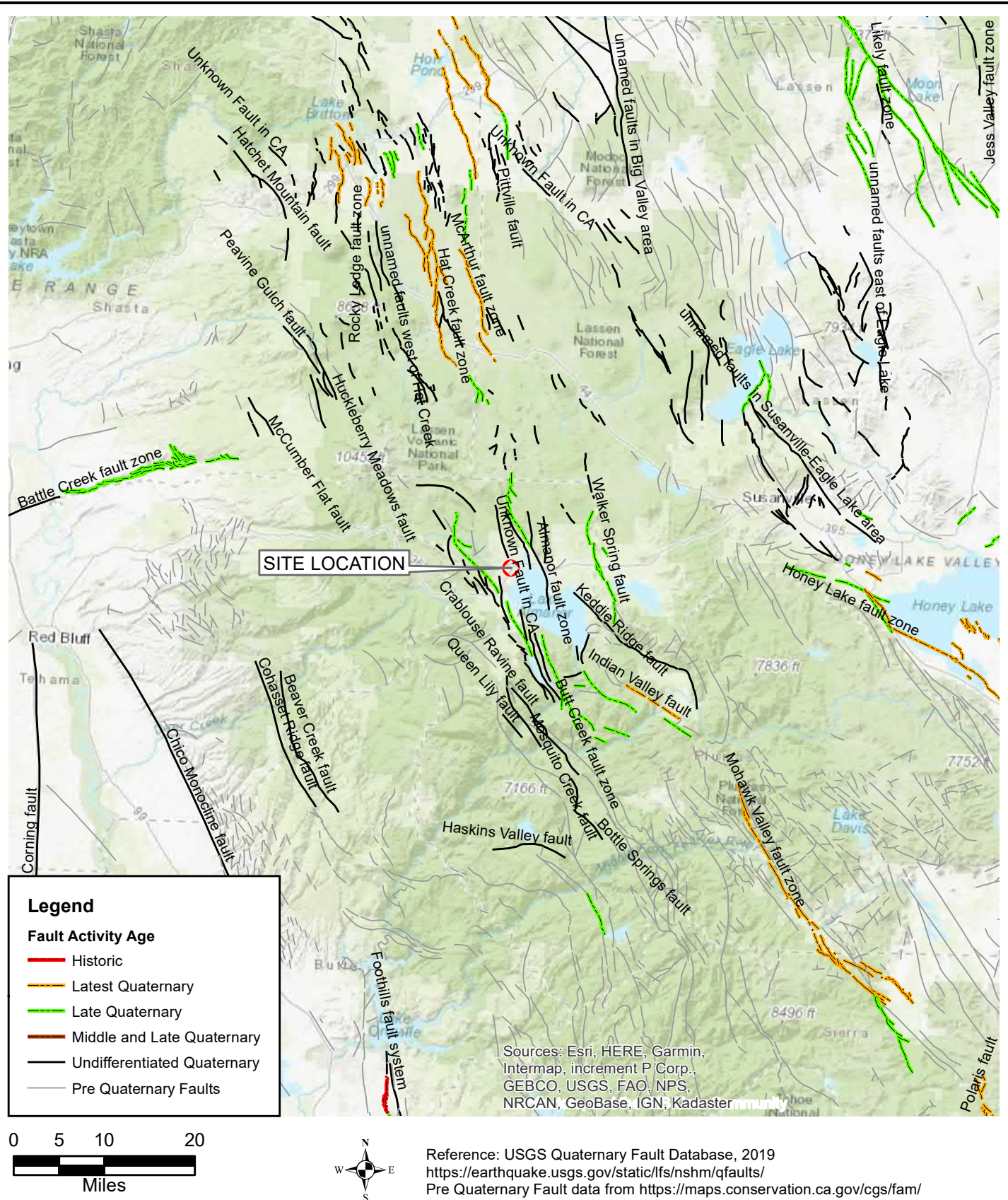
Reference: USGS Quaternary Fault Database, 2019  
<https://earthquake.usgs.gov/static/lfs/nshm/qfaults/>  
Pre Quaternary Fault data from <https://maps.conservation.ca.gov/cgs/fam/>



Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

Figure 9  
Local Fault Map  
BSK Project G2117611S

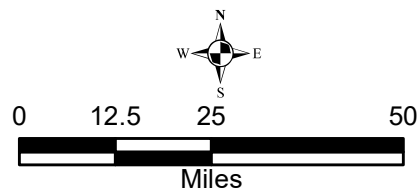
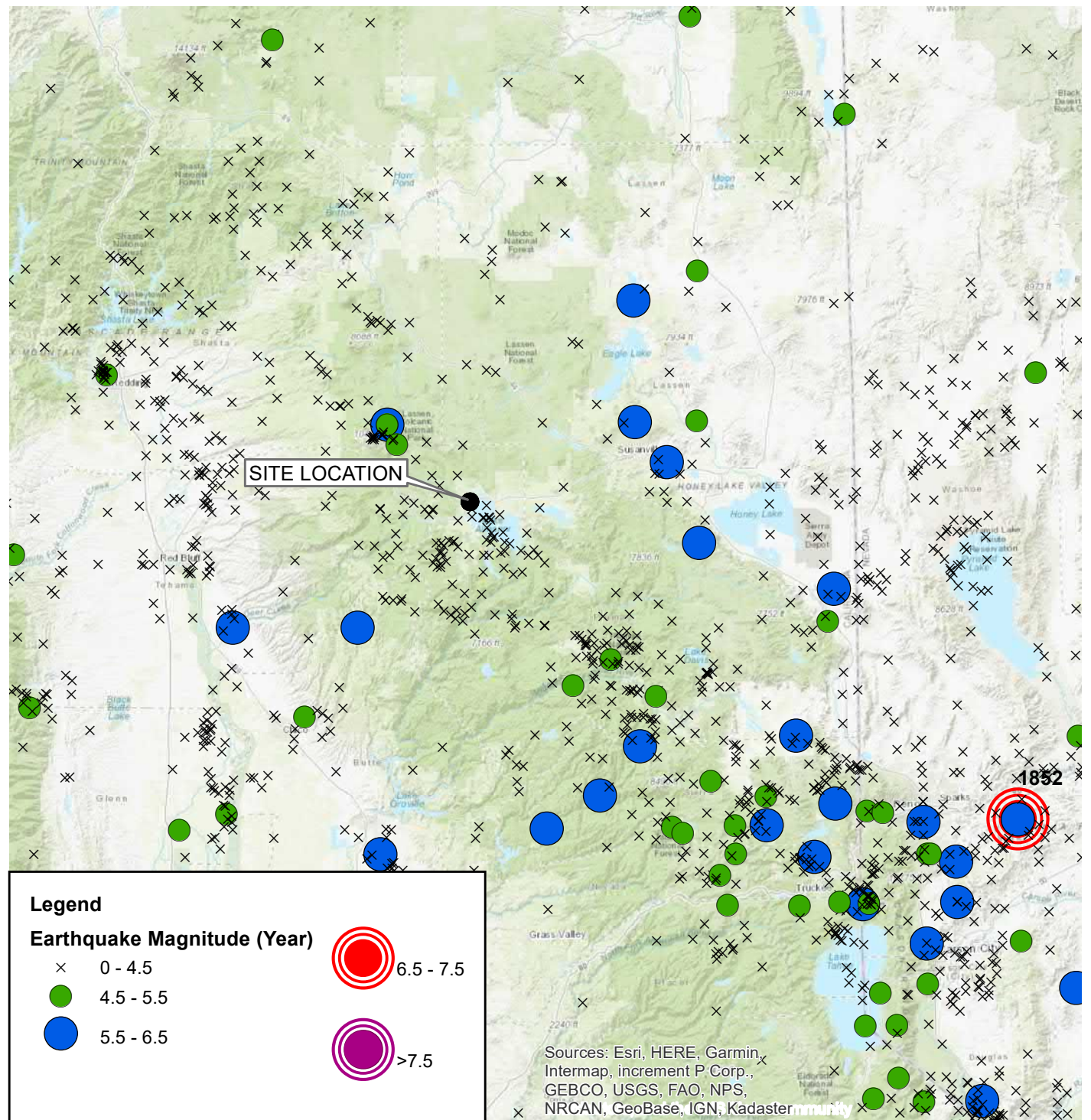




Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

Figure 10  
Regional Fault Map  
BSK Project G2117611S





Source: National Seismic Hazard Model (NSHM) Earthquake Catalogs, 2014 NSHM Catalogs, USGS, <https://github.com/usgs/nshmp-haz-catalogs>

Map Date: 6/10/2021



Geologic/Seismic Hazard Evaluation  
Seneca Healthcare District  
New Building  
130 Brentwood Dr.  
Chester, California

Figure C-11  
Earthquake Epicenter Map  
BSK Project G2117611S

# Memorandum

**Date:** 12 January 2023

**To:** Shawn McKenzie, CEO, Seneca Healthcare District

**From:** Steven Towers, Ph.D.  
Senior Project Manager  
Sequoia Ecological Consulting, Inc.  
Phone: (530) 410-5966  
Email: [stowers@sequoiaeco.com](mailto:stowers@sequoiaeco.com)

**RE:** Noise Analysis  
Seneca Hospital Expansion Project, General Plan Amendment, and Zone Change  
Plumas County, California

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## Introduction

The purpose of this memorandum is to analyze the potential noise impacts of the proposed hospital facilities on sensitive receptors in the Project vicinity. Sensitive receptors primarily include single-family residences on Maywood, Riverwood, and Edgewood drives located south of the Project, residents of the Wildwood Senior Center apartments located east of the Project area, and if approved and constructed, the proposed hospital facilities and employee housing units. Noise impacts are expected to comprise temporary noise during land clearing and construction, and long-term noise associated with operating a helicopter ambulance.

Noise is usually defined as unwanted sound. It is an undesirable by-product of normal day-to-day activities in a defined area. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB).

Noise sources occur in two forms: (1) point sources, such as stationary equipment, loudspeakers, or individual motor vehicles; and (2) line sources, such as a roadway with a large number of point sources (motor vehicles). Sound generated by a point source typically



diminishes (attenuates) at a rate of 6.0 dB(A) for each doubling of distance from the source to the receptor at acoustically “hard” sites and 7.5 dB(A) at acoustically “soft” sites. For example, a 60 dB(A) noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dB(A) at 100 feet from the source and 48 dB(A) at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3.0 dB(A) and 4.5 dB(A) per doubling of distance from the source to the receptor for hard and soft sites, respectively. Sound levels can also be attenuated by man-made or natural barriers. For the purpose of analysing the attenuation of long-term noise, the Project area is considered a hard site (separated from sensitive receptors primarily by parking lots).

Sensitive receptors are facilities where sensitive receptor population groups (children, the elderly, the acutely ill, and the chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. The proposed Seneca HCD Hospital, existing Seneca HCD facilities, and the adjacent Wildwood Village retirement apartments are sensitive receptors.

The Inventory of Prominent Noise Sources within the Community areas of Plumas County (General Plan, 2013) identifies the Rogers Field Airport, Collins Pine Sawmill, and Chester Pit Mine as prominent noise sources. The Project is located approximately 0.5 miles from Collins Pine Sawmill, 1.10 miles from Rogers Field Airport, and 1.35 miles from Chester Pit Mine.

## Short-Term Noise

Any construction noise resulting from construction of the facility would be temporary. Although Plumas County does not have an ordinance in relation to construction noise, the Plumas County 2035 General Plan does contain policies for construction noise for discretionary projects.

Construction-related activities can be a source of stationary (temporary) noise. Two types of short-term noise are emitted during construction. First, construction crew commutes and the transport of construction equipment and materials to construction sites would incrementally increase noise levels on access roads leading to the sites. Although there would be a relatively high single-event noise exposure potentially causing intermittent noise nuisance; for example, passing trucks at 50 feet would generate up to a maximum of 86 dBA L<sub>max</sub>, the effect on longer term (hourly or daily) ambient noise levels would be minimal. Second, noise would be generated during excavation, grading and erection of buildings. Construction typically occurs in discrete steps, each of which has a distinctive mix of equipment and, consequently, distinctive noise characteristics. These various sequential phases would change the character of the noise generated on each site and, therefore, the noise levels surrounding these sites as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be



categorized by work phase. **Table 1** lists typical construction equipment noise levels recommended for noise-impact assessments, based on a distance of 50 feet between the equipment and a noise receptor.

**TABLE 1. TYPICAL CONSTRUCTION EQUIPMENT MAXIMUM NOISE LEVELS**

Type of Equipment	Range of Maximum Sound Levels (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers	81 to 96	93
Rock Drills	83 to 99	96
Jackhammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	68 to 80	77
Scrapers	83 to 91	87
Haul Trucks	83 to 94	88
Electric Saws	66 to 72	70
Portable Generators	71 to 87	80
Rollers	75 to 82	80
Dozers	85 to 90	88
Tractors	77 to 82	80
Front-End Loaders	86 to 90	88
Hydraulic Backhoe	81 to 90	86
Hydraulic Excavators	81 to 90	86
Graders	79 to 89	85
Air Compressors	76 to 89	85
Trucks	81 to 87	85

Source: Plumas County General Plan, 2013<sup>1</sup>

## Long-Term Noise

Most operational noise produced by the facility are expected to be negligible, in keeping with ambient noise generated by surrounding residences, businesses, and industrial operations. The primary exception to this will be the ingress and egress of a helicopter ambulance from a helipad proposed on the west side of the Project area. Potential noise impacts of helicopter operations at the hospital helipad are provided in **Table 2**.



**TABLE 2. TYPICAL HELICOPTER OPERATION NOISE LEVELS**

<u>Type of helicopter:</u>	Eurocopter EC130	
<u>dBA overflight:</u>	84.3 dBA <sup>2</sup>	
<u>dBA on average:</u>	85.5 dBA <sup>2</sup>	Garbage disposal at 3 ft <sup>1</sup>
<u>Attenuation at 30 ft:</u>	56.0 dBA <sup>3</sup>	Large business office <sup>1</sup>
<u>Attenuation at 100 ft:</u>	45.5 dBA <sup>3</sup>	Dishwasher in adjacent room <sup>1</sup>
<u>Attenuation at 300 ft:</u>	36.0 dBA <sup>3</sup>	Quiet suburban nighttime <sup>1</sup>

Inverse square law formula used to calculate sound attenuation over distance for a point source:

$$Lp(R2) = Lp(R1) - 20 \cdot \log_{10}(R2/R1)$$

Where:

Lp(R1) = Known sound pressure level at the first location<sup>1</sup>

Lp(R2) = Unknown sound pressure level at the second location

R1 = Distance from the noise source to location of known sound pressure level

R2 = Distance from noise source to the second location

## Discussion of Potential Impacts

### Short-Term Noise Impacts

Any construction noise resulting from construction of the facility would be temporary. Although Plumas County does not have an ordinance in relation to construction noise, the Plumas County 2035 General Plan does contain policies for construction noise and discretionary projects such as a special use permit.

### Proposed Mitigation for Construction-Related Noise

The District shall seek to limit the potential noise impacts of construction activities on surrounding land uses. The standards outlined below shall apply to those activities associated with actual construction of a project as long as such construction occurs between the hours of 7 a.m. and 7 p.m., Monday through Friday and 8 a.m. and 5 p.m. on weekends or on federally recognized holidays. Exceptions are allowed if it can be shown that construction beyond these times is necessary to alleviate traffic congestion and safety hazards.





It is not likely or anticipated that the project will generate or expose people to excessive ground-borne vibration and noise levels

### Long-Term Noise Impacts

Helicopter transports from Seneca HCD Hospital typically increase during the summer months when tourism and summer residency peak. **Table 3** provides monthly data from 2021. Monthly transports were somewhat suppressed during the latter part of the year owing to unavailability of beds in regional hospitals due to COVID-19 impacts. Monthly transports were also untypically low in August when the area was evacuated during the Dixie Fire.

**Table 3. Helicopter Transports in 2021**

Month	Number of Transports	Notes
January	5	
February	6	
March	10	
April	11	
May	12	
June	9	
July	16	
August	1	Dixie fire evacuations
September	4	
October	5	COVID-19 hospitals full
November	2	COVID-19 hospitals full
December	1	Severe weather
Mean	6.8	
Median	5.5	

Noise generated by the most common model of helicopter ambulance servicing Seneca Healthcare District (Eurocopter EC130) will be on the order of 85.5 dBA at the source, 56 dBA at an attenuation distance of 30 ft, and 36 dBA at an attenuation distance of 300 ft. The proposed heliport will be more than 300 ft from the nearest residential structure, so it is estimated that exposure of nearby residents to helicopter noise generated at the heliport will be less than 36 dBA.

The EC130 is the quietest in its class of light-transport helicopters. Per Plumas County 2035 General Plan Update (2013), these attenuated levels of noise exposure are in the “normally



acceptable” range for sensitive receptors. In order to ensure the noise produced by helicopters remains in the conditionally acceptable range, design features and/or mitigation measures may be incorporated with the goal of limiting noise impacts to less than 65 dBA at exterior sensitive receptors, and to less than 45 dbA or less for interior sensitive receptors (including hospital patients and staff).

Potential Mitigation Measures for Noise Impacts:

- Preferentially contract with air ambulance services that use the Eurocopter EC130
- Where feasible, retain trees within 50-100 feet of neighboring residential properties
- Incorporate acoustic barriers in the walls of the hospital facilities and employee housing facilities facing the heliport
- Construct a sound-attenuation barrier next to the hospital and employee housing, facing the heliport.
- Plant sound-attenuating landscaping between the helipad and sensitive receptors to soften the acoustic environment
- Provide guidance and training to helicopter pilots in flight procedures to reduce noise impacts during ingress and egress<sup>4</sup>

## References

<sup>1</sup>Plumas County 2035 General Plan Update. 2013. Noise Element.

[Plumas County 2035 General Plan | Plumas County, CA - Official Website](#)

<sup>2</sup>[Eurocopter EC130 B4 Technical Data.](#)

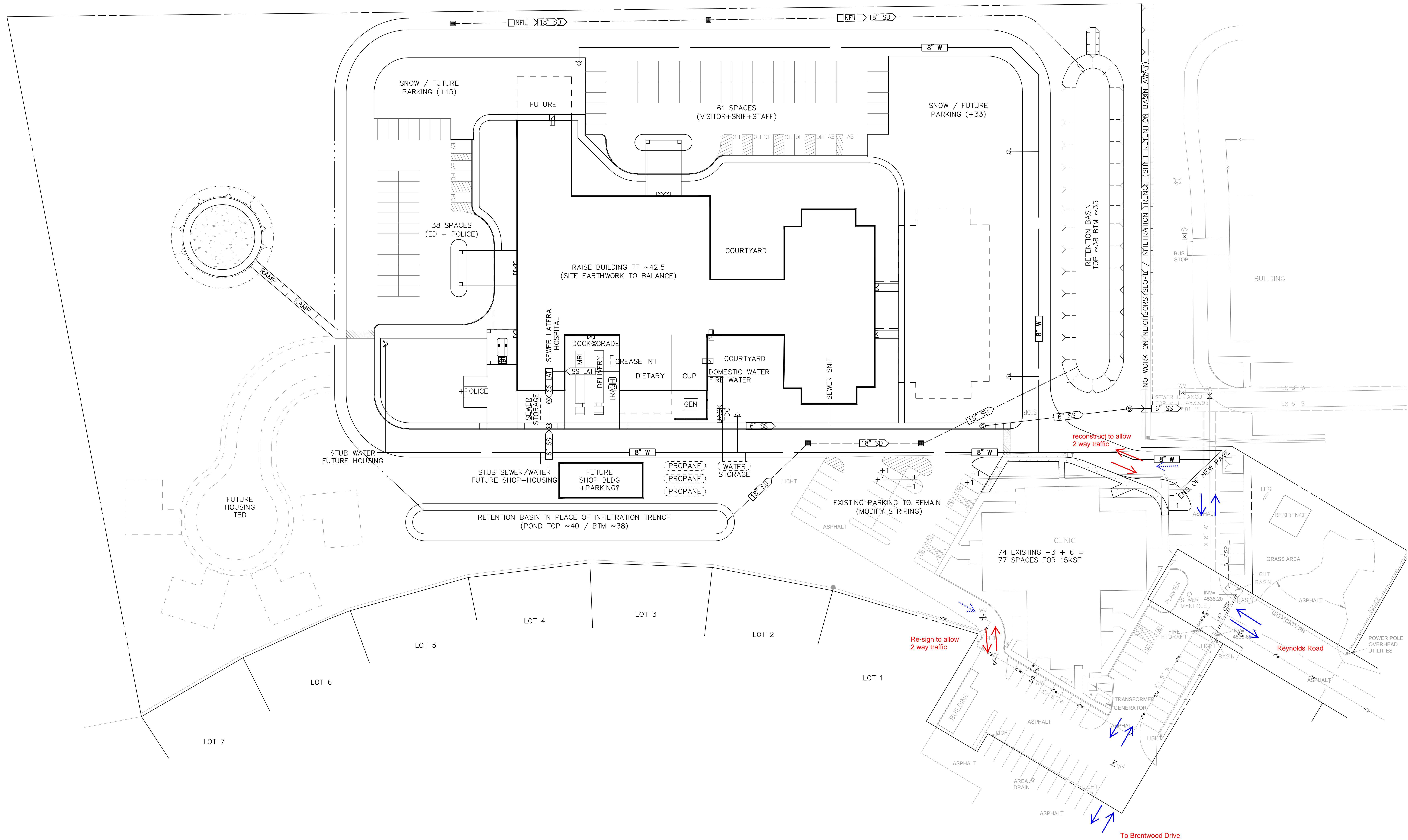
<sup>3</sup>[Sound Attenuation Calculator - Inverse Square Law | WKC Group](#)

<sup>4</sup>Greenwood, E. 2017. Helicopter Flight Procedures for Community Noise. Aeroacoustics Branch

NASA Langley Research Center Hampton, VA

<https://ntrs.nasa.gov/api/citations/20170005476/downloads/20170005476.pdf>

## STOVER DITCH







Hospital / SNIF Project

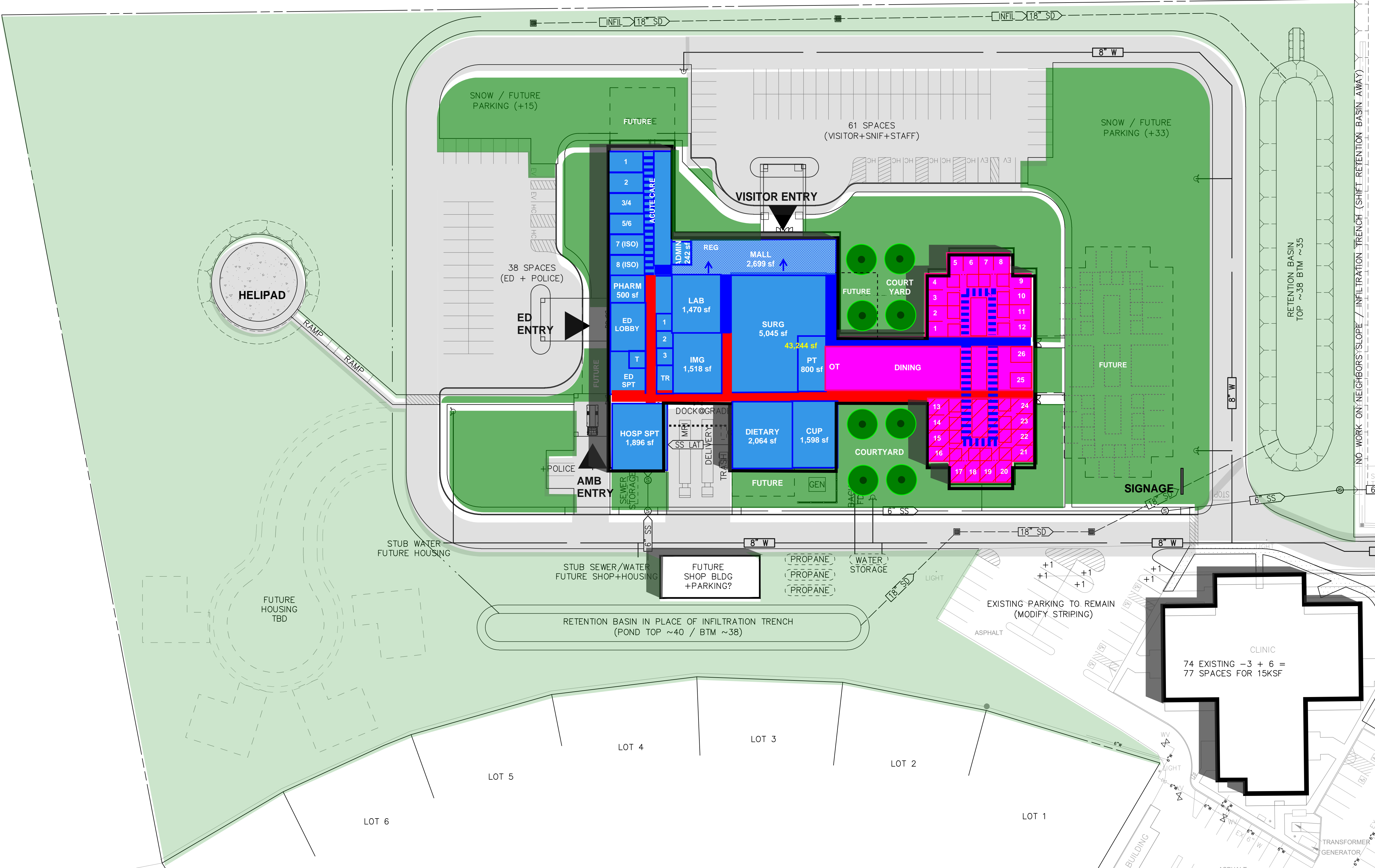
No Maywood access

Google Earth

Imagery Date: 7/8/2022 40°18'26.24" N 121°14'12.91" W elev 0 ft eye alt 2107 ft

1985







**PLUMBING FIXTURE UNIT CALCULATION**

Job Name:	Seneca Replacement Hospital
Date:	2/20/2023
	Fixture Unit Values Based Upon 2022 CPC.

Amount		Fixtures	Water Supply Fixture Units		Total	Drainage Fixture Units		Total
Pub	Priv		Pub	Priv		Pub	Priv	
46		Water Closet F.V.	5	5	230	4	3	184
		Water Closet F.T.	2.5	2.5	0	4	3	0
		Urinal (Wall)	4	3	0	2	0	0
89		Handwash Fixture	4	0	356	1	0	89
46		Lavatories	1	1	46	1	1	46
5		Sink	2	1	10	2	2	10
		Classroom Sink	2	0	0	2	0	0
		Kitchen Sink (Domestic)	0	2	0	0	2	0
		Service Sink 2" or 3"	3	3	0	3	3	0
9		Mop Sink	3	0	27	3	0	27
		Wash Fountain	4	0	0	2	0	0
24		Shower	2	2	48	2	2	48
		Shower (Group / Each Head)	2	2	0	1	0	0
		Bath Tub / Shower	0	4	0	2	3	0
3		Drinking Fountain (Each Bubbler)	0.5	0	1.5	0.5	0	1.5
1		Hose Bibb	2.5	2.5	2.5	0	0	0
9		Hose Bibb Each Additional	0	1	0	0	0	0
3		Scrub Sinks	2	0	6	2	0	6
1		3 - Comp. Sink	2	0	2	3	0	3
1		Prep Sink	2	0	2	3	0	3
			0	0	0	0	0	0
12		Floor Drain 2"	0	0	0	2	0	24
12		Floor Sink 2" or 3"	0	0	0	6	0	72
3		Clinical Sink	3	0	9	6	0	18
			Total:		740	Total:		531.5

Comments:

DRAINAGE FIXTURE UNIT TOTAL = 532 (DFU): 6" SANITARY SEWER PER CPC TABLE 703.2

WATER SUPPLY FIXTURE UNIT TOTAL = 740 (WSFU): 4" DOMESTIC WATER LINE PER CPC. CHART A105.1