SAN JOAQUIN COUNTY BE WELL BEHAVIORAL HEALTH CAMPUS SPECIFIC PLAN

2nd Screencheck
Prepared by: Kimley-Horn
January 2025

2nd SCREENCHECK

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1.0

INTRODUCTION

This Section explains the Specific Plan's purpose, objectives, background, planning process and entitlements, guiding principles, organization, authority to prepare, relationship to existing plans and policies, and local and regional context and setting.

This section of the Specific Plan outlines the organization of the Specific Plan, the project summary, local and regional context, existing conditions along with surrounding land uses, identifies project objectives, authority to prepare the Specific Plan, and outlines the organization of the Plan.

1.1 PURPOSE

This Specific Plan is a mechanism to ensure that projects development occurs in an organized and a cohesive manner. Specific plans incorporate a development framework and build-out of the San Joaquin County Behavioral Health Campus, San Joaquin Be Well Specific Plan ("SJ Be Well SP" or "Project") including detailed land use, circulation, infrastructure including drainage, sewer, and water facilities, and urban design and landscape plans.

Development regulations and design guidelines are included to guide and regulate site planning, landscape, and architectural character within the Specific Plan area ensuring quality design and thoughtful development.

The Project was prepared on behalf of San Joaquin County Health Services and establishes the procedures and requirements to approve new development within the Project site as part of the entitlement process.

1.2 PROJECT SUMMARY

The Project is a planned developed proposed within San Joaquin County ("County") California. The Specific Plan encompasses approximately 20.1-acres and envisioned as health campus. The Project development area would permit the entirety of the 20.1-acres for development, with an estimated potential of 334,360 gross square feet (sf) and 426 residential beds.

1.3 LOCATION AND REGIONAL CONTEXT

The County is located in the center of California's vast agricultural heartland, the Central Valley. The County encompasses over 900,000 acres (about 1,425 square miles) and is bordered by Sacramento County to the north, Stanislaus County to the south, Amador and Calaveras Counties to the east, and Contra Costa and Alameda Counties to the west. Major landforms in the County include the foothills of the Diablo Rango in the southwest, the foothills of the Sierra Nevada in the east, and the Delta in the northwest.

The proposed Project is located in unincorporated French Camp, which is an Urban Community of about 4,421 residents located approximately four miles south of downtown Stockton. French Camp Slough forms the northern boundary of the community area and I-5 forms the western boundary. Airport Way and Roth Road border the east and south boundaries, respectively. The French Camp community covers almost three-square miles of land. Figure 1-1, Site Vicinity, depicts the regional location of the Project.

The Project is located at 55 West Hospital Road. The approximately 20.1-acre Project site is a portion of APN 193-050-27 along West Hospital Road (a two-lane street) generally situated between Interstate 5 (I-5) and South El Dorado Street. The San Joaquin General Hospital to the west is also within APN 193-050-27. Figure 1-2, Project Location, highlights the aerial view of the site and surrounding area.

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Figure 1-1, Site Vicinity

Figure 1-2, Project Location

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1.4 EXISTING SETTING AND BACKGROUND

The Specific Plan area is currently undeveloped land with natural brush and vegetation. Access to the Project site currently exists at the southwest corner of The Project site along West Hospital Road. There is currently a gravel road at this access point which provides for internal circulation within the western portion of the site. Existing utility poles also exist along the eastern site boundary (S El Dorado St.), and along the southern boundary near West Hospital Road.

Historically, the site was previously used for agricultural uses and as a golf driving range facility for a short period of time that ceased operations in approximately 1995. The Project site has since been vacant. The surrounding areas adjacent to the Project site consists of a variety of uses including medical, residential, commercial, and industrial.

1.5 SURROUNDING USES

Surrounding land uses include the following:

North: Immediately north of the Project site is undeveloped vacant land with natural vegetation. Further north, there is an RV Sales establishment and a storage facility across French Camp Road.

South: Across West Hospital Road is a vacant, undeveloped land and residential use inclusive of an apartment complex.

East: Immediately east is a freight transportation facility across South El Dorado Street.

West: The Project site is bounded by Interstate 5 (I-5) along its western boundary. Further east of Interstate 5 (I-5) is San Joaquin General Hospital.

1.6 EXISTING GENERAL PLAN LAND USES

The Specific Plan area falls within the Freeway Service (C/FS) General Plan land use designation which permits a FAR between 0.2 and 0.6. According to the County's General Plan, the C/FS designation seeks to provide retail uses that serve the needs of freeway travelers[1]. The C/FS designation provides for allowed uses that include traveler and truck-oriented retail uses, restaurants, fueling stations, hotels, or compatible public, quasi-public, and special uses. Accordingly, a General Plan Amendment would be required to change the Project site's land use designation to Mixed- Use (M/X) to accommodate the Project as discussed in Section 1.11.

1.7 EXISTING ZONING

The Specific Plan area is zoned as AU-20 (Agriculture-Urban Reserve), which requires minimum parcel sizes of 20 acres. San Joaquin County establishes the zoning requirements within Title 9 of the municipal code. According to Section 9-600.1 of Title 9, the AU Zone is intended to "retain in agriculture those areas planned for future urban development in order to facilitate compact, orderly urban development and to assure the proper timing and economical provisions of services and utilities"[2]. Zone AU-20 does not permit the development of The Project. A Specific Plan will be developed to demonstrate the orderly implementation of the Project and any applicable regulation by the comprehensive planning and development of the Project. The Specific Plan will aim to provide flexible regulatory procedures to encourage creative and innovative planning, while also accommodating

1 San Joaquin County General Plan 2035, Land Use Element, December 2016 (Updated August 2024) <https://www.sjgov.org/commdev/cgi-bin/cdyn.exe?grp=planning&htm=gp2035> (Accessed September 5, 2024).

2 San Joaquin County Development Title, November 17, 2022, <https://library.municode.com/ca/san_joaquin_county/codes/development_title?nodeId=SJC>(Accessed September 6, 2024).

phasing and implementation. The Specific Plan will become the zoning document, which will based upon the County's Mixed-Use (M-X) Zone and in alignment with Project uses.

1.8 PROJECT OBJECTIVES

The Project is designed to implement a series of project-specific objectives crafted to ensure development in an orderly manner and to high-quality standards. The Project's vision is to provide more accessible mental healthcare to French Camp and San Joaquin County.

The Projects objectives are to:

1. Improve access and advance health equity. The South Stockton area has low show rates due to proximity of services. This site would improve access to health care.
2. Prioritize mental health/behavioral health since it is one of the highest need priorities/categories in the County.
3. Provide mental health care in the right setting, improving access and outcomes and, lowering costs in San Joaquin County.
4. Transform wellbeing for all. Create a campus that is welcoming, supportive, and that destigmatizes mental/behavioral health.
5. Promote healthy living by leveraging this campus as a "Blue Zone Project" to improve overall community well-being. focusing on systems approach rather than relying on individual behavior.
6. Develop the campus over multiple years to support a variety of growing healthcare needs within San Joaquin County.

1.9 PURPOSE AND INTENT

Specific Plans are a planning mechanism to ensure that projects develop in an organized and a cohesive manner. Specific Plans incorporate a framework for the development of land use, circulation, safety and infrastructure including drainage, sewer, and water facilities in accordance with a jurisdiction's General Plan. Specific Plans also set the guidelines for implementing projects within the specific plan area relating to architecture, urban design and landscaping.

The Project is designed to implement a series of project-specific objectives crafted to ensure the Project's guidance in an orderly manner and to high-quality standards.

The Project establishes a Behavioral Health Campus that provides for a variety of uses inclusive of Community & Outpatient Center, Urgent Care Services, Residential Treatment, Outpatient Programs, Residential Treatment, and Transitional Housing.

The San Joaquin Be Well Behavioral Health Campus development area is approximately 20.1-acres, with an estimated development potential of 334,360 gross square feet (sf) and 426 residential beds.

The Specific Plan provides a development plan, land use and development standards, design guidelines and infrastructure improvements that focus on the unique needs of the Specific Plan area so as to achieve the following:

1. Ensure consistency with the San Joaquin County General Plan by carrying out its applicable goals, policies, and requirements.
2. Implementing the General Plan requires that the Specific Plan establish the building improvements, infrastructure, recreational features, and other identified facilities, services, and amenities (collectively, the Plan development features) and shall be guided by the standards and guidelines provided by this Specific Plan.
3. Provide for the improvements necessitated by the development within the Specific Plan.
4. Comply with all requirements of State law.

A comprehensive set of design guidelines and development regulations are included to guide and regulate site planning, landscape, and architectural character within the Specific Plan area ensuring that excellence in design is achieved during project development. The Specific Plan establishes the procedures and requirements to approve new development consistent with the Specific Plan development plan, land use, development standards and design guidelines.

1.10 AUTHORITY AND SEVERABILITY

A "Specific Plan" is a planning and regulatory tool made available to local governments by the State of California. Specific Plans implement an agency's General Plan through the development of policies, programs, and regulations that provide an intermediate level of detail between General Plans and individual development projects. State law stipulates that specific plan can only be adopted or amended if they are consistent with an adopted General Plan.

The Specific Plan implements the goals and policies of the General Plan as amended, serves as an extension of the General Plan, and can be used as both a policy and a regulatory document. The purpose of this Specific Plan is to implement the vision laid out in the Project objectives by providing development standards, and design guidelines to direct future development within the Project area.

The authority to prepare and adopt a specific plan and the requirements for its contents are set forth in California Government Code Sections 65450 through 65457. Section 65451 states:

A Specific Plan shall include a text and a diagram or diagrams which specify all of the following in detail:

1. The distribution, location, and intent of the uses, including open space, within the area covered by the plan.
2. The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential faculties proposed to be located within the area covered by the plan and needed to support the land uses described by the plan.
3. Standards and criteria by which the development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.
4. A program of implementation measures including programs, public works projects, and financing measures.
5. The Specific Plan shall include a statement of the relationship of the Specific Plan to the General Plan.

1.11 APPROVAL PROCESS AND COMPANION ACTIONS

MUNICIPAL CODE

The approval of the Project would amend the County of San Joaquin Zoning for the property to allow the development of the proposed 334,360 SF of Mental Health Campus uses.

When adopted by ordinance , the Specific Plan will become the zoning for all uses within the Specific Plan area. Where conflicts occur between the municipal code and the Specific Plan, the Specific Plan would prevail. Where standards are not included in the Specific Plan, the underlying code provisions would apply.

CONSISTENCY WITH GENERAL PLAN

California Government Code (Title 7, Division 1, Chapter 3, Article 8, Section 65450-65457) permits adoption and administration of specific plans as an implementation tool for the local general plan. Specific plans must demonstrate consistency in regulations, guidelines, and programs with the goals and policies set forth in the general plan.

The Project has been prepared in conformance with the goals and policies of the County of San Juaquin General Plan as amended, in defining the diverse use on property, creating new employment opportunities, and providing regulations that support the future development. The policy analysis listed in Appendix A describes the manner in which the Specific Plan complies with the General Plan policies applicable to the Project.

GENERAL PLAN CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to the requirements of the California Environmental Quality Act (CEQA), an Initial Study Mitigated Negative Declaration (IS/MND) has been prepared to analyze the potential environmental impacts of the adoption and implementation of the Specific Plan.

1.12 PLAN ORGANIZATION

SECTION 1 – INTRODUCTION

This section explains the purpose of the Specific Plan; local and regional context and setting; background; planning processes and entitlements; guiding principles; authority to prepare; relationship to existing plans and policies; and organization of the Specific Plan.

SECTION 2 – DEVELOPMENT PLAN

This section explains the conceptual land use plan for the Specific Plan Area; identifies land use policies, and defines the land use designations unique to the Specific Plan. The circulation, street improvements, infrastructure and utilities, grading, public services, and sustainability are also described.

SECTION 3 – DEVELOPMENT REGULATION

This section explains the land use development regulations that apply to the land uses established in the Land Use Plan, including the permitted uses, development standards applicable to specific land uses (i.e., concerning setbacks, buffering, access, building heights, etc.), as well as other general provisions concerning parking, walls and fences, signage, and lighting.

This section explains design concepts and establishes design guidelines for development in the Specific Plan Area.

SECTION 4 – DESIGN GUIDELINES

This section explains design concepts, establishes design guidelines for development within Project area, and illustrates the concept of architectural guidelines and design elements.

SECTION 5 – ADMINISTRATION AND IMPLEMENTATION

This section discusses the development review procedures by San Joaquin County and other relevant permitting agencies, applicable to the Specific Plan Area. Implementation of the proposed land uses, including Specific Plan adoption, subsequent approvals and plans, and phasing are outlined in this chapter. Additionally, financing sources and maintenance responsibilities are identified.

The illustrative examples included in this Specific Plan, including graphic illustrations, renderings, and photos, are illustrative, including with respect to the number of buildings, building locations and orientation, and alignment of streets or drive aisles. Unless otherwise specified, all graphic illustrations, photos and plans are conceptual and shall be interpreted as one possible design and shall not be considered final.

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2.0

DEVELOPMENT PLAN

This Section includes the overall vision, guiding principles, and project objectives for future development within the Specific Plan area. This section also provides the proposed land use plan for the Specific Plan area and defines the land use designations unique to the development. The circulation, street improvements, infrastructure and utilities, emergency access, grading, and public services plans are also described at a conceptual level to guide future development and infrastructure improvements.

2.1 DEVELOPMENT VISION

The San Joaquin Be Well Campus will establish a behavioral health center for the County that will provide mental and behavioral healthcare. The Specific Plan envisions a wellness campus that will offer a diversity of services for behavioral health and substance use treatment. The campus will feature facilities that will provide outpatient care, urgent behavioral and mental health services, residential treatment, and transitional housing. The treatment provisions and the campus layout will work synchronistical to provide a complete continuum of care within the campus. The design of the Project will provide plentiful open space areas that will feature a courtyard that will host outdoor activities for patients of the wellness campus. The site layout of the campus will create a harmonious balance between open space areas and the planned facilities to support the health and wellness of future Be Well patients.

2.2 GUIDING PRINCIPLES

The Specific Plan provides a framework to guide the future development of the site accommodating broad market and social forces with the intent to achieve the following development principles:

Sustainability and Resilience – The Specific Plan is designed with implementation longevity in mind, aiming to cultivate a healthy and thriving community for generations to come. The health campus uses will allow for adaptability to meet market demand and integrate state-of-the-art sustainable approaches to design and materials.

Health and Wellness – The Specific Plan is designed to cultivate a greater sense of safety and wellness in the County by meeting the mental and behavioral health needs of the community. Future development of the Specific Plan area should prioritize the health and wellness of campus residents.

Access and Equity – The development of the Be Well Campus aims to improve access and equity for mental and behavioral health care in the County. The Specific Plan seeks to support the implementation of greater accessibility and equity to these services.

2.3 DEVELOPMENT PLAN

The development plan outlines the land use and infrastructure planning for the Specific Plan area allowing for a variety of uses. Specifically, the development plan contains the following components:

- Land Use Plan
- Circulation Plan
- Conceptual Street Improvements
- Regional and Emergency Access
- Infrastructure and Utility Plan
- Public Services
- Grading Plan

2.4 LAND USE PLAN

The Project consists of the development of 20.1-acres inclusive of two separate phased areas with up to 334,360 SF of developable area as summarized in Table 2-1, Land Use Summary. The primary uses within the land plan are components of the Behavioral Health Campus with Mixed Use (M/X) land use designation per General Plan.

Figure 2-1, Land Use Plan, provides the overall vision for the Project and guides the development areas defining uses throughout the plan area.

Individual grading pad area square footage and layout may vary with implementation so long as the Floor Area Ratio (FAR) for each planning area does not exceed the maximum allowable FAR of 4:1 on a single lot.

Although the land use plan identifies multiple phases, if a single phase or structure configuration changes by phase, buildings may be constructed across planning area boundaries so long as the maximum FAR across the entire area is not exceeded.

In the event that an alternative building layout is proposed that combines phasing at the plot plan level of review and entitlement, final engineering layouts for water, sewer, dry utilities, and on-site drainage would be expected to be modified to accommodate this scenario.

TABLE 2-1 LAND USE SUMMARY

Land Use			
Area	Proposed Use	Gross Floor Area (SF)	Residential Beds
South Campus			
A	Community and Outpatient Services	70,000	--
B	Urgent Care Services	28,000	42
C	Residential Treatment Programs	43,000	68
D	Residential Treatment Programs	43,000	64
North Campus			
E	Supportive Transitional Housing	99,000	178
F	Supportive Transitional Housing	36,000	42
G	Supportive Transitional Housing	15,360	32
Total		334,360	426

The Project would consist of 14 buildings inclusive of expansions over time associated with 540 parking spaces, landscaping, amenities, and walkways set into a campus setting. The buildings would range in size from one to three stories and would include the following:

1. Area A will include an approximately 70,000 SF, three-story Community & Outpatient building that will include community resources, a public lobby, an integrated urgent care clinic (medical & behavioral), administrative offices, a café, kitchen, and will facilitate an Adolescent Intensive Outpatient Program (IOP).
    - The urgent care will support nine (9) exam rooms and one (1) minor procedure room. This building would include outpatient mental health and medical clinic services, and campus and community support amenities.

- Adolescent PHP & IOP: This program would include group therapy rooms, family rooms, a parent-child interaction therapy lab, offices, and workstations to provide support services and resources.

2. Area B will include an approximately 28,000 SF, single story Urgent Care Services building which would include 10 beds for sobering stabilization, 16 beds for crisis stabilization, and 16 beds for psychiatric health, for a total of 42 beds. This building would also include a triage and lobby area.
    - Triage & Lobby (EMS & Public Entry) Sobering Center: 24/7 services for individuals with mental illness and/or substance use disorders who are under the influence of alcohol or drugs. The facility would provide short term monitoring and management of persons under the influence of alcohol and drugs as an alternative to jail and emergency services. The sobering center would offer a safe place for individuals to stay and referrals to a detox facility and support services. The average length of stay would be 12 hours.
    - Psychiatric Health Facility (PHF): Short-stay treatment unit that would provide services for adults in a mental health crisis. Services would include education, rehabilitation, medication counseling, and case management. The unit would support up to 16 clients. The unit would also include private rooms with support space for therapy, treatment, and daily living.
3. Areas C and D will consist of two separate buildings both inclusive of approximately 43,000 SF, two-story Residential Treatment buildings. Area C and Area D buildings would include up to 68 and 64 beds respectively with differing uses including but not limited to a combination for Adult Crisis Residential Treatment (CRF), Adult Medical Detox, Adult Substance Use Disorder Residential Treatment, and Adolescent or Adult Substance Use Disorder Residential Treatment.
    - The CRF facility would provide services to clients who are 18 years of age or older but do not require 24-hour nursing care. This program will operate 24 hours, seven days a week and will support short stay treatment on average 15-30 days. The CRF program is for clients who self-admit and is not a locked unit. The program is licensed under the California Department of Health Care Services (DHCS).
    - The adult residential facility would provide a room, meals, housekeeping, supervision, storage and distribution of medication, and personal care assistance with basic activities like hygiene, dressing, eating, bathing, and transferring. The facility would support up to 16 clients. The unit would include a mix of private and shared rooms with support space for therapy, treatment, and daily living. The average length of stay would be 15 - 45 days.
    - The Adult Medical Detox (Withdrawal) would include up to 10 Beds, and Adult Substance Use Disorder Residential Treatment include up to 30 Beds. The detox program is a self-admit treatment program and would be non-locked where the client would be able to leave at any time. This program would operate 24-hours a day, seven days a week.
    - The Adolescent Substance Abuse Disorder Residential Treatment Program is like the adult services, except dedicated to adolescents between the ages of 12-18 years old. This treatment will be dedicated to serving this critical demographic within the County, and will create a safe space to support them throughout their treatment journey. This program will provide up to 16 beds and will provide care on average for 15-30 days. The treatment program is intended to treat substance use disorders and co-occurring disorders.

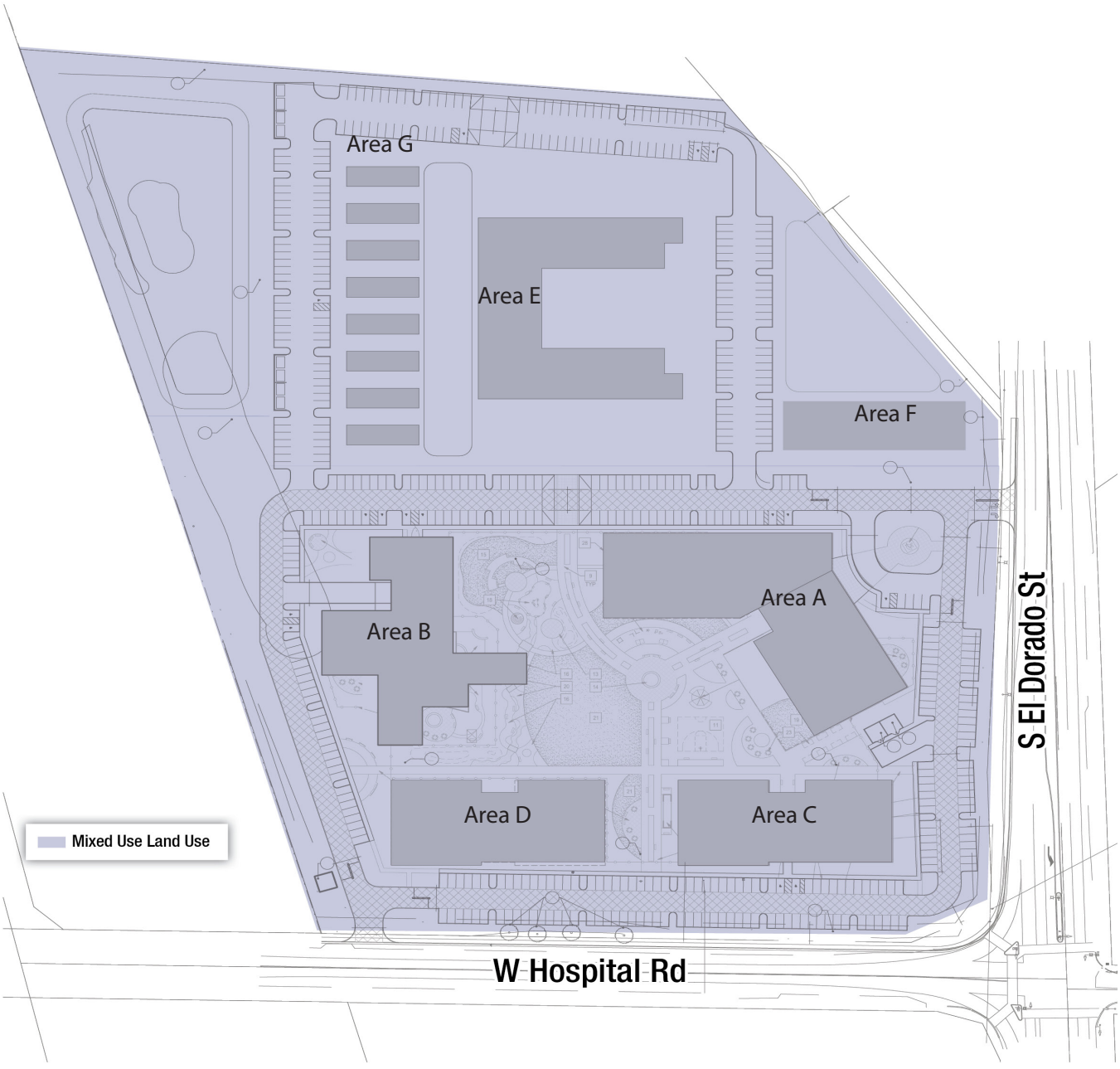

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Figure 2-1, Land Use Plan

- The Mental Health Rehabilitation Center would provide programming to assist persons with mental health disorder(s) with an aim to improve practical skills in an inclusive environment. These services would include psychiatric and psychological services, learning assessment and educational services, counseling, development of independent living skills, self-help, and social skills.

4. Area E will include an approximately 99,000 SF, three-story building for transitional housing providing 178 beds. Supportive transitional housing will include independent residential units that will allow individuals who are receiving treatment in County outpatient PHP & IOP programs the ability to live on campus for up to 18 months. This supportive housing will be a critical resource to individuals receiving treatment at the Be Well campus that will provide residents with a safe and stable environment to focus on their wellness journey.
5. Area F will include an approximately 36,000 SF, three-story building for supportive transitional family housing providing 42 beds. This housing will support persons receiving services at the wellness campus that are in need of housing. Wellness teams will assist residents in transitional housing through case management services, life skills support, and through other resources. Residents will have the opportunity to live on campus for up to 18 months. This supportive housing will provide residents in treatment a safe and nurturing environment to aid them in their wellness journey.
6. Area G will include eight, one story modular buildings, which would be 1,920 SF (15,360 SF total) and would house four beds (32 beds total). These modulars will provide additional living space for residents receiving treatment at the Be Well campus.

2.5 CIRCULATION PLAN

The San Joaquin County Be Well campus is located immediately west of Interstate 5 (I-5) providing transportation connection to the San Francisco and the Central Valley. State Route 99 (SR-99) is also located approximately 3.04 miles to the east. Access to the I-5 from the Project site can be reached via freeway on-ramps located 0.5 miles north on East Sperry Road, or 0.25 miles south on West Mathews Road. The Specific Plan is bounded by West Hospital Road to the south, and South El Dorado Street to the east, providing connections to the road networks and to the nearby I-5.

Access to the Project site will be provided via one driveway along South El Dorado Street and one driveway along West Hospital Road at the southern boundary of the site. Vehicular gates are proposed at both driveways to restrict access to the Project site. A drive aisle/fire access lane is proposed along the South Campus's perimeter, which provides access to the surface parking surrounding the campus.

Access to the North Campus is provided from the South Campus via two driveways that are accessible from both driveways along South El Dorado Street and West Hospital Road. The fire access lane proposed in the South Campus would meet turning radius requirements determined by the Fire Code Official. The Project would provide pedestrian-oriented accessible walkways to all its components.

A central pedestrian walkway is provided between the uses and down the center of the Project's South Campus. The walkway leads through landscaped courtyards towards the health services and amenities. Sidewalks would be provided on all Project site frontages and boundaries. There are generally no sidewalks or bicycle facilities in the vicinity of the Project site, though there are crosswalks and pedestrian phasing at the traffic signal at South El Dorado Street/Hospital Street on the southeast corner of the site.

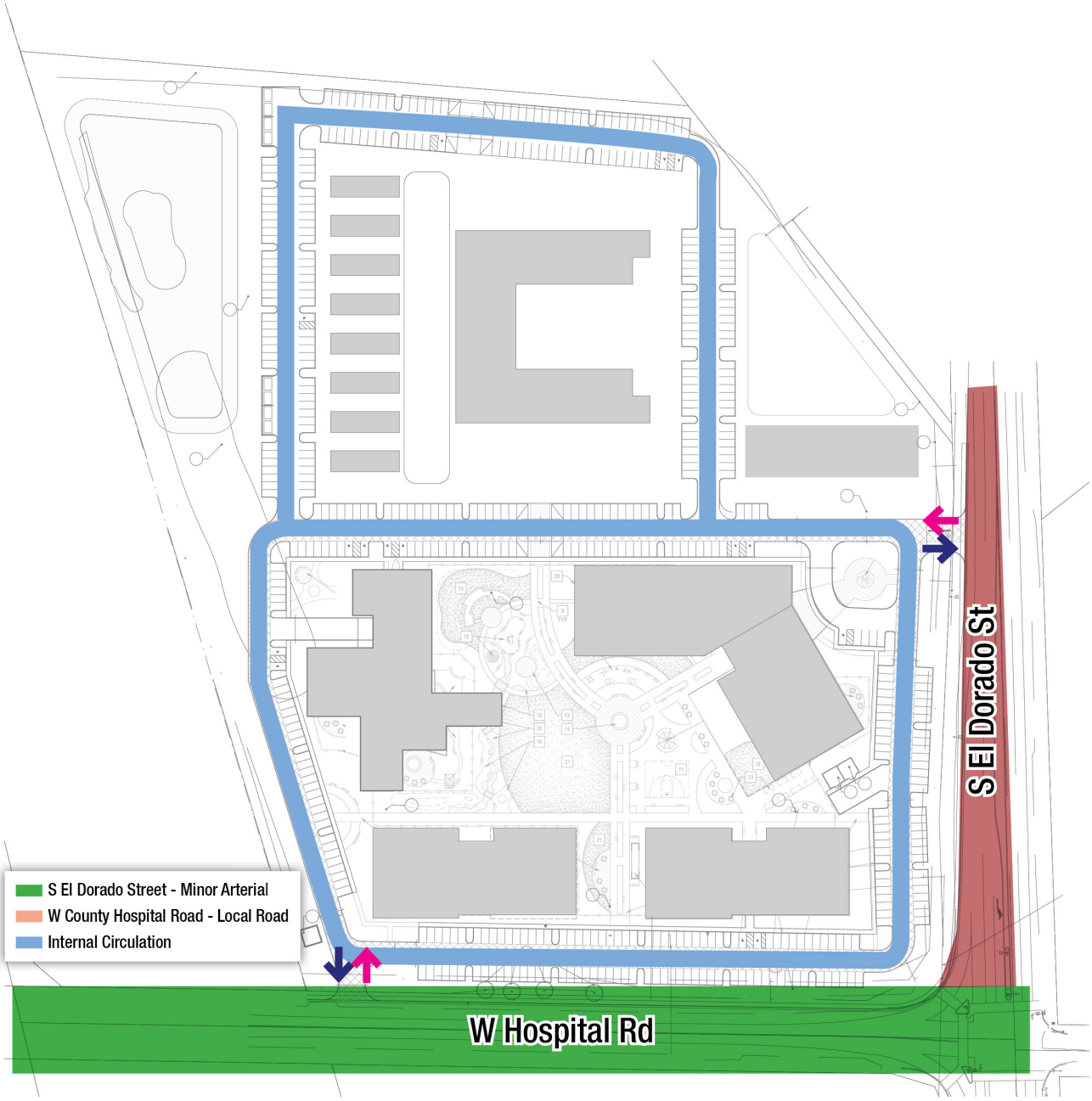

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Figure 2-2, Circulation Plan

San Joaquin Regional Transit District (RTD) Route 510 runs one to two buses per hour on weekdays that stop on the Project frontage on West Hospital Road (southbound/westbound) and opposite the Project site on South El Dorado Street (northbound/eastbound) Route 510 connects the County facilities along Mathews Road and San Joaquin General Hospital to southern and central Stockton. Approximately 650 feet west of the Project site is the bus stop for the San Joaquin General Hospital which has eight buses per weekday on RTD Route 90 between Stockton and Tracy. On weekends, this stop is served by RTD Route 710 with hourly service between the Hospital and central Stockton.

Circulation improvements for the Specific Plan area include the following:

1. Improving private internal streets connecting to public streets with curb, gutter, sidewalk, and landscaping.
2. Provide public connection across the property for both trails and vehicular access while maintaining the integrity of the vision with pedestrian and vehicular connections along the periphery of the land uses.
3. The backbone circulation identifies the proposed location, extent, and intensity of major components of public and private transportation proposed to be located within the Specific Plan area. See Section 2.7, Infrastructure Plan for water, sewer, drainage, solid waste disposal, energy, and other essential facilities.

2.6 PUBLIC SERVICES

FIRE SERVICE

The Project site is served by French Camp Mckinley Fire District, which has a fire station located approximately one mile east of the Specific Plan area.

POLICE SERVICE

Police Services are provided by the San Joaquin County Sheriff's Department through a French Camp Substation through the Sheriff's Department. The nearest first response police station is located within the French Camp community, approximately 1.5 miles west of the Specific Plan area.

SOLID WASTE

San Joaquin County has an agreement with Waste Management Services to provide mixed waste collection and organic recycling services as well as other programs to its residents and business community.

2.7 INFRASTRUCTURE PLAN

The Specific Plan will require the public facilities and services described in this section to support and serve the needs of the Project. The infrastructure system will seek to incorporate a high level of sustainability for a project of its kind and in its specific geographic location.

The various public facilities on the site will be designed to enhance and complement the vision and design objectives of the Project and all facilities will be developed to meet or exceed the required industry standards of

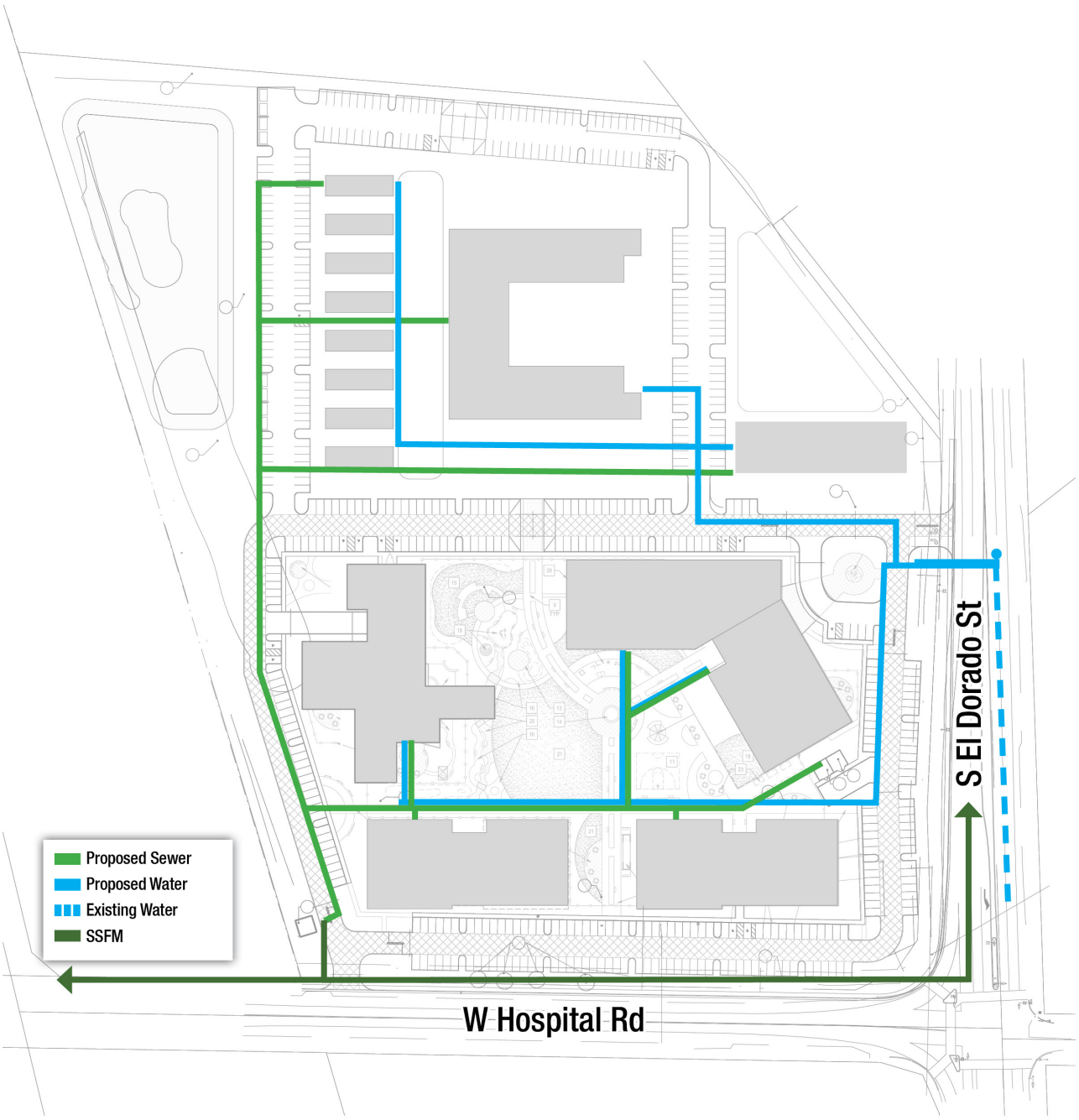

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Figure 2-3, Conceptual Water and Sewer Plan

the respective service providers and as required by the applicable government standards. Services include water, sewer, and storm drainage.

WATER

The Specific Plan water plan will connect to the existing 12-inch county water mainline in South El Dorado Street at West Hospital Road, providing lateral connections to the Project site. Figure 2-3, Conceptual Water and Sewer Plan, illustrates the existing and proposed water system. The project proposes to construct onsite water lines to flow to existing water infrastructure in within the vicinity. A 6-inch domestic water main will run along the eastern and southern boundary of the Project site. This 6-inch domestic water line will connect to several 3-inch domestic water laterals that will supply water to the various facilities within the Project. The water on site will be served by the City of Stockton. Total planned domestic water usage by employees and customers will be approximately 2,400 gallons per day.

SEWER

The Specific Plan Sewer Plan would be serviced by an 8-inch sanitary sewer main that would run through the site in an east to west orientation. The 8-inch sanitary sewer main will connect to 6-inch sanitary sewer laterals that will connect the sewer to facilities throughout the Project.

Treatment of the Project flows will be provided by the City of Stockton. The Project seeks to gain sewer service via gravity mains or a new pump station with force mains connecting to the existing hospital pump station at Delivery Drive and Mathews Road, or via gravity north on El Dorado approximately 1.4 miles to the existing 72'' westbound main. The Project proposes to convey sanitary sewer discharge from the Project into the existing public system.

Through appropriate planning such as Sewer Master Plans and long-term flow projections, the City of Stockton will be able to effectively serve the Specific Plan area, and update sewer infrastructure as needed. Figure 2-3, Conceptual Water and Sewer Plan, illustrates the existing and proposed sewer system.

2.8 GRADING AND DRAINAGE

The Specific Plan will require the public facilities and services described in this section to support and serve the needs of the Project. The infrastructure system will seek to incorporate a high level of sustainability for a project of its kind and in its specific geographic location.

GRADING

The grading for the site will include the demolition of the existing topographic features, and further will make alterations in the slope on the site to create a developable area. Grading will be performed in accordance with the County's grading standards.

PROPOSED DRAINAGE SYSTEM

Based on the most current Flood Insurance Rate Map (FIRM) for the area (Panel 06077C0470F), the Specific Plan area is classified as Flood Zone X which is an area of undetermined flood hazard.

Water quality shall comply with the requirements of the San Joaquin County Flood Control and Water Conservation District. During project construction, water quality shall be managed through the preparation and implementation

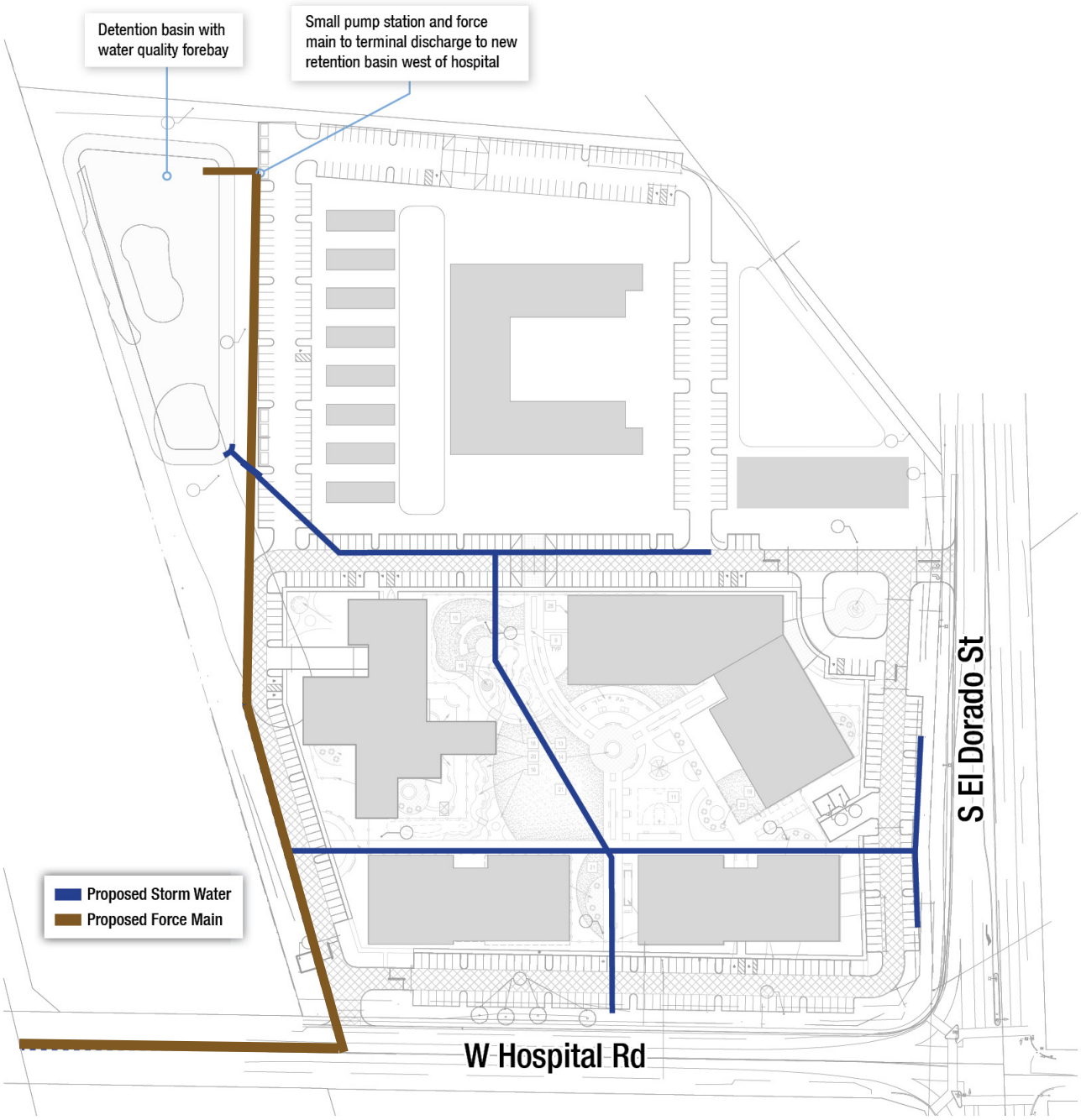

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Figure 2-4, Conceptual Drainage Plan

of a Storm Water Pollution Prevention Plan (SWPPP). Post-construction water quality shall be managed through the implementation of a site-specific Water Quality Management Plan (WQMP).

The Specific Plan area will feature a 12-inch storm drain running throughout the Project site that would be conveyed to a detention basin at the northwest corner of the subject parcel. See Figure 2-4, Conceptual Drainage Plan. Ultimate condition of the onsite stormwater would be collected by way of a 12-inch storm drain pipe that would run beneath the onsite roadways and transect the project site consistent with Attachment A, Storm Drain Study completed by Siegfried, which details rationale for the proposed water quality improvements.

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DEVELOPMENT STANDARDS

This Section defines the land use standards unique to the Specific Plan. These development standards address buildings and site improvements and are essential to achieve the Specific Plan's vision.

3.1 DEVELOPMENT REGULATIONS

The purpose of this section is to provide land use development regulations that apply to each of the land use designations of the Specific Plan. These include standards regarding permitted uses, building height limits, parking requirements, and setbacks, as well as general provisions applicable to all uses.

These development standards should be used in conjunction with Section 4, Design Guidelines, which describe and illustrate building designs, concepts, and features that will promote the high-quality development that is envisioned for the Specific Plan area.

3.2 PERMITTED, CONDITIONAL, ANCILLARY AND PROHIBITED USES

Table 3-1, Permitted Uses, shows the uses that may be developed on each Planning Area within the Specific Plan area. Section 5 provides detail on the process for determining if uses that are not stated in Table 3-1 may be permitted.

The symbols shown in Table 3-1, Permitted Uses are defined as follows:

> "P" means the use is permitted by right, subject to applicable development standards contained in this Specific Plan.
>
> "Z" means the use requires a Zone Compliance Review. In such case a ministerial permit will be required.

The inclusion of any uses not expressly listed in Table 3.1, may be permitted subject to a determination by the Community Development Director made pursuant to the Minor Amendments procedures set forth in Section 5 of this Specific Plan.

As the Specific Plan defines the zoning for this Project, some uses are considered permitted while default M-X zoning code requires zoning compliance review. Uses which may be considered within the Specific Plan area and are not included in the site plan are required to completed a zone compliance review.

TABLE 3-1 PERMITTED USES

Use Type	M-X
Offices	P
Community and Outpatient Services	P
Eating and Drinking Establishment	
Restaurant, Full Service	Z
Restaurant, Limited Service	P
Educational Services	
College	Z
School	Z

Use Type	M-X
Trade School	Z
Medical Services	
Hospital	P
Clinic	P
Medical Urgent Care	P
Residential Care Facility	
Small	P
Large	Z
Senior	P
Residential Treatment Programs	P
Supportive and Transitional Housing	
Supportive Housing	P
Transitional Housing	P
Use Type	M-X
Special Outdoor Events (See Section 3.2.2)	P
Special Indoor Events (See Section 3.2.2)	P
Temporary Building Incidental to Construction Works	P

3.2.2 SPECIAL EVENTS

The special events may be held approximately two to three times per month, including weekday evening events and weekend daytime events. Special events would be held off-peak demand of the Behavioral Health Campus use. Special events shall accommodate onsite uses and circulation. Events could include the following:

1. Food trucks
2. Farmer's markets
3. Food giveaways
4. Mobile blood drives or vaccination events

3.3 DEVELOPMENT STANDARDS

The following development standards apply to all projects under the Specific Plan. Required lot size, development intensity, building setbacks and height, and parking setbacks are described in Table 3-2, Development Standards.

Encroachments of up to 2 feet into required setbacks are permitted for architectural projections such as columns, cornices, door or window frames or other decorative features and eaves, so long as emergency access is not compromised.

TABLE 3-2 DEVELOPMENT STANDARDS

Structure	Proposed Use
Lot Standards & Development Intensity	
Maximum Lot Size	N/A
Maximum Floor Area Ratio (FAR)[1]	4:1
Minimum Lot Width	None
Landscape Coverage	15%
Building Setbacks & Height	
Setback Public Right-of-Way	20 feet
Maximum Building Height	60 feet

1: Density and FAR may be averages across the entire Specific Plan Area. The floor area ratio of all buildings and structures on a specific single lot shall not exceed 4:1 (9-705.5).

3.4 PARKING STANDARDS

Unless otherwise provided herein, parking design shall be provided in accordance with the San Joaquin County Development Code 9-406.080. Parking and Loading. Parking standards for uses within the Specific Plan area are shown in Table 3-3, Parking Standards.

TABLE 3-3 PARKING STANDARDS

Behavioral Health Campus Function		Additional Notes
Parking		
Community and Outpatient Services	1 Space /200 SF	
Medical / Urgent Care	1/3 Space / Bed	
Residential Treatment Programs	1/3 Space / Bed	
Supportive and Transitional Housing	1/3 Space / Bed	
Minimum Parking Stall and Access Design		
Standard Auto-Stalls	9-ft x 19-ft	Assumes 90-degree angle parking. Maximum Compact Parking.
Drive Aisle Width	25-ft	24-ft minimum with Fire Department Approval
Other Requirements		

Behavioral Health Campus Function		Additional Notes
Bicycle	2% of Required	Per Cal Green
Carpool	2% of Required	Per Cal Green
EV Charging	---	Per Cal Green

3.5 SCREENING, FENCING AND STORAGE

The following screening and storage requirements shall apply as indicated.

- Walls or Fences will be provided around the perimeter of the property.
- Parking and fencing are allowed within the setbacks. Where feasible, fences will be at a minimum of three (3) feet from the property line to allow for adequate landscaping. Additionally, a 10-foot setback is required for solid fencing to allow or mitigating site distance concerns. The Director of Community Development can approve deviations.
- Security arms shall be implemented adjacent to ingress/egress locations for additional safety measures.
- Internal site fencing shall be included between buildings and structures.
- Where automobile parking areas abut a public right-of-way or adjacent use, a four-foot-high decorative screen wall, wrought-iron fence, tubular aluminium fencing or welded-wire fence shall be located behind the landscaped setback area.
- All trash receptacles shall be screened so that they are not readily visible from any public right-of-way.
- Wood, barbed wire, or electrical fencing is not permitted for use within the Specific Plan. Chain link fencing is allowed only in areas where it is not visible from the public rights-of-way. Walls/Fences may be a maximum of eight (8) feet in height.
- Fence materials may consist of tubular steel fences, masonry blocks, or a combined low block wall/steel fence. Alternative fence materials that are similar to the imagery provided in Section 4.8, Fencing, can be approved by the Director of Community Development.

3.6 LIGHTING

Exterior lighting on Project uses shall comply with the following requirements.

- Exterior lighting shall use energy-efficient (high-pressure sodium, low pressure sodium, compact fluorescent, LED, or other lighting technology of equal or greater energy efficiency) fixtures/lamps.
- Lighting shall be shielded or recessed so that direct glare and reflections are confined to the maximum extent feasible within the boundaries of the site and shall be directed downward and away from adjoining properties and public rights-of-way.
- No permanently installed lighting shall blink, flash, or be of unusually high intensity or brightness.
- High-intensity security lighting fixtures shall not be substituted for site, landscaping, or general building exterior illumination. If used it shall be limited to loading and storage locations or other similar service areas and designed so that the illumination is contained to the area requiring security.
- Neon lighting is prohibited in all areas within the Specific Plan.
- Height of lighting fixtures shall be limited to 25 feet.

- A photometric lighting plan shall be submitted with each development plan submittal for approval by the Director of Community Development or their designee.

3.7 SIGNAGE

Design Guidelines related to signage are outlined in Chapter 4 of this document. Exterior signs, including wall, monument, and wayfinding signs shall conform to the requirements of the San Joaquin Development Title Chapter 9-408.

3.8 LANDSCAPING REQUIREMENTS

All areas not used for buildings, parking, or storage shall be landscaped. As development projects are implemented, landscape plans shall be approved consistent with the requirements below. All landscape plans shall conform to the requirements listed in San Joaquin County Development Title Chapter 9-402 (Landscaping).

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4.0

DESIGN GUIDELINES

This Section explains design concepts and establishes design guidelines for development within the Specific Plan area. These guidelines address the built form for the various land use designations and general guidelines related to circulation and parking, landscaping, and signage.

4.1 PURPOSE AND INTENT

The purpose of the Design Guidelines is to provide comprehensive planning and design statements that will direct development of the San Joaquin Be Well Campus Project. These guidelines express parameters which allow for creativity within a flexible framework for fulfilling the Specific Plan's objectives. These guidelines are intended to assist in achieving a high-quality appearance, direct aesthetic character, form and create a centerpiece for the surrounding community.

The San Joaquin Be Well Campus Specific Plan envisions the development of a wellness campus focused on the treatment of substance use disorders and co-occurring behavioral health disorders to improve the health and safety of the residents and visitors of San Joaquin County. The campus will provide inclusive services improving the access and equity of substance use treatment and behavioral health care. These design guidelines provide an overall vision for the development of the Specific Plan area and will guide the implementation of the plan. These guidelines establish a flexible design framework and criteria, which designers and developers will reference as a guide to new development and which San Joaquin County will use to evaluate proposals for development within the Specific Plan area.

4.2 GUIDING PRINCIPLES

The overall goal of the San Joaquin Be Well Campus Specific Plan is to improve accessibility and equity to mental and behavioral health in the community to facilitate the health and wellness of County residents. Accordingly, successful design within the Specific Plan area will implement these goals through appropriate composition of uses, size and form of buildings, and the relationship of those buildings to open space and to users. To support the goals of the Specific Plan, the design guidelines within this section shall adhere to the following guiding principles.

The following Guiding Principles shall ensure that the design guidelines are supportive of the overall goal and vision of the Specific Plan:

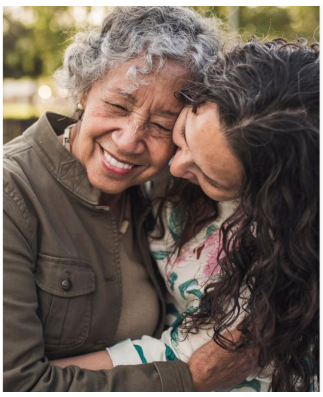
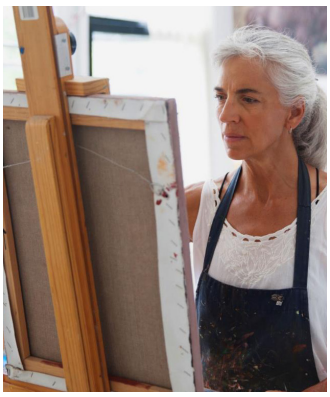
Principle 1: Cultivate a campus that supports health, wellness, and equity.

Principle 2: Establish a campus that allows residents and patients to feel comfortable and safe.

Principle 3: Develop a cohesive campus design that supports the goals of the wellness campus.

Principle 4: Promote a user-oriented design that reinforces connectivity between facilities using open space and landscaping.

Principle 5: Create an environment that supports healthy living.


4.3 DESIGN OBJECTIVES

The design of the Be Well Campus shall be supportive of the objectives of the wellness campus and of the Specific Plan. The development design objectives shall meet the following objectives:

1. Organize and develop a well-designed, high quality and thriving wellness campus that meets the mental and behavioral health needs of County residents.
2. Establish a signature and cohesive contemporary campus design that is reflective of the architectural vernacular of the region.
3. Support the circulation of campus users through the incorporation of open spaces, courtyards, and pedestrian pathways throughout the Project to facilitate connectivity between campus facilities.
4. Integrate landscaping elements in site planning to complement building design and to enhance the user experience at the wellness campus.
5. Incorporate screening of mechanical equipment through careful consideration of building design and site planning.

4.4 ARCHITECTURAL GUIDELINES

Buildings within the Specific Plan area shall adhere to the following architectural guidelines:

1. The architecture of the buildings shall be in a contemporary style that is reflective of the regional vernacular.
2. Structures developed within the Specific Plan area shall be visually cohesive to establish a unified architectural theme in a contemporary regional vernacular.
3. All design elements included in the buildings shall be cohesive of the contemporary architecture within the wellness campus.
4. Building massing and height shall relate in scale to the size, shape, and topography of the site and surrounding uses.
5. Design accents shall be provided in building designs to encourage visual and architectural interest.
6. Roof-mounted mechanical or utility equipment shall be screened with architectural features that seamlessly integrate with the rest of the building design.
7. Building designs shall feature varied rooflines that may be flat or sloped to create visual interest.

Design Concept Provided by Boulder Associates.

4.4.1 BUILDING ORIENTATION, MASS AND FORM

1. Building frontages and primary entrances shall be accented architecturally by using unique design elements and roof variations.
2. The building facade materials shall be delineated with standing seam metal to create design depth and interest.
3. Building facades shall include design articulation along all four sides of the building using accent materials, colors, and architectural features to create visual interest and to soften building massing.
4. Buildings shall be oriented in a manner that will facilitate efficient operations of the wellness campus and that also establish opportunities for common open spaces.
5. Design elements featured on building elevations shall remain consistent throughout all four sides of the building to support a cohesive design.
6. Landscaping shall be integrated in the site design to enhance entryways, create focal points, and enhance the user experience.

4.4.2 MATERIALS AND COLORS

The following materials and colors shall be incorporated in developments within the Specific Plan area to maintain a cohesive design aesthetic. Overall, structures should be composed of materials and accents reflective of the regional vernacular. Accent materials should be earthy, natural, and fresh. The materiality of the buildings in the Specific Plan area should be reflective of the community and region.

Walls: Exterior Insulation and Finish Systems (EIFS) Cladding

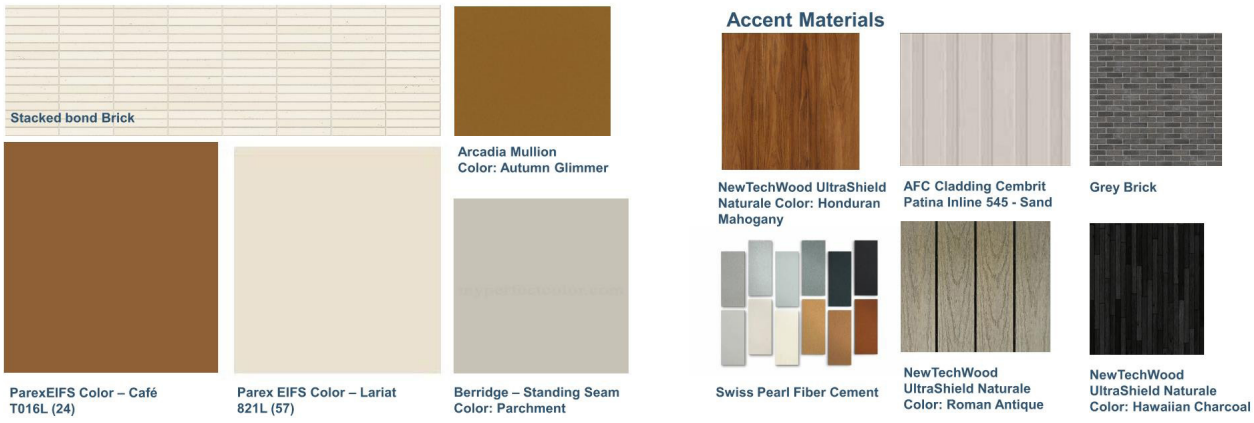
Windows: Recessed in wall.

Roofs: Standing seam metal roofing.

Accent Materials: Wood, brick, glass, wood look fiber cement, cembrit cladding, standing seam metal, fiber cement panels.

Main Building Colors: Light sand, light beige

Accent Colors: Tans, medium browns and beiges



Provided by Boulder Associates.

4.5 LANDSCAPE DESIGN

1. Large shade trees should be used in all open space areas to provide shade for users.
2. Landscaping should be planned in scale with adjacent buildings and be of appropriate size and maturity for the space in which it is located.
3. Areas not utilized by structures, storage, paved walks, driveways, or parking should be landscaped.
4. Landscaping should be spaced so it does not adversely impact on-site lighting, restrict access to emergency facilities, or interfere with installation and maintenance of overhead or underground utilities.
5. Landscaping at the base of buildings should soften the transition between building and adjacent ground plane. Consideration should be given to the scale and bulk of a building and its relationship to the scale of adjacent development.
6. Trees and shrubs should not be planted so close together that they create maintenance and security problems at maturity. They should not completely obstruct views into the development from the right-of-way, especially views to building entries and common open space areas.
7. Water-efficient landscaping and use of native, drought-tolerant plants consistent with the County's Model Landscape Ordinance should be incorporated where possible.

4.5.2 CONCEPTUAL LANDSCAPE PLAN

The Project and campus area is envisioned to potentially include of outdoor amenities, walking trails, activity areas, urban farm, areas of respite, community gathering areas such as an amphitheater and fitness plaza, and regional landscaping. The outdoor connectivity will support recovery and is a vital component of the program to improve health and wellness. Figure 4-1: Conceptual Landscape Plan, focuses on the south portion of the campus and how a conceptual landscape and programming plan throughout the Project would be carried out. This illustrative identifies elements as described above, and is subject to change with the final build out of the planning area.

4.5.1 COMMON SPACES (PUBLICLY ACCESSIBLE SPACES)

1. Landscaped areas in common open spaces should be used to clearly define walkways, gathering spaces, and other outdoor programs within the Specific Plan area.
2. Plant materials within common open space areas can be distinctive to create a sense of place but should match the architectural style of any adjacent buildings in close proximity.
3. Plant material used in common open spaces should be user-friendly and not be considered poisonous to humans or animals or attract large numbers of potentially harmful bugs or insects.
4. Plant material should be confined to landscaped areas and maintained regularly so as to not impede pedestrian walkways.
5. Accent lighting should be included on feature trees or landscape components.
6. Landscaping should not visually block signage or any important entry features.
7. Landscaping should be eye-catching and utilize multiple colors, layers, and heights to add visual interest to the area.
8. Trees and other plant material should complement the architecture of the adjacent entryway in size, shape, color, and design.

Figure 4-2: Common Spaces, shows a conceptual outdoor programs.

KEY NOTES

1 **BUILDING AND SITE ENTRY**
- ENHANCED DECORATIVE PAVING
- BENCHES SEATING AREA
- GATEWAY FOR PEDESTRIAN ENTRY
- BUILDING WAY-FINDING AND ENTRY
- COLOR SHRUB AND GROUNDCOVER PLANTING

2 **6' HIGH PEDESTRIAN ENTRY GATE**

3 **6' HIGH ORNAMENTAL IRON SCREEN FENCE**

4 **SERVICE AND LOADING AREA**
- TRASH ENCLOSURE
- ELECTRICAL YARD
- PERIMETER SHRUB SCREENING,

5 **DECOMPOSED GRANITE FINE PATHS**
- MEANDERING AND FORMAL PATH 4'-8' WIDE
- BENCHES SEATING AREA

6 **FACILITY ENTRY FEATURE**
- SIGNAGE MONUMENT AND ART OPPORTUNITY
- ENHANCED DECORATIVE PAVING
- WALKWAY CONNECTION
- COLOR SHRUB AND GROUNDCOVER PLANTING

7 **WATER FEATURE**
- CENTRAL FOCAL POINT
- CIRCULAR PLAZA
- ENHANCED DECORATIVE PAVING
- BENCHES SEATING AREA
- PERIMETER ACCENT AND SHADE TREE

8 **RESIDENTIAL SEATING PLAZA**
- ENHANCED DECORATIVE PAVING
- PANIC TABLES AND BENCHES
- ACCENT SHRUB AND GROUNDCOVER PLANTING

9 **ENCLOSED SEATING PLAZA**
- ENHANCED DECORATIVE PAVING
- PANIC TABLES AND BENCHES
- SEATWALL, RAISED PLANTER WITH MULTI-TRUNK TREE
- 6' HIGH PERIMETER SCREEN FENCE

10 **SMOKING AREA**
- ENHANCED DECORATIVE PAVING
- SEPARATE ACCESSIBLE WALKWAY
- ACCENT SHRUB AND GROUNDCOVER PLANTING

11 **BOCCE BALL COURT & SEATING**
- DECOMPOSED GRANITE FINE SURFACING
- WOOD TIMBER SIDE BOARD AND BACK BOARD
- BENCHES SEATING AREA
- ACCENT SHADE TREE AND SHRUB PLANTING

12 **GAZEBO**
- COVERED SEATING AREA
- PERIMETER HERB FLOWER GARDEN

13 **BASKETBALL / SPORTS COURTS**
- HALF COURT BASKETBALL
- MULTI-SPORT OPPORTUNITY
- BENCHES SEATING AREA
- PERIMETER TREE PLANTING

14 **FITNESS AND RECREATION PLAY AREA**
- RUBBERIZED SURFACING
- OUTDOOR PING PONG TABLE
- STATIONARY FITNESS AND TRAINING EQUIPMENT
- BENCHES SEATING AREA
- PERIMETER TREE PLANTING

15 **YOGA / FITNESS PLAZA**
- ENHANCED CONCRETE PAVING
- PERIMETER MOUNDING SCREEN TREES FOR PRIVACY
- CONNECTION TO MEDIATION POND
- SHADE TREE AND SHRUB PLANTING

16 **AMPHITHEATER**
- ELEVATED LAWN WALKWAY
- STAGE BACKDROP MEDITATION POND
- PERIMETER LAWN BERMED SEATING BACKGROUND SHADE TREE PLANTING
- STAGE BACKDROP MEDITATION POND

17 **MEANDERING DRY STREAM BED**
- CONNECT TO MEDITATION POND
- CROSSING BRIDGES
- PERIMETER EDGE PLANTING

18 **MEDITATION POND & LABYRINTH**
- ACCESSIBLE FOCAL POND WATER FEATURE
- ROCK PERIMETER AND SHRUB PLANTING

19 **LAWN AREA**
- MANICURE TURF GRASS LAWN
- MULTI-USE ACTIVE LAWN AREA

20 **FUTURE BUILDING EXPANSION LANDSCAPE AREA**
- TEMPORARY MULTI-USE OPEN LAWN
- DECOMPOSED GRANITE FINE PATH

21 **FUTURE BUILDING EXPANSION LANDSCAPE AREA**
- BARK

22 **CAFE / KITCHEN GARDEN**
- RAISED VEGETABLE PLANING BEDS
- ISOLATED LANDSCAPE IRRIGATION
- ADJACENT SHADING AND SEATING AREA

23 **MAIN WALKWAY**
- TREE LINE COLONNADE
- BENCHES SEATING AREA
- CONCRETE WALKWAY

24 **LANDSCAPE BUFFER**
- BETWEEN SITE AND HIGHWAY 5
- DENSELY SPACED VERTICAL COMBINATION OF EVERGREEN AND DECIDUOUS TREES
- LANDSCAPE BARK MULCH

25 **STREET FRONTAGE LANDSCAPE AREA**
- LARGE CANOPY SHADE TREES FOR PARKING LOT AND SITE SCREENING
- CORNER ACCENT PLANTING

26 **LANDSCAPE AREA**
- INFORMAL TREES, SHRUBS AND GROUNDCOVERS PLANTING

TREE LEGEND

LARGE PARKING/SCREEN TREE	LARGE SHADE TREE LOCATED WITHIN PARKING LOT AND AS A SCREEN, SOUND BARRIER ALONG THE WEST EDGE OF PROPERTY.	91
STREET TREE	LARGE CITY APPROVED STREET TREE ALONG THE ROAD, SPACING 30'-45' O.C.	21
MULTI-TRUNK ACCENT TREE	LARGE MULTI-TRUNK ACCENT TREES LOCATED WITHIN SITE TO PROVIDE FOCAL POINT AND SHADE FOR PLAZA AND SEATING AREAS.	9
MEDIUM TREE	MEDIUM SHADE TREES PLACE THROUGHOUT SITE FOR BOTH ACCENT, SHADE, AND ACTIVITY SEPARATION.	101
CONIFER	UPRIGHT, EVERGEEN CONIFER LOCATED WITHIN SITE AS A BACKDROP, AND SOUND BARRIER ALONG THE WEST EDGE OF PROPERTY.	85
SMALL ACCENT TREE	COLORFUL ACCENT TREE THROUGHOUT THE SITE TO EMPHASIZE ENTRIES AND SITE AMENITIES AND SPACES.	61
NARROW / COLONNADE TREE	NARROW, UPRIGHT GROWTH TREES USE WITHIN SITE TO FRAME, AND ACCENT MAIN WALKWAY, AS WELL AS PERIMETER OF BUILDINGS.	64

Provided by Boulder Associates.

Figure 4-1, Conceptual Landscape Plan

N.T.S.

Provided by Boulder Associates.

N.T.S.

Figure 4-2, Common Spaces

4.5.3 STREETSCAPE DESIGN

1. Landscaping along interior streetscape areas should be placed between pedestrian walkways and vehicular roads when feasible.
2. Landscaping should not be placed in a manner that impedes pedestrian travel in heavily trafficked areas.
3. Landscaping should not be planted directly adjacent to building edges.
4. Street trees should not block identification signage or window displays.
5. Landscape material should complement the character of the surrounding environs in size, form, quantity, and color.

4.5.4 FURNISHINGS AND MATERIALS

1. Streetscape furnishings and materials should complement the architectural styles of surrounding buildings and open space areas.
2. Streetscape elements should be consistent throughout the Specific Plan area as a unifying element to create a cohesive look and feel across different areas and architectural building styles.
3. Streetscape elements (e.g., benches, light poles, trash enclosures, bicycle storage, etc.) should be of high-quality materials.
4. Streetscape furniture should be incorporated in a flexible manner.

4.6 SIGNAGE AND WAYFINDING

The two primary purposes of signage within the Specific Plan area are to bring people into the site and easily allow them to navigate within the project once they arrive. The Specific Plan anticipates several different uses throughout the site to create the urban form. As a result, clear and concise signage and wayfinding elements will play an important role with pedestrian circulation from off-site or parking areas to their intended destination. A sign program may be developed separately. This can be accomplished using the following components:

- Directional and identification signage
- Informational kiosks or interactive maps
- Paving material changes
- Landscaping and other softscape techniques

4.6.1 BUILDING IDENTITY SIGNS

1. Commercial building identity signs shall clearly display the use within the building and be oriented towards either South El Dorado Street or West Hospital Road. They should be placed prominently on the top half of the building and be visible from far distances.
2. Building identity signs shall be proportional to the height and scale of the building. It shall follow all applicable standards for signage listed in the San Joaquin County Development Title.
3. The signs shall be designed as a component of the overall building and complement the architecture of the building.
4. Building signs may be backlit or lighted to increase visibility at night.

4.6.2 WALL SIGNS

1. Entrances that have direct access to private sidewalks shall have an associated wall sign.

2. Awnings or canopy signs, in lieu of building-mounted signage, may be considered.
3. Directional wall signs may be placed within parking areas.

4.6.3 MONUMENT SIGNS

1. Monument signs shall have a low profile and be mounted to the ground; meant to be viewed from eye level by pedestrians or from a vehicle.
2. Monument signs may be placed at entrances to the site or in public spaces adjacent to building entryways to indicate nearby services.
3. Monument signs shall be landscaped at the base where possible to soften the appearance of hard lines.
4. Monument signs may be integrated into seat or planter walls.

4.6.4 WAYFINDING

1. Wayfinding signage shall not be placed within the direct pedestrian zone or obstruct pedestrian traffic flow in any way.
2. Wayfinding signage shall be clear and easy to understand for pedestrians and motorists.
3. Wayfinding signage shall be consistent in look and size.
4. All signage and associated components shall complement the color and finish of the surrounding streetscape and architectural elements.
5. Wayfinding elements shall be designed to be utilized by a variety of users, including visually and hearing impaired.

4.6.5 SIGN MAINTENANCE

1. Each sign and supporting hardware, including temporary signs and awning signs, shall be maintained in good repair and functioning properly at all times.
2. A repair to a sign shall be of materials and design of equal or better quality as the original sign.
3. When an existing sign is removed or replaced, all brackets, poles, and other supports that are no longer required shall be removed and the surface it was attached to repaired and painted to match the building.

4.7 GENERAL LIGHTING GUIDELINES

1. Lighting of private roadways shall comply with relevant standards published by the Illuminating Engineering Society (I.E.S.)
2. Vehicle entrances, driveways, parking and service areas, pedestrian entrances, walkways, and outdoor activity areas should have a sufficient level of lighting to provide security and safety.
3. Wall mounted lighting should not extend above the height of the wall or parapet to which they are mounted.
4. Lighting fixtures should use energy-efficient technologies such as LED bulbs to reduce energy consumption where feasible.
5. Accent lighting is encouraged to highlight architectural details on buildings, primary entrances into public and private spaces, and pedestrian and vehicular signage. Seasonal lighting can be considered and accommodated for in large plazas or open space areas.
6. Site lighting should be incorporated into hardscape materials such as steps, railings, and paving.

7. Light fixtures should match the character of surrounding buildings and public realm elements within the immediate vicinity to reinforce the design theme.
8. Lighting should not be continuously flashing or animated in a pattern that is distracting to users of the site.
9. Lighting fixtures with exposed bulbs should not be used except for decorative "Edison bulb" fixtures on dimmer, decorative "string" lighting (Tivoli lighting) when used to illuminate outdoor patios, walkways and plazas, decorative holiday trees, and landscape lighting.
10. Security lighting should be designed as part of a comprehensive lighting plan.
11. Overhead service wires or exposed conduits should be avoided.

4.8 FENCING

Figure 4-3: Fencing Plan, illustrates the fencing locations and type.

1. Site fencing should be intended to maintain and control access to the site itself from outside pedestrians and vehicles.
2. Internal site fencing should be decorative and intended to protect and maintain a secure perimeter around areas of the site within the campus.
3. Security arms should be provided in locations where vehicular access can be controlled.

4.9 UTILITY PLACEMENT AND SCREENING

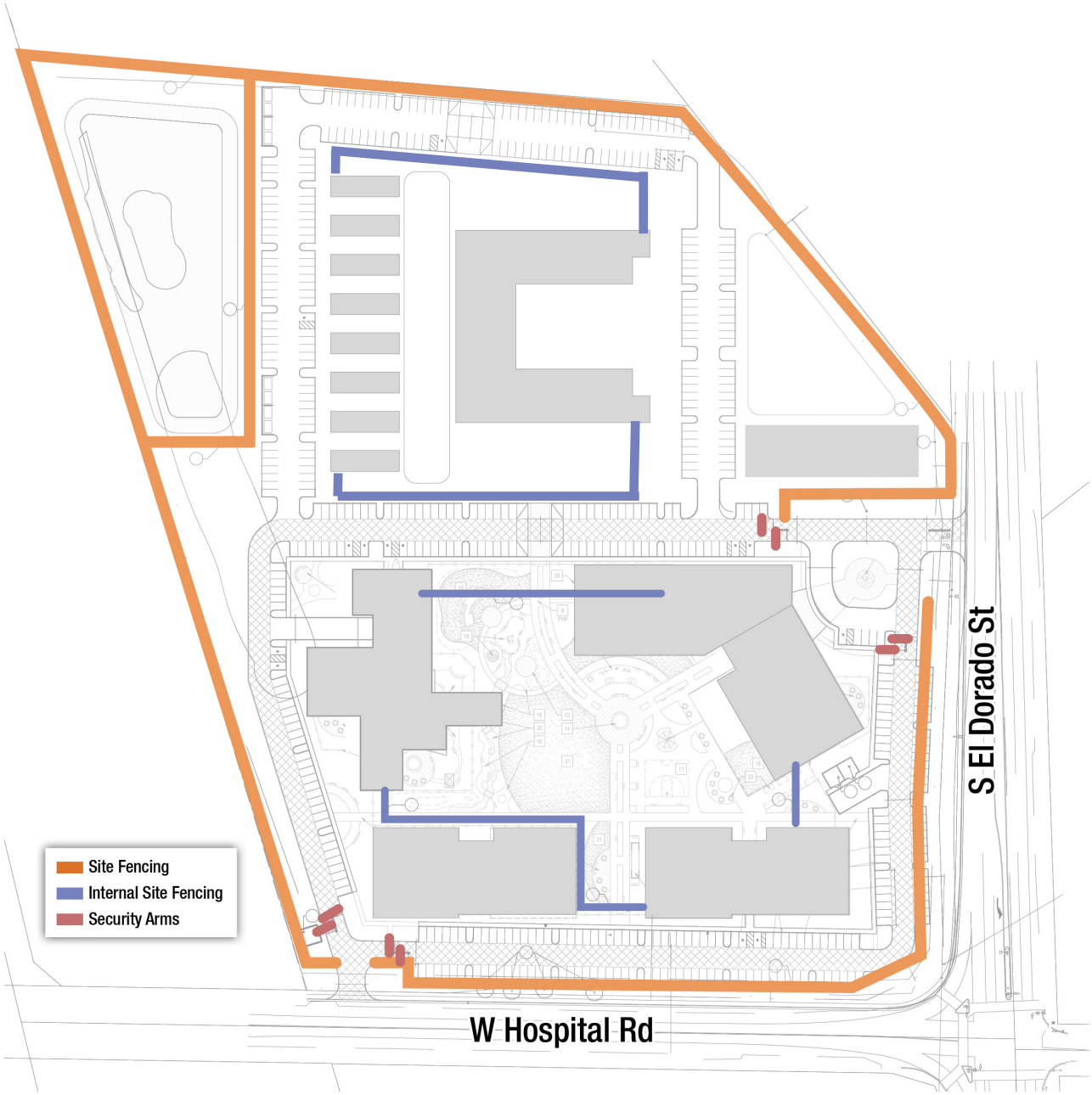
1. Utility boxes should be grouped where possible and placed in landscape setbacks and /or shrub/groundcover areas.
2. Above grade utility boxes should be screened and planted to the extent possible while allowing required access and clearance, and providing for adequate sight distance if located near intersections.

4.10 SUSTAINABLE DESIGN

Green building decreases the negative impact on the environment through sustainable techniques: creative design, construction, and operational applications. Organizations such as the World Green Building Council provide information and certifications for buildings that meet certain design-build criteria. Buildings that receive these certifications often use renewable energy, reduce pollution and waste, promote the reuse of recycled materials, and make efficient use of energy, water, and other resources.

Architectural

1. Materials and technologies that minimize environmental impacts, reduce energy and resource consumption, and promote long-lasting development are encouraged.
2. Incorporate life-cycle planning and decision-making.
3. Window technologies such as tinting or insulated daylighting panels, should be utilized to decrease the energy costs associated with cooling buildings during most of the year where maximum transparency is not required.



N.T.S.

Figure 4-3, Fencing Plan

Water Conservation

1. Low flow faucets and fixtures.
2. Native landscape.
3. Direct and capture low-use irrigation and rainfall run-off to landscape areas.
4. Energy conservation.
5. Building orientation.
6. Glazing, overhangs, and landscaping to capture and control natural daylight.
7. High-performance glazing.
8. Use of atriums, skylights, and internal courtyards to provide additional daylighting.

Natural Resource Conservation

1. Use of renewable materials where feasible.
2. The use of building materials with recycled content where feasible.

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5.0

ADMINISTRATION & IMPLEMENTATION

This Section discusses the development review procedures of the County and other relevant permitting agencies applicable to the Specific Plan area. Implementation of the proposed land uses, including Specific Plan adoption, subsequent approvals and plans, and phasing, are outlined in this chapter. Additionally, financing sources and maintenance responsibilities are identified.

This section of the Specific Plan describes the development review procedures of San Joaquin County and other relevant permitting agencies applicable to the Specific Plan area. Implementation of the proposed land uses, including Specific Plan adoption, subsequent approvals and plans, and phasing are outlined in this chapter. Additionally, financing sources and maintenance responsibilities are identified.

5.1 ADMINISTRATION

The California Government Code (Title 7, Division 1, Chapter 3, Article 8, Sections 65450 et seq.) grants authority to cities to adopt Specific Plans to implement the goals and policies of a general plan. As with general plans, the Planning Commission must hold a public hearing to consider and provide a recommendation on the Specific Plan to the Board of Supervisors, the ultimate approval body.

5.1.1 RESPONSIBILITY

The County of San Joaquin Planning and Development Services Division, its Director, or their designee shall be responsible for administering the Specific Plan in accordance with the provisions of this Specific Plan document, all governing and applicable State and federal laws, the San Joaquin County General Plan, and the San Joaquin County Development Title.

The Specific Plan serves as the implementation tool for the zoning for the Specific Plan area. The Specific Plan addresses permitted uses, development standards, and community design guidelines. The County shall enforce the provisions of the Specific Plan in the same manner that the County enforces the provisions of the General Plan and Development Title.

5.1.2 APPLICABILITY

All development within the Specific Plan area shall comply with the requirements and standards set forth in this Specific Plan document. If conflicts exist between the standards contained in this Specific Plan and the Development Title, the regulations and standards in the Specific Plan shall take precedence.

Any area of site development, administration, review procedures, landscaping requirements, and regulations not expressly addressed by this Specific Plan document shall be subject to the provisions of the San Joaquin County Development Title, using the context and objectives of the Specific Plan as a guide.

The name “San Joaquin Be Well Specific Plan” or “SJ Be Well SP” or “Specific Plan” or “Project” refers to this Specific Plan document and its supporting information. The final marketing name of the overall Project may differ and will be determined by the Project’s Applicant.

5.1.3 ENFORCEMENT

The San Joaquin Be Well Specific Plan serves as the implementation tool for the zoning for the Specific Plan area. The Specific Plan addresses permitted uses, development standards, and project design guidelines. The County shall enforce the provisions of the Specific Plan in the same manner that it enforces the provisions of the General Plan and Development Title.

5.1.4 SEVERABILITY

If any section, subsection sentence, clause, or phrase of this Specific Plan, or future amendments or additions hereto, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this plan.

5.1.5 INTERPRETATION

Whenever any act is prohibited or is made or declared to be unlawful in this Specific Plan or the doing of any acts required, or the failure to do any act is determined to be unlawful, San Joaquin County retains its authority under the Development Title to enforce such a violation or offense.

Whenever the provisions contained in the Specific Plan conflict with the Development Title, the provisions of the Specific Plan shall take precedence. To the extent the Specific Plan is silent, the then-existing standards and requirements of the Development Title shall apply, except as the Development Title may be vested pursuant to a Development Agreement.

Any ambiguity concerning the content or application of the Specific Plan shall be resolved by the County's Community Development Director or their designees. Such interpretations shall take into account the stated goals and intent of the Specific Plan.

5.1.6 INITIAL ENTITLEMENTS

Initial entitlements requested for development of the Specific Plan area include the following actions to be taken by the County:

1. Environmental Clearance – The San Joaquin Be Well Specific Plan is a discretionary project and is subject to the requirements of the California Environmental Quality Act (CEQA). As part of the approval process for the Specific Plan, an environmental document must be considered and adopted/certified by the County prior to approval of any of the project-related entitlements.
2. General Plan Amendment – The proposed General Plan Amendment would change the Project site's land use designation from Freeway Service Commercial (C/FS) to Mixed-Use (M/X). to accommodate the Project.
3. Zone Reclassification – The proposed zone reclassification would change the zoning on the Project site from Agriculture Urban Reserve Zone (AU-20) to Mixed-Use Zone (M-X).
4. Specific Plan – The Project site is currently zoned for agricultural uses. The San Joaquin Be Well Specific Plan is a required land use and zoning document that will replace the existing agricultural zoning to allow for a new behavioral health facility consistent with the Mixed-Use Zone (M-X).
5. Zoning Compliance Review – Components of the project submitted after the first Phase will be required to undergo a Zoning Compliance Review for consistency with the Specific Plan.

5.1.8 ADMINISTRATIVE SUBSTANTIAL CONFIRMATION AND MINOR MODIFICATIONS

The County's Community Development Director or their designee shall have the authority to approve minor adjustments or modifications, as defined herein, which substantially conform to the approved Specific Plan through an administrative "Substantial Conformance" review process, so long as those minor modifications and adjustments are consistent with the intent of the Specific Plan.

Adjustments or modifications that may be warranted to accommodate changes resulting from final design and engineering that cause adjustments in internal driveway alignments, location of utilities or other infrastructure, development of innovative product design, distribution of permitted uses within the Specific Plan, or other similar modifications deemed to be minor. Adjustments or modifications may include, but are not limited to the following:

1. Modifications, deletions, and additions to the list of permitted and conditional uses listed in Section 3.12, that are similar to intent and character subject to interpretation by the Community Development Director.
2. Modifications necessary to comply with the final Conditions of Approval when adopted under subsequent actions;
3. Modifications to performance standards in the Specific Plan provided any such modifications provide substantially equivalent protection as the original standard;
4. Addition of information to the Specific Plan (including maps or text) for purposes of clarification that does not change the intent of any plan or regulation, as well as correction of any clerical or grammatical errors;
5. Adjustments to the alignment, location, and sizing of utilities and facilities or a change in utility and/or public service provider may be approved by the County's Engineer or Public Works Department, so long as the adjustments or changes are found to be in compliance with applicable plans and standards of the agency responsible for such utilities and facilities and do not result in significant environmental impacts;
6. Change in roadway alignment, width, or improvements through the final engineering improvement plan process so long as minimum rights-of-way meet the standards outlined in the Specific Plan;
7. Modification of design criteria such as paving treatments, architectural details, landscape treatments, fencing, lighting, streetscape, and entry treatments;
8. Minor adjustments to any of the development standards or regulations such as modifications of wall heights for noise attenuation purposes, modification of allowable encroachments into setbacks, etc. that are specifically allowed under the Development Regulations of the Specific Plan;
9. Modification of any design element in this Specific plan that improves circulation, reduces grading, improves drainage, improves infrastructure, or provides similar utility and reduces operations and maintenance costs or improves the level of sustainability; and
10. Grades shown on the conceptual grading plan may be modified due to technical refinements provided in the final grading plan. All grading shall comply with applicable regulations contained in Division 14 (Grading and Excavation Provisions) of the Development Title.

The documentation of substantial conformance may include text and/or maps that describe the nature of all proposed adjustments or modifications to the Specific Plan. This application of substantial conformance with the adopted Specific Plan shall undergo any necessary technical review by agencies as the Community Development Director or designee deems necessary.

A. ACTION

No public hearing shall be required for a finding of Substantial Conformance. The Community Development Director or their designee shall be the review and approval authority for a finding of Substantial Conformance. The Director's findings shall be provided by written notice to the Applicant approving, conditionally approving, or denying the determination of Substantial Conformance. The Director's decision shall be final, subject to the appeal procedures established by the Development Code.

B. FINDINGS

The following findings shall be required for a Substantial Conformance Determination:

1. The modifications are consistent with the goals and intent of the Specific Plan;
2. The physical characteristics of the site have been adequately addressed, and proposed building sites are of adequate size and shape to accommodate proposed uses and all other features of development;
3. There is sufficient supporting infrastructure, existing or available, consistent with the requirements of the Specific Plan, to accommodate the development without significantly lowering service levels; and
4. The development resulting from the Substantial Conformance Determination will not have a substantial adverse effect on surrounding property or the permitted use thereof, and will be compatible with the existing and planned land uses, as well as the character of the surrounding area.

5.1.9 AMENDMENTS TO THE SPECIFIC PLAN

Substantial modifications to the Specific Plan would require an Amendment. A minor modification or adjustment to the Specific Plan listed in the section above would not require a Specific Plan Amendment. An amendment to the Specific Plan is required if the following occurs:

1. Changes to the overall Specific Plan boundaries to include properties not included in the Specific Plan at the time of approval (changes to boundaries within the Specific Plan boundaries are deemed minor as noted above and would not require an amendment); and
2. Any addition of new land uses not contemplated by the Specific Plan's Development Regulations and deemed to require an amendment after the Director's determination.

Changes to the phasing plan shall not require an amendment to the Specific Plan.

5.1.10 APPEALS

An appeal of determination, decision, or requirement of county staff or Planning Commission shall be made in conformance to the appeal procedures established by the San Joaquin County Development Title, as shown in Table 5-1: Review and Approval Authority.

TABLE 5-1 REVIEW AND APPROVAL AUTHORITY

Approval Authority	Permit Type
Community Development Director	Zoning Compliance Review
	Administrative Use Permit
	Waiver
Planning Commission	Variances
	Planned Development Zone
	Appeals of Director Decisions
Board of Supervisors	Specific Plan Approval and Major Amendments
	General Plan Amendments
	Zone Reclassifications

5.2 IMPLEMENTATION

This Implementation Program is established to meet the Project's goals. This program contains a number of legal, procedural, and administrative elements. The purpose of this section is to familiarize subsequent landowners, developers, public agencies, and decision-makers, as well as interested citizens, with the goals and intentions of the San Joaquin Be Well Specific Plan. The Implementation Program summarizes the requirements listed in this section for all Implementing Projects within the Specific Plan. The purpose of this section is to provide an outline of the steps necessary to implement the Specific Plan and applicable conditions, mitigation measures, and regulations in coordination with San Joaquin County and other governing public agencies. The approval of this Specific Plan, certification of the Specific Plan CEQA documentation, and adoption of the Mitigation Monitoring and Reporting Program will ensure that timely mitigation and Project impacts take place at the appropriate milestones and in accordance with Project implementation.

5.2.1 SPECIFIC PLAN ADOPTION

The San Joaquin Be Well Specific Plan has been prepared, submitted, and approved in a manner consistent with California Government Code Section 65451(a), as well as Chapter 9-302 (Specific Plans) of the County's Development Title. The Specific Plan shall be adopted by ordinance and shall serve as the zoning for the Specific Plan area. The adopted Specific Plan project site will be designated on the County's Zoning Map as the San Joaquin Be Well Specific Plan. The development standards identified in this Specific Plan document supersede all zoning regulations to the extent that they would be in conflict with the sections of this Specific Plan.

5.2.2 SUBSEQUENT APPROVALS

This Specific Plan outlines the land use and design intent for the build-out of the San Joaquin County Behavioral Health Campus. Upon its approval, the San Joaquin Be Well Specific Plan will comprise the zoning for all property within its boundaries and will govern the build-out of the project. Individual implementing projects will require approval by the County as outlined below.

Pre-Application Conference. At the discretion of the Director, a pre-application conference may be required. The purpose of such a conference shall be to ensure that the applicant is aware of issues and requirements related to the project. Other departments and public agencies may be invited to attend a pre-application conference.

When a pre-application conference is required by the Director, no application may be accepted until the conference is considered complete by the Director.

Administrative Plan Review. Development applications for implementing projects that comply with the Specific Plan and its Development Standards are eligible for administrative review. Projects would process a Site Approval application pursuant to Development Title Chapter 9-802 (Common Procedures). The Community Development Director shall have approval authority, appealable to the Planning Commission. In addition, the Director has the discretion to refer the application to the Planning Commission.

Some implementing approvals require discretionary actions by the Planning Commission and/or Board of Supervisors. These include but are not limited to, Use Permits or Variances in accordance with Chapters 9-804 and 9-805, respectively, of the San Joaquin Development Title. Projects that constitute tenant improvements within existing buildings will follow the normal building permit process subject to review of the Specific Plan for confirmation that a use is permitted.

5.2.3 PHASING

Construction of the proposed project may be progressively implemented in stages, provided that vehicular access, public facilities, and infrastructure are constructed to adequately service the Implementing Project, or as needed for public health and safety, as determined and required by the County.

The Project will be phased to:

1. Provide for the orderly build-out of the Specific Plan area based on market demand;
2. Provide adequate infrastructure to serve the Project.

Phases may occur concurrently or in a different order so long as the associated infrastructure is provided. The Project is anticipated to be built out in two phases as shown on Figure 5-1, Conceptual Phasing Plan, and Table 5-2, Conceptual Phasing.

Changes to the Phasing Plan that are determined by the Community Development Director, at their sole and absolute discretion, to be in substantial conformance with the Specific Plan shall not constitute an amendment to the Specific Plan; however, an updated phasing exhibit shall be submitted by the developer to the County for record-keeping purposes.

The initial portion of the Project is anticipated to be implemented over a period of approximately 17-months with demolition and construction activities anticipated to commence in January 2026 and construction completed in June 2027. The San Joaquin Be Well Specific Plan Campus would rely upon development funds issued by way of

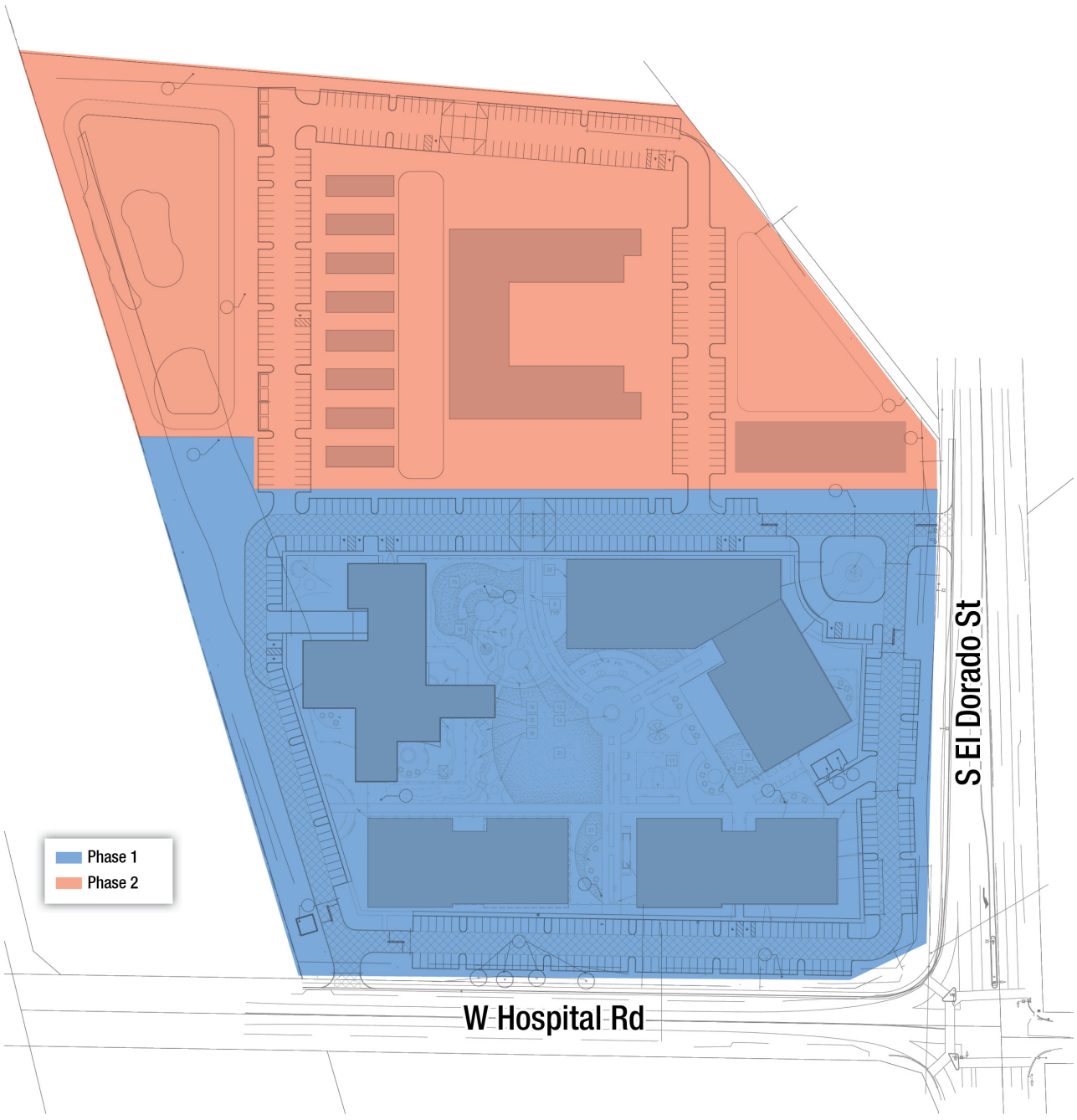

Figure 5-1, Conceptual Phasing

N.T.S.

a California Department of Health Care Services (DHCS) Behavioral Health Continuum Infrastructure Program (BHCIP) grant.

TABLE 5-2 CONCEPTUAL PHASING

Structure	Proposed Use	Gross Floor Area (SF)
Phase 1 – South Campus		
A	Community and Outpatient Services	70,000
B	Urgent Care Services	28,000
C	Residential Treatment Programs	43,000
D	Residential Treatment Programs	43,000
Phase 2 – North Campus		
E	Supportive Transitional Housing	99,000
F	Supportive Transitional Housing	36,000
G	Supportive Transitional Housing	15,360
	Total	334,360

5.3 MAINTENANCE AND OWNERSHIP

Maintenance of private parking area aisles, parking area circulation, and common landscape areas will be the responsibility of a commercial or business association (or other private mechanism) to be formed within the Specific Plan area. The private maintenance association(s) shall be responsible for private driveways, parking, open space areas, common area signage, landscaping, irrigation, common areas, on-site domestic water, sanitary sewers, storm drains, water quality features (BMPs), and other responsibilities, as necessary. Generally, facilities dedicated to public agencies will be maintained by that agency, while private facilities will be maintained by property owners or a maintenance district. Table 5-3, Financing, Ownership, and Maintenance outlines the anticipated program.

TABLE 5-3 FINANCING, OWNERSHIP, AND MAINTENANCE

Improvement	Financing	Ownership	Maintenance
Water System	County	Public/Private	County
Sewer System	County	Public/Private	County
Drainage System			
• Backbone	County	Private	Private/County
• BMPs	County	Private	Private
Private Streets & Driveways	County	Private	Private
Landscaping			
• Public Right-of-Way	County	County	County
• Common	County	Private	Private

Improvement	Financing	Ownership	Maintenance
• Private Parkways	County	Private	Private
Private Open Space or Recreation Areas	County	Private	Private

5.4 GENERAL PLAN CONSISTENCY

California Government Code (Title 7, Division 1, Chapter 3, Article 8, Sections 65450-65457) permits the adoption and administration of specific plans as an implementation tool for the local general plan. Specific plans must demonstrate consistency in regulations, guidelines, and programs with the goals and policies set forth in the general plan. The San Joaquin Be Well Specific Plan has been prepared in conformance with the goals and policies of the San Joaquin County General Plan as updated in 2016. A detailed discussion of the Specific Plan's consistency with the General Plan is provided in Appendix A. Subsequently, all future development plans on the property must be consistent with the Specific Plan. Projects that are found to be consistent with the Specific Plan will be deemed consistent with the San Joaquin County General Plan.

5.5 RELATIONSHIP TO CEQA

The California Environmental Quality Act (CEQA) classifies a specific plan or its amendment as a "project" that is subject to environmental review. An environmental document is required prior to the adoption of this Specific Plan to analyze potentially significant environmental impacts of the Project and recommend feasible mitigation measures in compliance with the provisions of CEQA. The environmental document for the approval of this Specific Plan Amendment is anticipated to be an Initial Study leading to a Mitigated Negative Declaration (IS/MND). The IS/MND will analyze the Specific Plan and address potential impacts associated with the new development of the Specific Plan area. The IS/MND will include recommended mitigation measures and analyze implementing actions for the development. The IS/MND will fulfill the requirements for environmental documentation for most subsequent discretionary and ministerial applications for development within the Specific Plan area.

The Mitigation Monitoring and Reporting Program (MMRP) will ensure that the Specific Plan complies with all applicable environmental mitigation and permit requirements. The final MMRP shall be adopted with the applicable CEQA documentation.

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ATTACHMENT A

DRAINAGE STUDY

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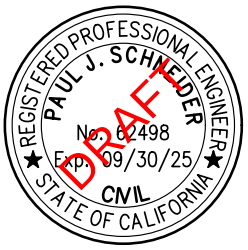
SIEGFRIED

October 4, 2024

To: Daniel Moore, MBA, MSIT, CSM
San Joaquin County
Capital Projects Administrator
General Services Department
44 North San Joaquin Street, Suite 590
Stockton, CA 95202



RE: BE WELL DEVELOPMENT STORM DRAINAGE STUDY
SAN JOAQUIN COUNTY HEALTH SERVICES BE WELL
55 W. HOSPITAL ROAD
FRENCH CAMP, CA 92531

Dear Daniel,

The purpose of this analysis is to size both the on site Be Well detention basin and the offsite retention basin required for terminal drainage for the San Joaquin County Behavioral Health Campus per the criteria set forth in the San Joaquin County Public Works Improvement Standards, and the criteria set forth in IS-7.2 for urban communities which requires a public drainage system for urban development.

PART 1. INTRODUCTION

1.1. PROJECT DESCRIPTION AND SITE CONDITIONS

The project site is located along West Hospital Road and east of Interstate 5 in French Camp, California. The project includes the addition of the San Joaquin County Behavioral Health Campus. The site to be developed is approximately 19.7 acres and is bound by South El Dorado Street to the east, West Hospital Road to the south and Interstate 5 to the west. The existing site is undeveloped and has undulating grades throughout the site. Per Exhibit 1 the project will consist of several buildings, parking, and site amenities, as well as landscape and an on site detention basin. The initial basin has been sized for the initial phase of the project.

1.2. PROPOSED STORM WATER SYSTEM

The system proposed is composed of two basins. A primary detention basin located on the site to attenuate flow and provide storm water quality and trash capture functions. This basin is designed to capture two 100 year 24-hr events plus a foot of freeboard. The terminal basin located offsite has been sized to infiltrate a single 100-yr 24-hr event with 1 foot of freeboard due to the capability of the primary detention basin to infiltrate the first storm event. See Section 3 for further information.

PART 2. GEOTECHNICAL FINDINGS

A Geotechnical Memo for the existing retention basins west of the Hospital and East of the Jail complex is attached as Appendix A and the Geotechnical Report prepared for the Be Well project is attached as Appendix B. Both reports indicate that the soils are typical for the area. Percolation tests were performed at both locations to determine the infiltration rate of the soils in the basins. The infiltration rate for the existing basins at the Hospital and Jail was calculated by excluding location P-2 due to the high infiltration rate being larger than the other three measured infiltration rates, it was therefore considered an outlier and was excluded from the calculation for the north retention basin. A factor of safety of 5 has been applied to both the infiltration rates for both basins.

PART 3. DESIGN CONSIDERATIONS AND FEASIBILITY

3.1. DESIGN CONSIDERATIONS AND BASIN SIZING

3.1.1. Site Run-Off Coefficient

Per the San Joaquin County guidelines, runoff coefficients of 0.25 for pervious area, 0.95 for impervious areas, and 1.00 for detention areas have been used to calculate the runoff coefficient has been calculated to be 0.71 for the Be Well site, see Table 1 below and attached Exhibit 1 for runoff coefficient calculations.

Table 1

RUNOFF COEFFICIENT CALCULATION			
	AREA (SF)	RUNOFF COEFFICIENT	WEIGHTED RUNOFF COEFFICIENT
LANDSCAPE AREAS (PLANTING, BARK, ETC.)	177353	0.25	0.09
STREAM	2627	1.00	0.01
WATER FEATURE	77400	1.00	0.15
CONCRETE ASPHALT	253520	0.95	0.47
TOTAL	510900		0.71

3.1.2. Design Standard

The detention basin has been sized per San Joaquin County Improvement Standards Section 3-4.05 to treat and detain the volume from a 100-yr, 24-hr storm. To reduce the offsite terminal discharge pumping rate the basin has been designed to capture two 100-yr, 24-hr storms with a foot of freeboard. The sizing for a single storm is shown below in Table 2 below. Exhibit 2 reflects the proposed basin grading and provides for a forebay for water quality, a basin water depth of 4.5 feet and a total volume of 186,000 cubic feet which is 2x the required volume shown below.

Table 2

DETENTION SIZING CALCULATION	
C= WEIGHTED RUNOFF COEFFICIENT	0.71
A=AREA (SF)	510900
R=RAINFALL (IN)*	3.03
CAR/12 =REQUIRED VOLUME (CF)	91591.60

The onsite detention basin although designed to be only detention per County standards will infiltrate runoff effectively. Per Table 3 below the single 100-yr, 24-hr event will infiltrate in 1.94 days despite the factor fo safety of 5 applied to the infiltration rate.

Table 3

DETENTION BASIN INFILTRATION	
INFILTRATION RATE (GAL/SF/DAY)	8.61
REQUIRED DETENTION BASIN VOLUME (CF)	91592
REQUIRED DETENTION BASIN VOLUME (GAL)	685108
PROPOSED DETENTION BASIN BOTOTM AREA (SF)	41013
BASIN VOLUME INFILTRATION DURATION (DAYS)	1.94

Given the high rate of infiltration in the Be Well detention basin and the detention basin being twice the required volume the terminal retention basin has been sized to infiltrate one 100-yr, 24hr storm. This allows back to back 100-yr, 24-hr storms to be stored on the Be Well site. Table 4 below utilized a 96 hour pumping rate to deliver the single storm event offsite to the terminal retention basin located west of the Hospital site. The single storm event can be infiltrated in 1.87 days. This yields the ability for both basins to store three 100-yr, 24-hr events and infiltrate all three in less than the 10 days required.

Table 4
TERMINAL DISCHARGE RETENTION BASIN ANALYSIS

PUMPING RATE TO RETENTION BASIN	
VOLUME TO BE PUMPED TO RETENTION BASIN (CF)	91592
VOLUME TO BE PUMPED TO RETENTION BASIN (GAL)	685108
TIME TO PUMP TO RETENTION BASIN (HOURS)	96
TIME TO PUMP TO RETENTION BASIN (MIN)	5760
MINIMUM PUMP FLOW RATE (GPM)	118.94

TIME TO DRAIN RETENTION BASIN	
INFILTRATION RATE (GAL/SF/DAY)	7.96
REQUIRED DETENTION BASIN VOLUME (CF)	91592
REQUIRED DETENTION BASIN VOLUME (GAL)	685108
PROPOSED DETENTION BASIN BOTOTM AREA (SF)	46000
TIME TO DRAIN RETENTION BASIN (DAYS)	1.87

Stormwater from the second storm will be pumped out of the detention basin and be transported to the retention basin via force main. The proposed alignment of the force main, and the retention basin location and configuration are provided in Exhibit 3. The basin has been placed to not interfere with any of the Hospital drainage functions or the Jail functions that currently drain to the north and east campus retention basins. The basin will be dedicated solely to providing terminal drainage for the Be Well project.

3.2. FEASIBILITY

Based on our understanding of the project requirements and geotechnical findings, we conclude that both the detention and retention basins are adequately sized for the proposed San Joaquin County Behavioral Health Campus and meet the criteria for providing terminal drainage for the Be Well project.

If additional information is needed, or if there are inquiries in this memo, please do not hesitate to contact me.

Sincerely,

Paul J. Schneider, P.E., QSD/QSP
President | Managing Principal
SIEGFRIED

Exhibit 1 – Detention and Retention Sizing Calculations
Exhibit 2 – Grading Plan
Exhibit 3 – Force Main and Retention Basin Layout
Exhibit 4 – San Joaquin County Improvement Standards Drawing D-3
APPENDIX A – San Joaquin Morgue and Jail Basin Geotechnical Memo
APPENDIX B – San Joaquin County Behavioral Health Campus Geotechnical Report

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BE WELL ONSITE DETENTION BASIN ANALYSIS

RUNOFF COEFFICIENT CALCULATION			
	AREA (SF)	RUNOFF COEFFICIENT	WEIGHTED RUNOFF COEFFICIENT
LANDSCAPE AREAS (PLANTING, BARK, ETC.)	177353	0.25	0.09
STREAM	2627	1.00	0.01
WATER FEATURE	77400	1.00	0.15
CONCRETE ASPHALT	253520	0.95	0.47
TOTAL	510900		0.71

DETENTION SIZING CALCULATION	
C= WEIGHTED RUNOFF COEFFICIENT	0.71
A=AREA (SF)	510900
R=RAINFALL (IN)*	3.03
CAR/12 =REQUIRED VOLUME (CF)	91591.60

NOTES:
1. RAINFALL IS GIVEN BY SAN JOAQUIN COUNTY STANDARD DRAWING D-3.

DETENTION BASIN INFILTRATION	
INFILTRATION RATE (GAL/SF/DAY)	8.61
REQUIRED DETENTION BASIN VOLUME (CF)	91592
REQUIRED DETENTION BASIN VOLUME (GAL)	685108
PROPOSED DETENTION BASIN BOTOTM AREA (SF)	41013
BASIN VOLUME INFILTRATION DURATION (DAYS)	1.94

TERMINAL DISCHARGE RETENTION BASIN ANALYSIS

PUMPING RATE TO RETENTION BASIN	
VOLUME TO BE PUMPED TO RETENTION BASIN (CF)	91592
VOLUME TO BE PUMPED TO RETENTION BASIN (GAL)	685108
TIME TO PUMP TO RETENTION BASIN (HOURS)	96
TIME TO PUMP TO RETENTION BASIN (MIN)	5760
MINIMUM PUMP FLOW RATE (GPM)	118.94

TIME TO DRAIN RETENTION BASIN	
INFILTRATION RATE (GAL/SF/DAY)	7.96
REQUIRED DETENTION BASIN VOLUME (CF)	91592
REQUIRED DETENTION BASIN VOLUME (GAL)	685108
PROPOSED DETENTION BASIN BOTOTM AREA (SF)	46000
TIME TO DRAIN RETENTION BASIN (DAYS)	1.87

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SCALE: 1"=50'

BOULDER ASSOCIATES
300 SPECTRUM CENTER DR, SUITE 730
IRVINE, CALIFORNIA 92618
949.727.9000

PROJECT 236276.00

SAN JOAQUIN COUNTY - BEHAVIORAL HEALTH CAMPUS

55 W. HOSPITAL RD.
FRENCH CAMP, CA 92531

PERMIT SET

DATE 2/29/2024

REVISIONS

#	DESCRIPTION	DATE

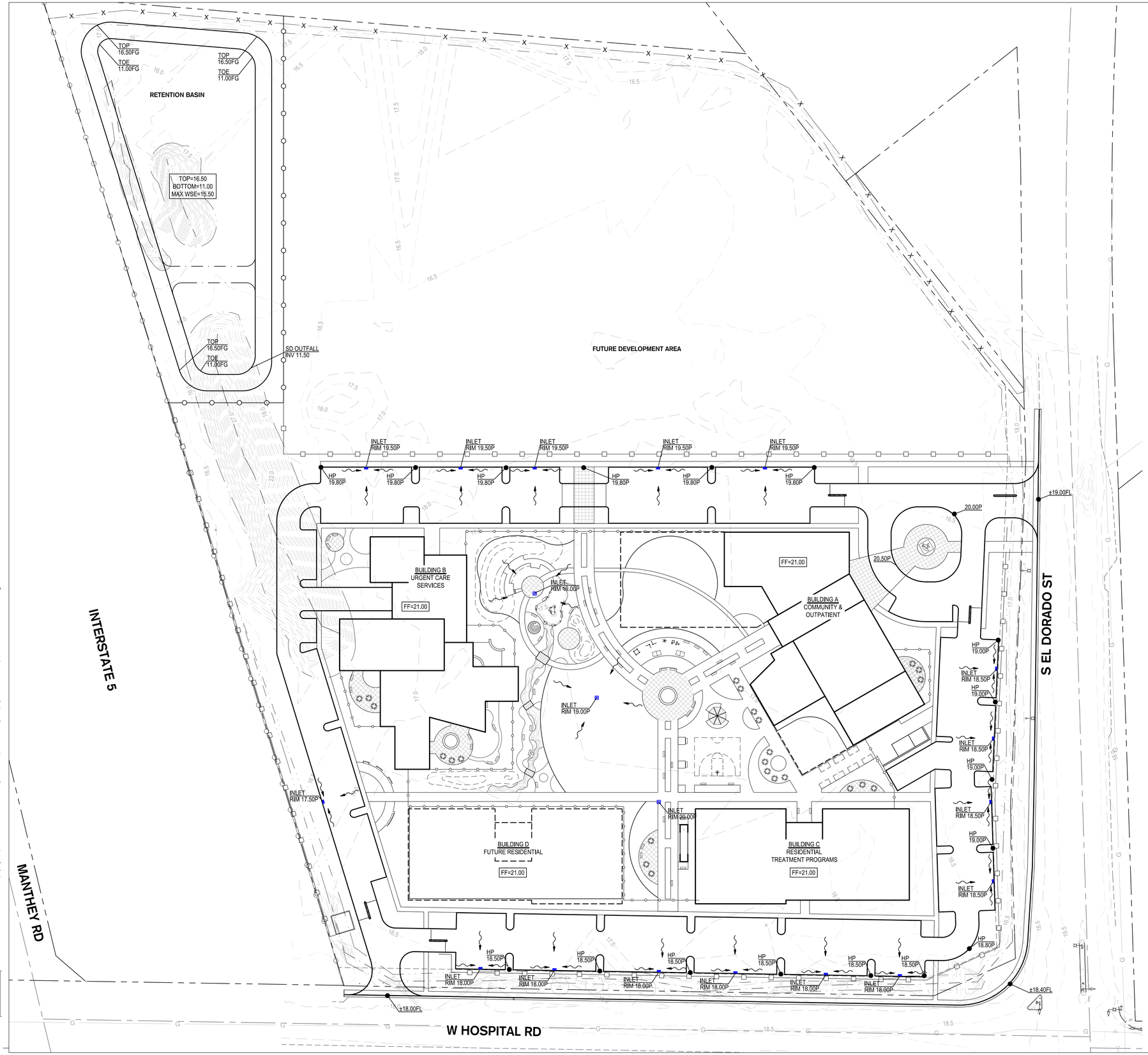
REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNELDER
No. 82498
Exp. 09/30/25
CIVIL
STATE OF CALIFORNIA

SHEET TITLE

DETENTION AND RETENTION SIZING CALCULATIONS

SHEET NUMBER

EXHIBIT 1



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BOULDER ASSOCIATES
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IRVINE, CALIFORNIA 92618
949.727.9000

PROJECT 236276.00

SAN JOAQUIN COUNTY - BEHAVIORAL HEALTH CAMPUS

55 W. HOSPITAL RD.
FRENCH CAMP, CA 92531

PERMIT SET

DATE 2/29/2024

REVISIONS

#	DESCRIPTION	DATE

REGISTERED PROFESSIONAL ENGINEER
PAUL J. SCHNEIDER
No. 62498
Exp. 09/30/25
CIVIL
STATE OF CALIFORNIA

SHEET TITLE

GRADING PLAN

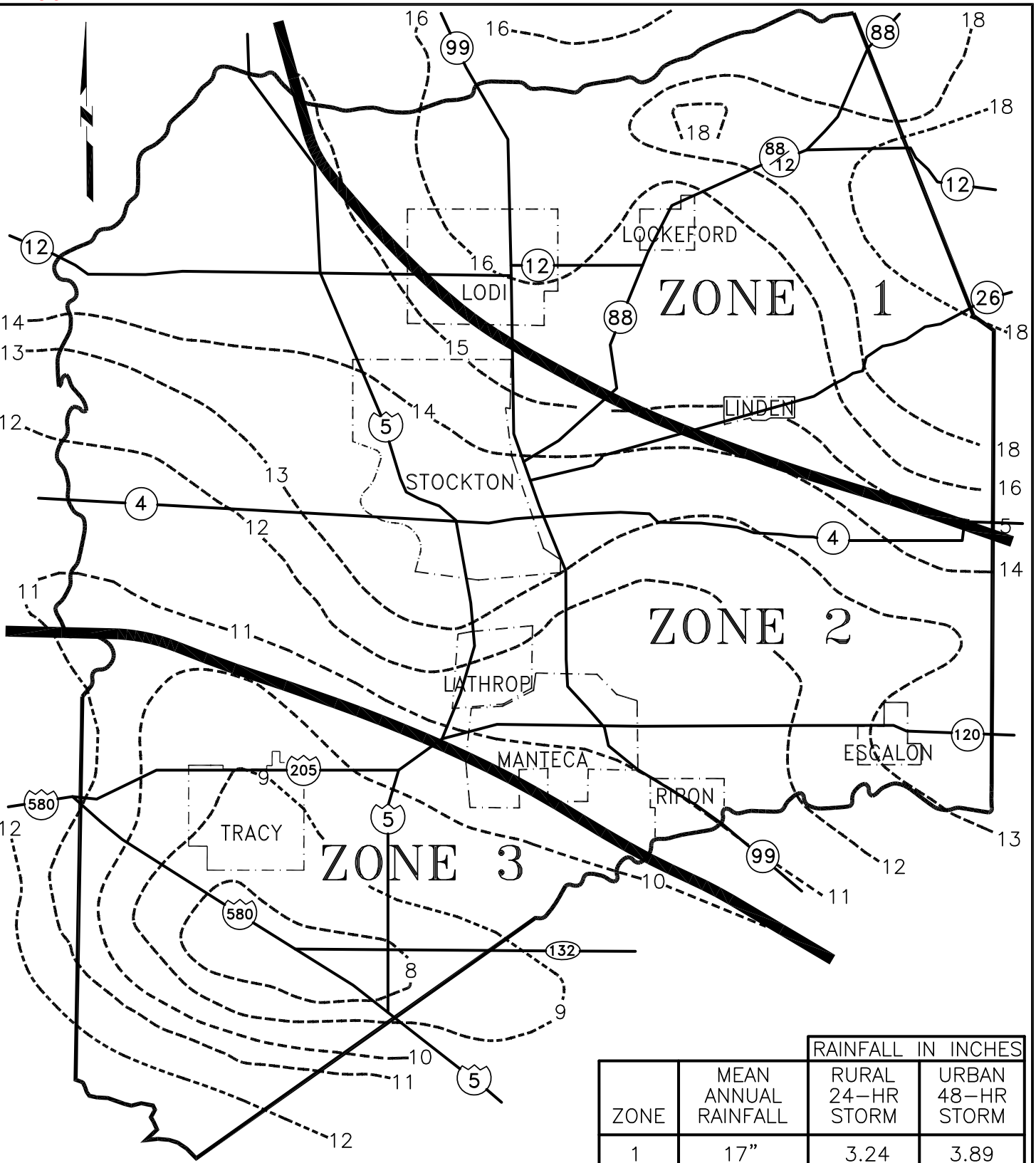
SHEET NUMBER

EXHIBIT 2

EXHIBIT 3


4,555LF STORM FORCE MAIN
RETENTION BASIN:
3' TOTAL DEPTH
2' PONDING DEPTH
1' FREEBOARD
BOTTOM AREA: 46,000LF
Stockton VA clinic
Richard A. Pittman VA Clinic - VA...
Mary Graham Children's Shelter
Lot 4 Patient and Visitor Parking
Clinic Cir
N Loop Rd
West Side Fwy
San Joaquin General Hospital...
San Joaquin General Hospital
Cesar Chavez Rd
W Service Rd
AWP program
Sage Program - Modular 1
General Hospital
S Loop Rd
Harty Ln
Cottage Ln
S El Dorado St
Lombard St
EL PADRINO
Eldorado Palms Apartment
Google Earth

Exhibit 4



San Joaquin County
Isohyetal Map

ZONE	MEAN ANNUAL RAINFALL	RAINFALL IN INCHES: RURAL 24–HR STORM	RAINFALL IN INCHES: URBAN 48–HR STORM
1	17"	3.24	3.89
2	13.5"	2.40	3.03
3	9"	1.39	1.87

Public Works
San Joaquin County
Working for YOU

MEAN ANNUAL PRECIPITATION

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS

Date: DEC 2014

Approved by:

Thomas M. Flinn

No.	Revision Description	Date

Std. Dwg. No. **D-3**

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APPENDIX A – SAN JOAQUIN COUNTY JAIL GEOTECHNICAL MEMO

STOCKTON
3428 Brookside Rd.
Stockton, CA 95219
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SAN JOSE
111 N. Market St., #300
San Jose, CA 95113
t: 408.754.2021

SACRAMENTO
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Sacramento, CA 95834
t: 916.520.2777

MODESTO
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Modesto, CA 95354
t: 209.762.3580

- Refill the hole to approximately 6 inches above the gravel
- From a fixed reference point, take the readings 10 minutes apart over a one (1) hour period.
- Use the final reading to calculate the percolation rate in minutes per inch.

- Calculate the percolation rate, then using the Porchet method, convert to infiltration rate.

Laboratory Testing

We performed geotechnical testing on the samples collected from the bottom of the bores at the bottom of the percolation tests. Testing was performed to verify the gradation of the soil to approximate infiltration rates using the relationship developed by Massman, 2003. Results of the testing performed are included in this memorandum.

Site Conditions

The surface condition of the existing basins were overgrown with tall grass, brush piles, small to large bushes and small to large trees. A pile of rubble was encountered in the southwest corner of the east basin. Shallow pools of water were observed at various locations near the bottom of the basins

Subsurface Conditions

Boring P-1 advanced at the at the west side of the north basin encountered sandy silt (ML). Boring P-2 advanced at the at the center of the north basin encountered poorly-graded sand with silt (SP-SM). Borings P-3 advanced at the at the north side of the east basin and P-4 advanced at the south side of the east basin encountered silt with sand (ML). Groundwater was not encountered in borings. The locations of the explorations advanced are shown on Plate 2.

Conclusions

The infiltration rates presented in the table below were converted by Porchet methods utilizing the percolation rates at the test interface presented, except as noted. The infiltration rates may vary depending on the soil's composition, fines content, density (i.e., relative compaction) and moisture content. The surface of the existing basins are covered by vegetation that may inhibit the rates of infiltration from what was measured at each location. Due to excessive rates measured during field testing the infiltration rate at location P-2 was calculated using a relationship between soil gradation and infiltration rate developed by Massman, 2003. The same relationship was used to validate the values measured during field testing at locations P-1, P-3, and P-4. Infiltration rates presented are measured rates with no factor of safety. An appropriate factor of safety should be applied to the measured infiltration rate for the design of the storm system.

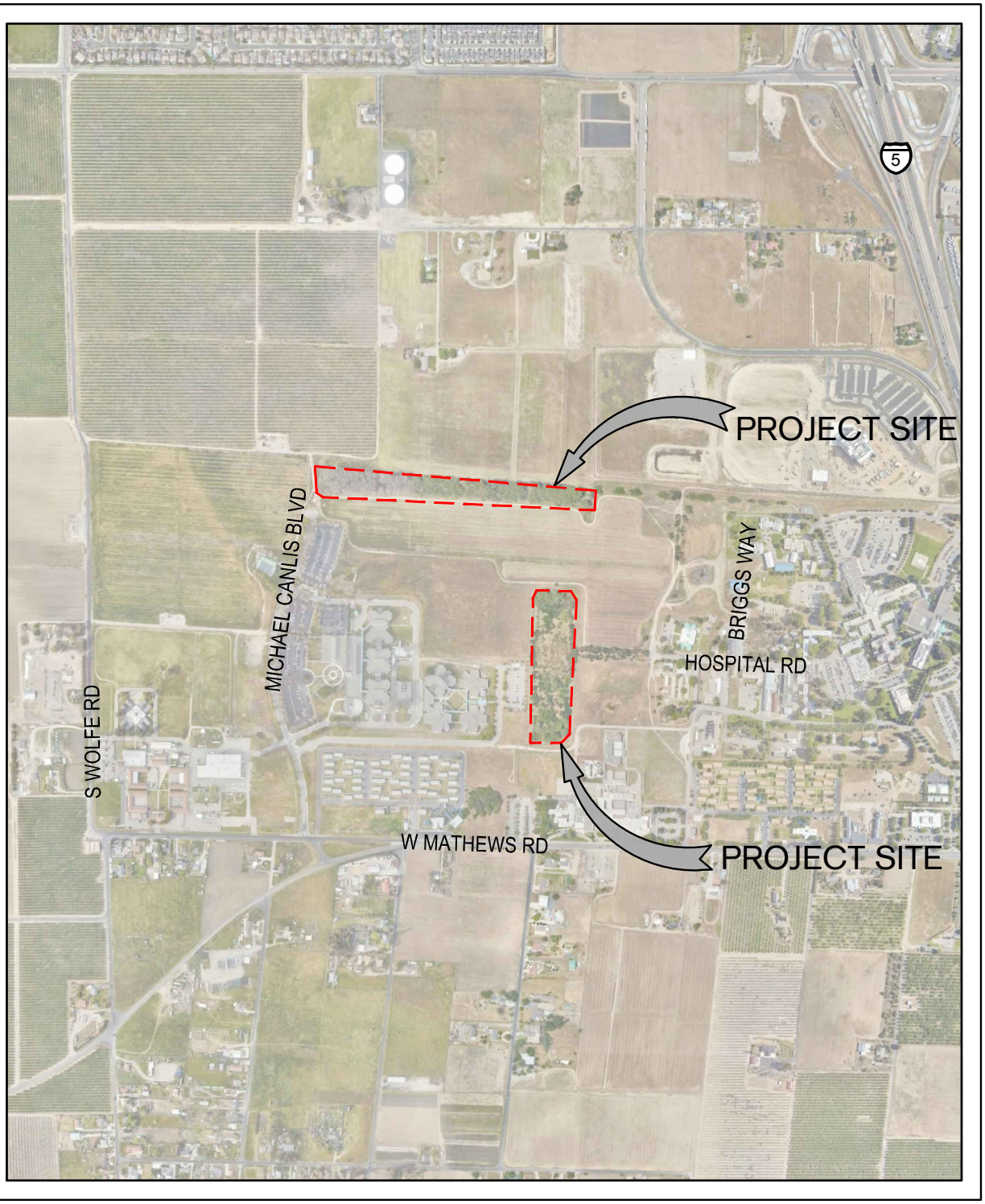
Table 1 – Infiltration Rates for Percolation Tests Converted by Porchet Method

Location	Depth of Test Below Ground Surface (ft)	Measured Infiltration Rate (in/hr)	Measured Infiltration Rate (gal/sf/day)
P-1 (North Basin)	1 3/4	2.7	39.8
P-2 (North Basin)	1 3/4	35.9*	536.4
P-3 (East Basin)	2	1.5	22.3
P-4 (East Basin)	2 1/4	2.3	34.9

The locations of the percolation tests are shown on Plate 2.

*Rate determined using soil gradation to infiltration rate relationship developed by Massman, 2003

F:\16PROJECTS\16011 SAN JOAQUIN COUNTY MORGUE\IMPROVEMENT PLANS\EXHIBITS\GEOTECH EXHIBITS\16011 – SITE LOCATION MAP NORTH AND EAST BASINS.DWG 2/21/2024 9:44 PM



SITE LOCATION MAP

SAN JOAQUIN COUNTY MORGUE

NORTH AND EAST BASINS

DATE	02/21/24
DESIGN	BLQ
DRAWN	AA
JOB NO.	16011

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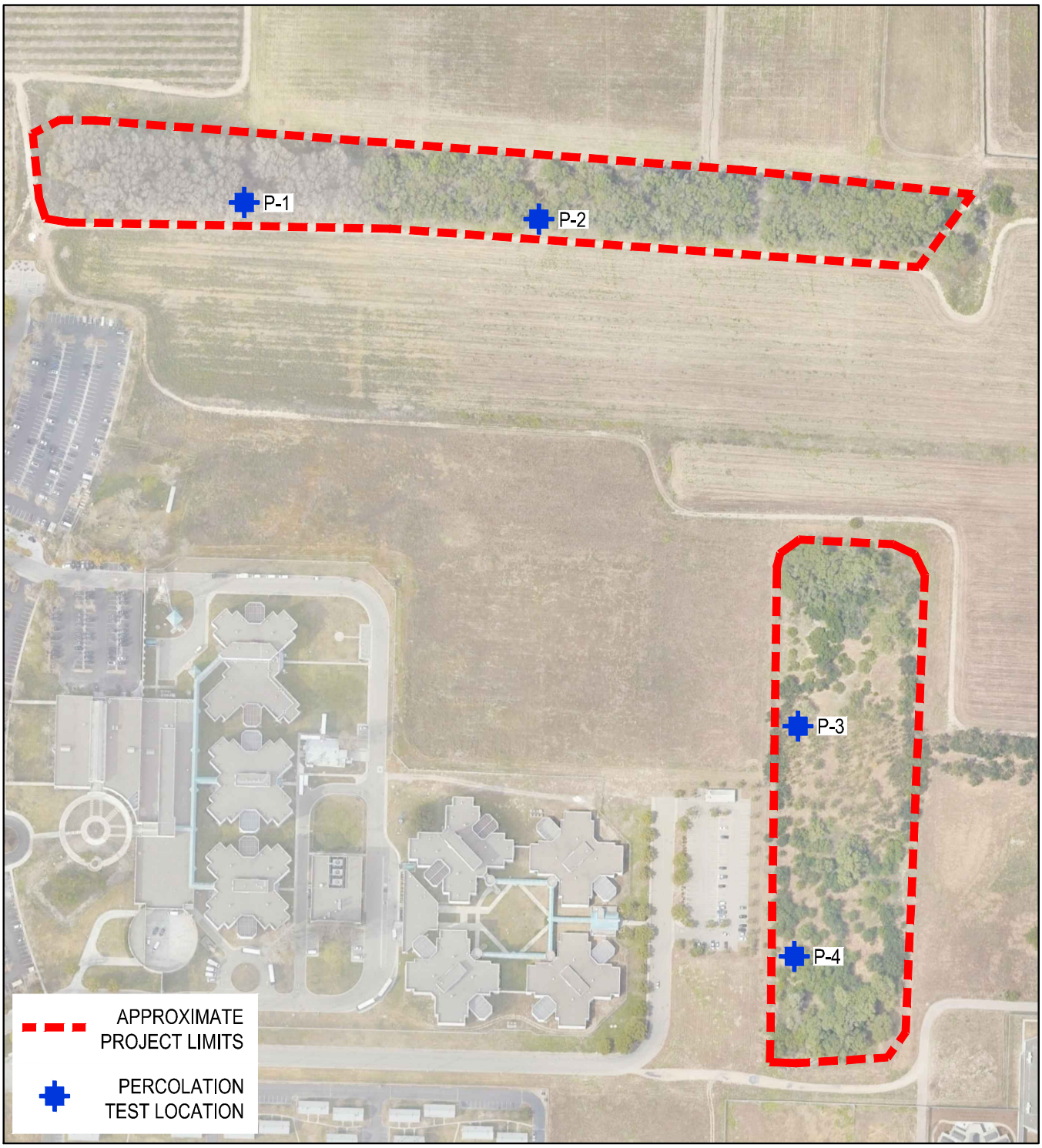
CIVIL
STRUCTURAL
LANDSCAPE ARCHITECTURE
SURVEYING
PLANNING
ATHLETIC FACILITY DESIGN
GEOTECHNICAL

3428 Brookside Road, Stockton, California 95219
209-943-2021 www.siegfriedeng.com

SCALE: NO SCALE

PLATE 1

F:\16PROJECTS\16011 SAN JOAQUIN COUNTY MORGUE\IMPROVEMENT PLANS\EXHIBITS\GEOTECH EXHIBITS\16011 – EXPLORATION LOCATION MAP NORTH AND EAST BASINS.DWG 2/21/2024 3:



EXPLORATION LOCATION MAP

SAN JOAQUIN COUNTY MORGUE

NORTH AND EAST BASINS

DATE	02/21/24
DESIGN	BLQ
DRAWN	AA
JOB NO.	16011

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SCALE: 1" = 300'

PLATE 2

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Geotechnical Materials Testing Summary

Tested in General Accordance with ASTM D1140, D2487, D2974, D4318, D6913, and D7263.

Project Name: San Joaquin County Morgue

Project Number: 16011-DGA-5001

Project Location: French Camp, CA

					ASTM D2216	ASTM D7263		Visual		ASTM D1140/D6913			ASTM D2487	
Sample Date	Location ID	Depth Top (ft)	Depth Base (ft)	Color	Moisture (%)	Wet Density (pcf)	Dry Density (pcf)	Liquid Limit	Plasticity Index	Gravel (%)	Sand (%)	Fines (%)	USCS Group Symbol	USCS Description
2/6/2024	P-1	1.5	1.8	Brown	---	---	---	NP	NP	1	40	59	ML	Sandy Silt
2/6/2024	P-2	1.5	1.8	Brown	---	---	---	NP	NP	0	91	8.8	SP-SM	Poorly-Graded Sand with Silt
2/6/2024	P-3	1.8	2.0	Brown	---	---	---	NP	NP	0	30	70	ML	Silt with Sand
2/6/2024	P-4	2.0	2.3	Brown	---	---	---	NP	NP	1	22	77	ML	Silt with Sand

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APPENDIX B – SAN JOAQUIN COUNTY BEHAVIORAL HEALTH CAMPUS GEOTECHNICAL REPORT

SIEGFRIED

PRELIMINARY GEOTECHNICAL REPORT
PROPOSED HEALTH PLAN OF SAN JOAQUIN – BE WELL
NORTHWEST CORNER OF W. HOSPITAL ROAD AND S. EL DORADO STREET
FRENCH CAMP, CA

Prepared for Boulder Associates

November 17, 2023

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SIEGFRIED

November 17, 2023

To: Darci Hernandez, AIA, LEED AP | Principal
BOULDER ASSOCIATES
300 Spectrum Center Drive, Suite 730
Irvine, CA 92618

RE: PRELIMINARY GEOTECHNICAL REPORT FOR
PROPOSED HEALTH PLAN OF SAN JOAQUIN – BE WELL
NORTHWEST CORNER OF W. HOSPITAL ROAD AND S. EL DORADO STREET
FRENCH CAMP, CA

Dear Darci,

We have completed our geotechnical report for the proposed Health Plan of San Joaquin – Be Well project located at the northwest corner of W. Hospital Road and S. El Dorado Street, French Camp, California. The purpose of our study was to explore the subsurface soil and groundwater conditions at the site to provide preliminary geotechnical engineering recommendations related to foundation design and earthwork construction.

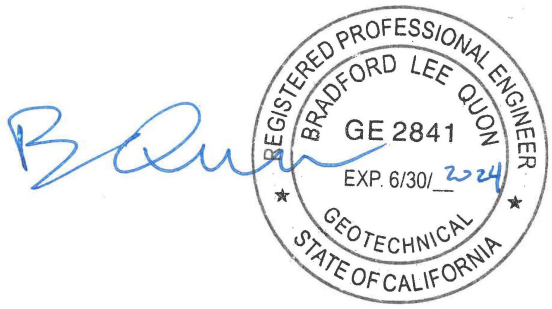
Based on our study and on a preliminary basis during this validation phase, the site conditions are suitable for design and construction of the subject project from a geotechnical engineering perspective. The primary geotechnical features to be considered during final design and construction are:

- Site Conditions
  - The presence of an overgrowth of vegetation, tall brush, and trees across the site
  - The presence of organics in the upper 6 to 12 inches of the surface
  - The presence of undocumented fills in the upper 1 to 2 feet of the surface from prior agricultural use and backfill of previously demolished structures
  - The presence of trash and other non-deleterious matter (i.e., golf balls)
  - Stockpiles of soil, asphalt grindings, and concrete rubble on the western portion of the site
  - Imagery that suggested an unidentified feature was located at the northwest corner of the site
  - Remnants of flatwork from the prior golf course driving range usage at the site
- Building layouts are preliminary at this time but we assume typical single to two story structures will be light to moderately loaded with maximum column loads and wall loads of 100 kips and 2 kips per lineal foot, respectively. We are not aware of the building type which could change the structural load conditions assumed. Confirmation will be required during final design.

We make preliminary design and construction recommendations to address the adverse effects of these conditions with the design team during the validation Stage of the project. Once the Validation Stage is complete and the project moves into schematic design and design development, a final geotechnical report can be prepared when final site configuration and building type and loads are known. Additional field explorations and laboratory testing will be advanced within building footprints when they are finalized.

We appreciate the opportunity to collaborate with you and the design team on this project. If additional information is needed or if there are inquiries in this report, please do not hesitate to contact me.

Sincerely,



Bradford Quon, GE
Geotechnical Manager | Principal
SIEGFRIED

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TABLE OF CONTENTS

SIEGFRIED

PART 1. INTRODUCTION

We have completed our geotechnical report for the proposed Health Plan of San Joaquin – Be Well project located at the northwest corner of W. Hospital Road and S. El Dorado Street, French Camp, California. The purpose of our study was to explore the subsurface soil and groundwater conditions at the site to provide preliminary geotechnical engineering recommendations related to foundation design and earthwork construction. The vicinity of the project is shown on Plate 1, Site Location Map.

1.1. PROJECT DESCRIPTION

The project site is located at the northwest corner of W. Hospital Road and S. El Dorado Street in French Camp, California.

The planned project will generally comprise the following:

- A series of single to two story structures
  - Building A – Community and Outpatient 22,300 sf (single story)
  - Building B – Urgent Care Services 27,700 sf (single story)
  - Building C – Residential Treatment Programs 42,500 sf (two story)
  - Building D – Future Residential 42,500 sf (two story) - Future
- Below grade infiltration facilities;
- Trash enclosures;
- Wet and Dry utilities;
- Landscaping;
- Exterior flatwork; and
- Flexible and Rigid pavements

No basements are planned currently. Load conditions are not known currently since the building types and configurations are not defined. We assume lightly loaded structures should not exceed 100-kip column or 2 kip per lineal foot wall loads. Actual load conditions should be verified during final design submittal.

1.2. SCOPE OF SERVICES

Our authorized scope of services was outlined in our proposal dated October 27, 2023, and authorized with Boulder Associates Consultant Service Order dated October 27, 2023. The scope of services generally included the following:

- Field exploration consisting of a series of drilled borings to maximum of approximately 51½ feet below the ground surface (bgs).
- Geotechnical testing to evaluate relevant index properties, engineering parameters (i.e., strength), corrosivity, and R value.
- Geotechnical engineering analysis to formulate conclusions and preliminary recommendations related to foundation design and earthwork construction.

1.3. SITE CONDITIONS

The site to be developed is located at the northwest corner of W. Hospital Road and S. El Dorado Street in French Camp, California as shown on Plate 1. The parcel is an irregularly shaped and relatively level parcel bounded by undeveloped land to the north, S. El Dorado Street to the east, W. Hospital Road to the south and the Interstate 5 embankment and right of way to the west. During our site exploration, we observed the following:

- Dense growth of brush approximately 4 to 5 feet tall blanketing the site and trees sporadic across the site as shown in Figure 1.
- Stockpiles of crushed rock, asphalt grindings and concrete rubble across the site (Approximate locations shown on Plate 2).
- A long stockpile of soil blanketed with dry grass east of the Interstate 5 embankment (Approximate location shown on Plate 2).
- Gravel surfaced access roads cut through the site.
- Existing single-story structure on the south portion of the site.
- Chain-link fencing around the perimeter of the site.
- Trash and miscellaneous non-deleterious materials around the surface of the site.
- Telephone and power poles around the site.

Figure 1: Typical growth of brush, vegetation, trees looking eastward on the site near the access road.

1.4. HISTORIC AERIAL IMAGES

We also reviewed historic aerial images provided at https://historicaerials.com from 1957, 1967, 1968, 1982, 1993, 1998, 2002, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020.

- The images from 1957, 1967, and 1968 show the existing site being relatively level and undeveloped, likely used for agricultural purposes
- The image from 1982 shows the first image where Interstate 5 appeared.
- The image 1993 indicates a darkened feature on the northwest corner of the site. The resolution of the image limits the clarity on the definition of the feature, but we interpret it as either a pond or a dense growth of brush and vegetation. See Plate 3.
- The image 1998 shows the feature identified in the image from 1993 as removed. A curved structure built just north of the existing structure was noted. See Plate 4.
- The image from 2002 shows the image noted from 1998 at a higher resolution with a concrete flatwork and structure on the south side of the site.
- The images from 2005 through 2012 still show the features noted in the image from 2002. See Plate 5.
- The image from 2014 does not show the features delineated in the 2002 through 2012 images.
- The images from 2018 show the access roads carved through the western side of the site. See Plate 6.
- No significant changes to the site were noted in the image from 2020.

PART 2. ENGINEERING GEOLOGY AND SEISMIC HAZARDS (GEOHAZARDS)

2.1. SITE CHARACTERIZATION

2.1.1. Local Geologic Conditions

Delattre, Graymer, Langenheim, and Knudsen, et. al. (2023) mapped the near surface deposits as Quaternary Modesto Formation (late Pleistocene) Upper Member, fine grained, map symbol, Qmub. This formation is commonly stratified alluvium of flood basins, lower fans, and interdistributary fan areas. The soil formed on these deposits are typically Dinuba, Landlow and Stockton Series.

2.1.2. Soil Survey

The Soil Survey of San Joaquin, California maps the western portion of the site as the Manteca fine sandy loam (Map symbol hhv2). The Manteca fine sandy loam soils are characterized as “moderately well drained” and a “very low” capacity to transmit water. The survey identifies these soils as Hydrologic Soil Group “C”. The eastern portion of the site is mapped as Veritas fine sandy loam (Map symbol hhxb). The Veritas fine sandy loam as “moderately well drained” and a “very low” capacity to transmit water. The survey identifies these soils as Hydrologic Soil Group “A”.

2.1.3. Geologic Hazard Zones

Geologic ground failures can occur within earthquake hazard zones. The California Geological Survey (CGS) Earthquake Zones of Required Investigation (https://maps.conservation.ca.gov) indicates the parcels to be developed:

- The parcel is NOT WITHIN an Earthquake Fault Zone
- The parcel has NOT been evaluated by CGS for liquefaction hazards
- The parcel has NOT been evaluated by CGS for seismic landslide concerns

2.2. GEOLOGIC HAZARDS

2.2.1. Expansive Soils

Expansive soils have the potential to impact the development where fluctuations in the moisture contents can cause unacceptable shrinkage and/or swell beneath buildings and/or flatwork. Controlling the moisture change will reduce this shrink-swell capability. Expansive soils are defined as having a Plasticity Index (PI) greater than 15 and an Expansion Index (EI) greater than 20. The near surface clay soils on the site were tested to have a PI of less than 15 indicating a low potential for expansion, thus we consider the expansive soils **not to be a design consideration.**

2.2.2. Weak/Soft Compressible Soils

Weak and soft, compressible soils are identified as having a very soft consistency. Soft compressible soils were not encountered in the borings advanced for this study. On this basis, weak/soft compressive soils are **not a design consideration.**

2.2.3. Corrosive Soils

We tested a bulk sample of soil for pH, minimum resistivity, chloride and sulfate presence, redox potential, and sulfides. The results are summarized in Table 2.1.

Table 2.1 – Soil Corrosivity

	CT643	CT643	CT422m	CT417	ASTM G200m	AWWA C105/A25.5
Sample Location	Soil pH	Min. Resistivity Ohm-cm (x1000)	Chloride ppm (%)	Sulfate ppm (%)	Redox Potential (mv)	Sulfides Presence
Bulk 1 (surface)	7.01	1.82	5.0 (0.00050%)	6.1 (0.00061%)	+ 268	negative
Bulk 2 (surface)	7.63	1.28	3.5 (0.00035%)	0.2 (0.00002%)	+255	negative

The Caltrans Corrosion Guidelines, Version 3.2 dated May 2021 considers a site to be corrosive if one or more of the following conditions exist:

Chloride concentration is 500 ppm or greater, sulfate concentration is 1500 ppm or greater, or the pH is 5.5 or less. Based on the Caltrans methodology, the site evaluated is **not considered corrosive.**

2.2.4. Flooding

The FEMA Flood Insurance Rate Map (FIRM) Map Number 06077C0470F indicates the entire parcel to be developed is mapped in an Area of Reduced Flood Risk due to Levee, Zone X. The potential for flooding is **not a design consideration for this project.**

2.2.5. Radon-222 gas

Radon is produced naturally as Radon-222 in gas form. Radon is a byproduct of the natural decay of uranium that is present in small quantities in several rock types such as granitic rocks of the Sierra Nevada and sediment derived rocks in the Sacramento Valley. Radon is soluble and can be transported in groundwater. When water-containing radon is exposed to air (by pumping or through a tap), radon can diffuse into the air where it can be inhaled.

The U.S. Environmental Protection Agency (EPA) (https://www.epa.gov/sites/default/files/2018-12/documents/radon-zones-map.pdf) lists San Joaquin County in Zone 3, the lowest potential radon hazard (less than 2 pCi/L) (U.S. EPA, n.d.). **Based on the zone assignment, we conclude that naturally occurring radon would not be considered a health hazard for this project.**

2.2.6. Naturally Occurring Asbestos

Naturally Occurring Asbestos (NOA) is hazardous to humans. Asbestos included six regulated naturally occurring minerals (actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite). In California, asbestos minerals are most associated with ultramafic rocks and their derivatives, including Serpentine rock. Ultramafic rock are igneous rocks composed mainly of iron-magnesium silicates minerals hat crystallize deep in the earth's interior. By the time they are exposed at the Earth's surface, ultramafic rocks have typically undergone metamorphism, a process in which the mineralogy or the rock changes in response to the changing chemical and physical conditions. Asbestos is classified as a known human cancer-causing substance by local, State, and Federal health agencies and is known to cause chronic respiratory diseases. Asbestos fibers

may be released into the air because of activities which disturb NOA-containing rocks or soils. Asbestos minerals can fragment into small fibers that readily suspend in the air and are of a size visible only under a microscope. Breathing these small fiber fragments may result in an increased risk of respiratory disease or cancer in exposed individuals.

The Department of Toxic Substances Control (DTSC) has developed the Interim Guidance, Naturally Occurring Asbestos at School Sites, revised 9/24/2004. The guidance document provides a four-step process to assist school districts and their consultants in conducting environmental assessments, investigations, and response actions (if needed) at new or expanding school sites with potential NOA. Step 1 is the potential identification of NOA through the performance of a Phase I Environmental Site Assessment (Phase I ESA). If NOA is potentially identified, environmental sampling and analysis will be needed as part of the development of a Preliminary Environmental Assessment (PEA.) The guidance document continues to a mitigation phase and long-term operation and maintenance of the site.

Based on the review of the geologic maps, no ultramafic rocks are mapped near the property. We conclude that NOA is **not a design consideration.**

2.2.7. Hydrocollapse

Hydrocollapse occurs when loose, dry, sandy soils become saturated and settle. These materials are typically located in arid climates where wind and temperature have the greatest impact. The collapsible soils are prevalent in the Southern California area and in high desert areas. Loose granular soils were not encountered at the site; thus, we **consider hydrocollapse not to be a design consideration.**

2.3. SEISMIC HAZARDS

2.3.1. Historical Seismicity

The site is in low to moderate seismic region with most of the active faults located greater than 30 miles west of the project site within the San Francisco Bay Area. Toppozada, et. al., (2000) mapped the epicenters areas damaged by Magnitude (M) ≥ 5 Earthquakes. The mapping showed one significant earthquake located at the southwest corner of the county with a magnitude (M) 6.0 during the period around 1886.

The Unified States Geological Survey (USGS) maintains an interactive online portal at https://earthquake.usgs.gov/hazards/interactive to deaggregate the nearest earthquake faults that contribute the most towards the earthquake hazard. For this site, the deaggregated earthquake has a mean magnitude (M) of 6.24 occurring at a radius of 20.78 km (12.9 miles) west of the site. Table 2.2 provides some faults, the distance and direction from the site, and the magnitude it can generate. The faults presented are deaggregated contributors based on the Unified Hazard tool.

Table 2.2 – Faults, distance from site, and magnitude

Fault Name, Fault Model	Distance, km (miles)	Direction from Site	Magnitude (M)
Greenville (No.), FM32	41.27 (25.6)	West	7.14
Great Valley 07 (Orestimba), FM32	29.11 (18.1)	Southwest	6.45
Greenville (No.), FM31	41.33 (25.7)	West	7.14
Mount Diablo Thrust South, FM31	41.01 (25.5)	West	7.07
Great Valley 07 (Orestimba), FM31	29.11 (18.1)	Southwest	6.47

2.3.2. Fault Rupture

Fault rupture is a failure mechanism where the surface of the earth breaks along a fault. An active fault is defined as a fault that has ruptured in the last 11,000 years. There are no known active faults that trend and align towards the project site and the site is not located within an Alquist-Priolo Earthquake Fault Zone (formerly known as a Special Studies Zone). Therefore, we consider the potential for fault rupture at the site as negligible and **not a design consideration.**

2.3.3. Strong Ground Motion

For seismic design, mapped based spectral accelerations may be used provided the allowable exceptions are implemented in the project.

2.3.4. Liquefaction

Liquefaction is a phenomenon when saturated loose granular soils lose their strength and fail during a seismic event from an earthquake. The granular soils are typically clean and poorly graded and are typically younger deposits of Holocene age. For this project, groundwater was encountered in the boring B-4 at depth of about 24 feet bgs. The explorations encountered medium stiff to hard cohesive soils and medium dense silty sand and poorly graded sand. An approximate 5-foot-thick layer of loose silty sand layer encountered at depth of about 45 feet bgs was evaluated to have a potential liquefy. Since the site is of Pleistocene age and based on the findings of Ishihara (1985) where there is a sufficiently thick layer of dense to stiff material over a liquefiable layer, ground manifestations related to liquefaction are not likely. Therefore, we consider the potential for liquefaction at the site as negligible and **not a design consideration.**

2.3.5. Landsliding and Slope Stability

Landslides tend to occur in weak soil and rock on sloping terrain. The parcel to be improved is relatively level across the site, thus we consider the potential for landslides and slope instability as negligible and **not a design consideration.**

2.3.6. Tsunami and Seiche Inundation

A tsunami is a wave, or series of waves, generated by an earthquake, landslide, volcanic eruption, or even large meteor hitting the ocean. The sea floor experiences significant upward movement resulting in a rise of water at the ocean surface. The mound water moves away from the center in all directions as a tsunami (CGS, Note 55). The San Francisco Bay and Pacific Ocean is over 50 miles west of the French Camp. We conclude the risk of tsunami is negligible and **not a design consideration.**

A seiche is a temporary disturbance or oscillation in the water level of a lake or partial enclosed body of water, especially one caused by changes in atmospheric pressure. There are no known lakes or partial enclosed bodies of water located within a ½ mile of the site. We conclude the risk to seiche is negligible and **not a design consideration.**

PART 3. FINDINGS

3.1. SUBSURFACE CONDITIONS

3.1.1. Undocumented Fill

The borings B-1 through B-4 all encountered undocumented fill soils to depth of approximately 1 to 2½ feet bgs. The undocumented fill soils were likely a result of prior backfills and site grading during agricultural use. The fill was comprised generally of sandy lean clay (CL), silty sand (SM) with gravel. The undocumented fill soils were generally disturbed and loose in density.

3.1.2. Native Soil

Beneath the undocumented fills, the bores encountered native soils that were comprised of medium dense to dense silty sand (SM) and poorly graded sand (SP-SM), very stiff to hard silt and sandy silt (ML), and very stiff to hard sandy lean clay (CL) to the maximum depths explored at approximately 51½ feet bgs. The silt at 11 feet bgs was tested to have an unconfined compressive strength of 53.4 psi.

Details of the subsurface conditions are detailed on the boring logs presented in Appendix A.

3.2. GROUNDWATER CONDITIONS

Static groundwater was encountered during drilling of the bores advanced for the project as shown in the Table 3.1.

Table 3.1 – Measured Groundwater Depths Below Ground Surface (bgs)

Boring	Boring Depth, bgs (ft)	Depth to Groundwater, bgs (ft)	Comments
B-1	21½	---	Not encountered during drilling
B-2	16½	---	Not encountered during drilling
B-3	16½	---	Not encountered during drilling
B-4	51½	24	Encountered at time of drilling

Variations in groundwater levels may occur due to variations in ground surface topography, subsurface geologic conditions and structure, seasonal rainfall, local irrigation practices, new construction, and/or other factors beyond our control.

The California Department of Water Resources maintains a database of groundwater levels from well sites drilled in the vicinity for the Sustainable Groundwater Management Act (SGMA). The website https://storymaps.arcgis.com lists the following wells in proximity to the site with the corresponding depth to groundwater. Table 3.2 presents a summary of the DWR wells and corresponding groundwater depths.

Table 3.2 – Groundwater Levels from DWR Wells				
Well Site	Distance and Direction	Ground Elevation (ft)	Measured Depth to Water (ft)	Last Measurement Date
378972N1212936W003	0.8 miles NE	15.00	14.40	4/17/23
378787N1212825W001	0.5 miles SW	18.31	20.16	11/3/23

Based on the groundwater levels encountered during this study and the data reviewed from the available DWR wells, groundwater is not expected in the upper 14 feet of the surface and **not expected to be a design consideration unless deep excavations for utilities approach that depth.**

PART 4. CONCLUSIONS

Based on our understanding of the project and our findings, we conclude the project is feasible for design and construction from a geotechnical engineering perspective. Based on our findings, we conclude the following items should be addressed during final design and construction. Preliminary recommendations are presented in Part 5 of this report.

4.1. SITE CONDITIONS

The site conditions that should be addressed during design development and construction include the following presented in this section:

4.1.1. VEGETATION, TREES, BRUSH, AND ORGANICS NEAR THE SURFACE

During the time of our field study the site was blanketed with a dense growth of surface brush, trees, and vegetation. We also encountered organics scattered in the upper 1 to 2 feet of the surface. These deleterious materials should be removed outside of the construction limits and not be allowed for reuse within engineered fills.

4.1.2. UNDOCUMENTED FILLS

Undocumented fills from backfills of prior structures or abandoned utilities especially during demolition activity at the site may cause undesirable settlement unless they are mitigated. We recommend that potentially loose/soft soils (undocumented fill) be overexcavated to expose firm native soils and recompacted to provide an engineered fill for support of building slabs-on-grade or pavements.

- Within the proposed main building, we recommend all foundations and abandoned utilities be completely removed during demolition and replaced with compacted engineered fill. Foundations should bear in recompacted engineered fill or undisturbed native soil. Refer to Section 5.10.
- For lightly loaded, nonstructural elements such as trash enclosures, exterior flatwork, and pavements overexcavation is not necessary. However, the contractor should adhere to the grading requirements presented in Section 5.10.

4.1.3. TRASH AND NON-DELETERIOUS MATTER

Trash and non-deleterious matter from homeless encampments was observed throughout the site near the surface. These materials should be removed completely outside of the construction limits and not be allowed in fills.

4.1.4. STOCKPILES OF SOIL, ASPHALT GRINDINGS, CRUSHED ROCK, CONCRETE RUBBLE

We observed stockpiles of soil, asphalt grindings, crushed rock, and concrete rubble at the site and as shown on Plate 2.

Interviews with personnel maintaining the site indicated this material was reportedly placed during demolition of the former football field at the University of the Pacific. The stockpile is currently covered in weeds. The soils encountered appear to meet the requirements of engineered fill and may be used onsite provided the surface weeds/vegetation are removed and the material is moisture conditioned as engineered fill. Further testing will be required onsite to confirm applicability for reuse as engineered fill.

The stockpile of asphalt grindings will not meet the requirements of aggregate base, aggregate subbase, or engineered fill. It may likely be spread and uniformly blended with the soil stockpile provided it meets the requirements of engineered fill outside of the building footprints. Testing should be performed to verify it meets the requirements of engineered fill prior to usage. Deleterious or non-deleterious materials within the grindings should be removed prior to usage.

The stockpile of crushed rock will not meet the requirements of aggregate base, aggregate subbase, or engineered fill. It may likely be spread and uniformly blended with the soil stockpile provided it meets the requirements of engineered fill outside of the building footprints. Testing should be performed to verify it meets the requirements of engineered fill prior to usage. Deleterious or non-deleterious materials within the grindings should be removed prior to usage.

The concrete rubble stockpile is not suitable for reuse as engineered fill. The rubble should be removed outside of the construction limits.

4.1.5. UNKNOWN FEATURE AT NORTHWEST CORNER OF SITE

Review of historic aerial images as shown on Plate 3 indicated the presence of what appears to be defined as an undefined feature at the northwest corner of the project site. We did not advance any bores in this area other than a shallow infiltration test near the boundary of the limits. Based on the resolution of the imagery, we interpret this feature to be either a pond that was backfilled or a dense grown of brush and vegetation. Future studies should advance borings or test pits in the area to better define the subsurface conditions in that area specifically if there are building structures located in that area.

4.1.6. PRIOR STRUCTURES ONSITE

Review of historic aerial images as shown on Plate 3, 4, and 5 indicated the presence of some surficial structures on the south side of the parcel. These structures appeared as flatwork and single-story structures. Interviews with personnel maintaining the site indicated the site was formerly used as golf driving range facility. This supports the presence of golf balls scattered around the site. Due to the dense growth of brush around the site, the current flatwork is not apparent or visible, so we presume it was either demolished and backfilled, or buried. Future studies should verify if these features are present on site with test pits. If buried structures are exposed during construction, they should be completely removed and replaced with engineered fill.

4.2. BUILDING TYPE AND LAYOUT

The building layouts are preliminary as of preparation of this report. The construction type is not known but we assume typical single to two story structures will be light to moderately loaded with maximum column loads and wall loads of 100 kips and 2 kips per lineal foot, respectively. Taller structures may be heavier than that assumed and thus will require specific studies to evaluate the subsurface conditions at those areas to determine the appropriate subsurface preparation and foundation type.

4.3. EXPANSIVE SOILS

Expansive soils have the potential to shrink and swell due to fluctuations in the moisture content. This is prevalent especially when expansive soils are left untreated at the surface and may potentially cause undesirable movement and distress within flatwork areas or foundations. The materials tested are non to low plasticity based on Atterberg Limits testing.

During rough and finish grading, it is possible that expansive soils are encountered elsewhere onsite. If encountered, we recommend these “expansive soils” where exposed adhere to the moisture conditioning and compaction requirements recommended in this report. This would require site expansive soils to be moisture conditioned to at least 3 percent above the optimum moisture content and compacted to a minimum of 88 percent and a maximum of 92 percent relative compaction

based on the ASTM D1557 test method. **It is essential that the moisture content be maintained until it is covered by the next layer of engineered fill, baserock, flatwork, or other material. Additionally, we recommend expansive soils, if encountered, not be allowed in the upper 12 inches of building pads. The upper 12 inches of building pads should consist of non-expansive soils or lime treated subgrade.**

For specific earthwork recommendations, refer to Section 5.10 through 5.12.

4.4. OTHER CONCLUSIONS

A sample was tested for pH, minimum resistivity, chloride, and sulfate presence. The sample was also tested for redox potential and the presence of sulfides. The test results on the single sample indicate that the site soil is not in a corrosive environment. Groundwater was encountered at about 15 to 16 feet below the ground surface of the explorations advanced. Based on the review of the existing available groundwater elevation data and that obtained from this study, we conclude that groundwater is not likely to impact design unless excavations approach 15 feet bgs in depth.

PART 5. PRELIMINARY RECOMMENDATIONS

5.1. SHALLOW SPREAD FOUNDATIONS

5.1.1. Allowable Design Criteria

Shallow spread foundations may be incorporated when designed according to the following parameters presented in Table 5.1. Shallow spread foundations could apply for light to moderately loaded buildings with maximum column and wall loads of 100 kips and 2 kips per lineal foot, respectively. Heavier structures may require analysis for viability of shallow spread foundations or consideration of deepened foundations.

Table 5.1 – Shallow Foundation Design Criteria for Light to Moderately Loaded Structures

Criteria	Variable	Design Criteria	Comments
Minimum Continuous Foundations Depth	D	18 inches	Note 1
Minimum Spread Foundations Depth	D	18 inches	Note 1
Minimum Width	B	12 inches	
Allowable Bearing Capacity	q_a	3,000 psf	Note 2 and 3
Estimated Total Settlement	S_{total}	1 inch	
Estimated Differential Settlement	S_{diff}	½ inch in 20 feet	Based on Risk Category IV
Allowable Passive Pressure	P_p	270 pcf	Note 5
Allowable Friction Factor	μ	0.45	Note 5

[1]Depth of footing is measured from the lowest ground elevation to the base of the footing and does not include under slab materials (i.e., capillary break gravel and sand, or aggregate base).
[2]Allowable bearing capacity may be increased by 500 psf for each additional foot of embedment to a maximum of three times the designated value. The allowable bearing capacity is a net value so the weight of the foundation extending below grade may be disregarded when computing dead loads. The allowable bearing capacity is based on a factor of safety of 3 and is applicable to dead plus live load combinations. This value may be increased by 1/3 for short-term loading due to wind or seismic forces.
[3]Based on footings bearing over a recompacted engineered fill or firm native soil for the light to moderately loaded structures. Footings for non-structural uses such as for signs or trash enclosures, etc., do not require overexcavation but instead recompaction underneath footings per this report.
[4]Total settlement is anticipated to occur rapidly and should be essentially complete following initial application of the loads.
[5]Passive pressure and friction factor are allowable values based on a safety factor of 1.5. The upper 1 foot of soil should be neglected for passive pressure, unless it is confined by exterior slabs, slabs on grade, or pavements. The structural engineer should evaluate if additional safety factors are applicable.

5.1.2. Lateral Resistance

Resistance to lateral loads may be provided from frictional forces between the bottom of the footing and the underlying soils, and by passive soil resistance against the sides of the foundations. If moisture barriers or other substances are placed beneath footings, the coefficient of friction can be significantly lower. The passive pressure should be neglected to a depth of 1 foot where the ground adjacent to the foundation is not covered by a slab or pavement. Lateral resistance parameters presented in Table 5.1 are allowable with a safety factor of 1.5 applied. The appropriate factor of safety should be determined by the project Structural Engineer. **We assume passive pressure and friction would occur simultaneously so may be combined without reduction.**

5.1.3. Seismic Ties

As outlined in CBC 1809A.13, where a structure is assigned to Seismic Design Category D, E, or F, individual spread footings founded as Site Class E or F shall be interconnected by ties. Unless it is demonstrated that equivalent restraint is provided by reinforced concrete beams within slabs on grade or reinforced concrete slabs on grade, ties shall be capable of carrying, in tension or compression, a force equal to the lesser of the product of the larger footing design gravity load times the seismic coefficient, S_{DS}, divided by 10 and 25 percent of the smaller footing design gravity load.

5.1.4. Construction Considerations

Foundation excavations should be firm, neat, and clean of debris, loose or soft soil, or water prior to placing any reinforcement. All footings excavations should be observed by the project Geotechnical Engineer or their designated representative just prior to placing reinforcing steel or concrete to verify the recommendations presented herein are implemented during construction.

Additionally, footings may experience an overall loss of bearing capacity or an increased potential for settlement when located near existing or future utility trenches. Further, stresses imposed by the footings on the utility lines may cause cracking, collapse, and/or a loss of serviceability. To reduce this risk, open or backfilled trenches parallel with a footing shall not be below a plane having a downward slope of 2 horizontal to 1 vertical (2:1) slope from a line 9 inches above the bottom edge of the footing and not closer than 18 inches from the face of the footing. When pipes cross under footings, the footings shall be specially designed. This may require encasement of the pipe with lean concrete. Pipe sleeves shall be provided where pipes cross through footings or footing walls and sleeve clearances shall provide for possible footing settlement but not less than 1 inch all around the pipe.

5.2. RETAINING WALLS

We recommend retaining structures be designed for active pressures (i.e., cantilever conditions) or at-rest pressure if it is braced at the top (as in a roof connection) presented in Table 5.2.

5.2.1. Active and At-Rest Pressure

Table 5.2 – Lateral Earth Pressures

Condition	Lateral Earth Pressure	Drained Case[1,3]	Undrained Case[2,3]
Active Case	P_a	35	n/a, deep groundwater
At – Rest Case	P_o	55	n/a, deep groundwater
Seismic Increment	P_{AE}	9 x H^2 (psf)	

[1]Drained case assumes fully drained conditions and level backfill. Undrained cases assume hydrostatic conditions.
[2]Undrained cases assume hydrostatic conditions based on buoyant unit weights of soil.
[3]Lateral earth pressures are presented as ultimate.

No additional surcharge stresses were included in the pressures noted above. Surcharge pressures will depend on the load conditions (i.e., equipment and construction loads such as material or soil stockpiles, and distance from wall where load is applied, etc.) If specific surcharge pressures need to be considered, additional analysis will be required with the load conditions given.

In general, walls subject to surcharge loads should be designed for an additional uniform lateral load pressure equal to one-third the anticipated surcharge loads for unrestrained walls and one-half the anticipated surcharge loads for restrained walls. The project engineer should be consulted with to confirm applicable values.

5.2.2. Seismic Design for Retaining Walls

Section 1807A.2.2 of the 2022 California Building Code notes for structures assigned to Seismic Design Category D, E or F, the design of retaining wall supporting more than 6 feet of backfill height shall incorporate the additional seismic lateral earth pressure.

Under seismic conditions, the active incremental seismic force along the face of a retaining wall should be added to the static active pressures, and can be calculated as follows:

$$\Delta P = 9 \times H^2$$

H is the design height of the wall (in feet) and ΔP is the active incremental seismic force in pounds per foot of wall. This force has a horizontal direction and should be applied at 0.6 x H from the base of the wall.

5.2.3. Wall Drainage

Where retaining walls are designed to be drained, drainage may be provided using a 4-inch-diameter perforated pipe embedded in Caltrans Class 2 permeable material, or free-draining gravel surrounded by synthetic filter fabric. The thickness of the drain blanket should be at least 12 inches. As an alternative, prefabricated synthetic wall drain panels can be used. The drain blanket should extend from the bottom of the wall to about one foot below the finished grades at the top of the wall. The upper one foot of wall backfill should consist of onsite compacted clayey soils. Drainage should be collected by a perforated pipe and directed to an outlet approved by the Civil Engineer. Subdrain pipe, drain blanket and synthetic filter fabric should meet the minimum requirements presented herein. Clay soils should not be incorporated into retaining wall fills.

5.3. SEISMIC DESIGN CRITERIA

The structural engineer should confirm the design of the proposed improvements is in accordance with the requirements of governing jurisdictions and applicable building codes in addition to the appropriate values to use for this structure. Map-based design criteria presented in this section are based on entering the site coordinates (latitude and longitude), the risk category, and the Site Class. Based on our experience in the area, the site may be classified as Site Class D. Table 5.3 presents the seismic design parameters for the site in accordance with the 2022 CBC and ASCE7-16 guidelines using the SEAOC/OSHPD Seismic Design Maps Tool.

Table 5.3 – Seismic Design Criteria per 2022 California Building Code and ASCE 7-16

Reference	Seismic Parameter	Value
Google Earth	Latitude	37.887147
Google Earth	Longitude	-121.278142
Table 20.3-1	Site Class	D
Table 1.5-1	Risk Category	III
Table 11.4-1	Site Coefficient for Short Period, F_A	1.193
Table 11.4-2	Site Coefficient for Long Period, F_v	2.012*
Figure 22-7	Peak Ground Acceleration, PGA	0.32g

Table 11.8-1	Site Amplification Factor, F_{PGA}	1.28
Equation 11.8-1	Peak Ground Acceleration, PGA_M	0.409g
Figure 22-1	Mapped MCE_R Spectral Response Acceleration at 0.2-second period, S_s	0.767g
Figure 22-2	Mapped MCE_R Spectral Response Acceleration at 1.0-second period, S_1	0.294g
Equation 11.4-1	Site-Adjusted MCE_R Spectral Acceleration at 0.2-second period, S_{MS}	0.915g
Equation 11.4-2	Site-Adjusted MCE_R Spectral Acceleration at 1.0-second period, S_{M1}	0.887g**
Equation 11.4-3	Design Spectral Response Acceleration at 0.2-second period, S_{DS}	0.610g
Equation 11.4-4	Design Spectral Response Acceleration at 1.0-second period, S_{D1}	0.592g
Table 11.6-1	Seismic Design Category for Short Period Response Acceleration	D
Table 11.6-2	Seismic Design Category for 1-s Period Response Acceleration	D
	Long-period transition, T_L	12 sec
	Short-period transition, $T_S = S_{D1}/S_{DS}$	0.971 sec

[1]A site-specific response spectra and ground motion study was not performed for this study. The structural engineer should confirm the appropriate values for use on the project during foundation design. If a site-specific hazard analysis is required, please contact our firm.
*F_v was determined per ASCE 7-16, Supplement 3,Table 11.4-2, assuming the exceptions allowed by Section 11.4.8 are implemented.
**S_{M1} was determined per ASCE 7-16, Supplement 3, and increased by 50% for all applications of S_{M1} in the Standard.

5.4. CORROSIVITY

The American Concrete Institute (ACI) 318 code, Table 19.3.2.1 is reproduced in Table 5.4 and indicates the requirements for concrete by exposure class. Refer to the commentary in the referenced ACI for additional comments and notes included in the table.

Table 5.4 – Soil Corrosivity

Exposure Class	Maximum w/cm	Minimum f'c, psi	Cementitious Materials - Types			Calcium Chloride Admixture
			ASTM C150	ASTM C595	ASTM C1157	
S0	N/A	2500	N. T. R.[1]	N. T. R.	N. T. R.	N. R.[2]
S1	0.50	4000	II	Types with (MS) designation	MS	N. R.
S2	0.45	4500	V	Types with (HS) designation	HS	Not permitted
S3 – Option 1	0.45	4500	V plus pozzolan or slag cement	Types with (HS) designation plus pozzolan or slag cement	HS plus pozzolan or slag cement	Not permitted
S3 – Option 2	0.40	5000	V	Types with (HS) designation	HS	Not permitted

[1] N. T. R. – No Type Restriction
[2] N. R. – No Restriction

Table 5.5 – Corrosivity Scale by AWWA[1] C-105 Standard				
Soil Parameter Resistivity (ohm-cm)	Assigned Points		Soil Parameter pH	Assigned Points
< 700	10		0-2	5
700-1000	8		2-4	3
1000-1200	5		4-6.5	0
1200-1500	2		6.5-7.5	0
1500-2000	1		7.5-8.5	0
>2000	0		>8.5	3
Soil Parameter Redox Potential	Assigned Points		Soil Parameter Sulfides	Assigned Points
>100	0		Positive	3.5
50-100	3.5		Trace	2
0-50	4		Negative	0
<0	5			
Soil Parameter - Moisture			Assigned Points	
Poor drainage, continuously wet			2	
Fair drainage, generally moist			1	
Good drainage, generally dry			0	

[1]American Water Works Association (AWWA)

Based on the testing performed, the soils evaluated would classify as a Class “S0” where there are no type restrictions for the cementitious materials used.

For cast iron alloy pipes, the American Water Works Association (AWWA) developed a numerical soil corrosivity scale to identify the severity by assigning points for different variables such as the resistivity, pH, Redox Potential, Sulfides, and Moisture. The AWWA C-105-point standard is reproduced for reference in Table 5.11.

Based on the corrosivity test performed and our assumption of “fair drainage, generally moist” conditions, we assign a point value of less than 10, indicating a low corrosive rating for the site. When total points on the AWWA scale are at least 10, the soil is classified as corrosive to cast and ductile iron pipes and use of cathodic protection is often recommended.

The results provided were based on a single sample tested on the site. Other soil on the site may be corrosive. We do not practice Corrosion Engineering and a complete assessment of the corrosion potential of the site soil was not within our scope. For long term, specific corrosion control design recommendations, we recommend a California-registered Corrosion Engineer evaluate the corrosion potential of the soil on buried concrete structures, steel pipe coated with cement mortar, and ferrous metals.

5.5. INTERIOR SLAB-ON-GRADE

Interior slabs-on-grade for normal pedestrian traffic and office use areas should be a minimum of 5 inches and verified by the designer. The slab-on-grade may be designed with a subgrade modulus of 50 pci assuming an engineered fill pad. Moisture barriers should be considered if moisture sensitive floor coverings are used. If a moisture barrier is to be laid to protect floor finishes, we recommend it be a flexible membrane at least 15 mils thick, such as Stego® Wrap, complying with ASTM E 1745-97 “Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs”, and placed in accordance with ASTM E 1643-98 “Standard Practice for Installation of Water Vapor

Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs". A layer of crushed rock at least 4 inches thick should underlie the vapor retarding membrane. The rock shall be clean, crushed, and free-draining having a nominal 1-inch maximum size with less than 3 percent passing the No. 200 sieve.

5.6. EXTERIOR FLATWORK

Exterior flatwork for pedestrian traffic should be at least 4 inches thick and placed over 6 inches of road base materials over a subgrade prepared in accordance with the recommendations of this report. Lime treatment can be used to address the expansive soils. If lime treatment is not used, we strongly emphasize the subgrade preparation should be strictly adhered to specifically for moisture conditioning. For shrinkage control, we recommend the slabs be reinforced with minimum No. 4 bars at 18 inch-centers, both ways, centered on "dobies" or similar supports at middepth throughout the slab, and, due to the expansive site soils, bars should continue through joints. However, the slabs should not be pinned to the building walls. The civil engineer should determine the final slab thickness, reinforcing, and joint spacing based upon the anticipated loads.

5.7. FLEXIBLE AND RIGID PAVEMENTS

5.7.1. Flexible (Asphalt Concrete) Pavements

Laboratory testing from one (1) bulk soil sample taken from the proposed pavement area resulted in R-Values (Resistance Values) of 33. Asphalt and base course materials should meet the requirements of the *Caltrans Standard Specifications, latest edition*. Pavement sections per the empirical methods presented in the California Highway Design Manual are shown below. Pavement sections are based on a reduced subgrade R-value equal to 30 to account for potential variability across the site.

Table 5.6 – Recommended Flexible Pavement Sections

Traffic Index[1]	Asphalt Concrete (in)	Class 2 Aggregate Base (in)	Lime Treated Subgrade (in)	Geogrid
4	2½	4	---	---
5	3	6	---	---
6	3	9	---	---
7	3	12	---	---
8	4	13	---	---
9	5	14	---	---

[1]Traffic Indices were assumed.

If adverse conditions are encountered during the preparation of subgrade materials, special construction methods may need to be employed. Subgrade materials should be processed to a minimum depth of 12 inches below the Class II aggregate base and compacted to a minimum 95 percent of ASTM D1557 laboratory maximum dry density at or near the optimum moisture content. Class II Aggregate Base material should be compacted to 95 percent of ASTM D1557 laboratory maximum dry density at or near optimum moisture content. The base should meet the quality requirements outlined in Section 26 of the Caltrans Standard Specifications.

The pavement section is intended as a minimum. Positive site drainage should always be maintained. Water should not be allowed to pond or seep into the ground. If the average daily traffic (ADT) increases beyond that intended, as reflected by the assumed traffic designation, increased maintenance could be required for the pavement section. The project Civil Engineer should determine the Traffic Index appropriate for the project.

5.7.2. Rigid (Portland Cement Concrete) Pavements

Where rigidity of pavement is desired for areas designed for, high volume vehicular traffic, heavy maintenance or equipment traffic, entry driveways or trash enclosure slabs, we recommend using Portland cement concrete paving. The rigid concrete pavement section presented in Table 5.7 is based on a composite subgrade modulus of 150 pci, for light, moderate, and heavy-duty sections, respectively. The composite subgrade modulus considers the native subgrade and a specified thickness of aggregate base. The concrete thickness is based on a minimum concrete modulus of rupture of 550 psi. In addition, the driveway slabs should be designed with thickened edges at least twice the slab thickness. The design, applicable section, and thickness of rigid pavement slabs should be confirmed by the design professional.

Table 5.7 – Recommended Rigid (Portland Cement Concrete) Pavement Sections

Traffic Classification[1]	Rigid Concrete (in)	Class 2 Aggregate Base (in)	Total Section (in)	Notes
Light – ADTT[2] = 3	5	6	11	Note 3, 4, 5, 6
Moderate – ADTT = 10	5½	9	14½	Note 3, 4, 5, 6
Heavy – ADDT = 50	6	9	15	Note 3, 4, 5, 6

[1]Classification per the American Concrete Pavement Association based on Portland Cement Association (PCA) EB109P, 1984 .
[2]ADTT is the Average Daily Truck Traffic for both lanes of travel, over all lanes of traffic, and includes trucks with six tires or more (excluding panel and pickup trucks and other four tire vehicles).
[3]Dowels are not recommended unless rigid concrete pavement is greater than 6 inches
[4]Concrete thickness is based on 30-year design life WITH concrete curb and gutter or concrete shoulders. Add one inch thickness to concrete if based on 30-year design life WITHOUT concrete curb and gutter or concrete shoulders. A concrete modulus of rupture of 550 psi (minimum) is assumed.
[5]Based on a firm and unyielding subgrade where the upper 12 inches are compacted as recommended in this report for pavement subgrade.
[6]If subgrade is lime treated, reduce concrete thickness by ½ inch.

5.7.3. Construction Considerations for Pavements

Additional requirements and/or assumptions for pavements are outlined below:

- Baserock materials used should comply with the requirements outlined in Section 26 of the State Standard Specifications. We strongly recommend that baserock be a virgin, crushed aggregate product.
- Baserock should be firm and stable prior to placing asphalt and compacted to a minimum of 95 percent based on the ASTM D 1557 test method.
- Subgrade beneath paved areas shall be compacted to a minimum of 95 percent based on the ASTM D 1557 test method.
- Proof rolling of subgrade and of baserock with fully loaded water truck, or equivalent, should be performed under observation of our field representatives to detect for any instabilities of pavement subgrade and baserock following final grading. Proof rolling of subgrade should occur immediately (i.e., less than 24 hours) before placement of baserock. Baserock should be proofrolled immediately prior to placement of tack coat.
- Subgrade preparation is performed as outlined in the Earthwork sections of this report.

5.8. EARTHWORK

5.8.1. Site Preparation

Prior to any site grading, the existing concrete slabs, foundations, and surficial deleterious materials from previous use should be demolished and removed outside of the construction limits. These materials should not be incorporated into any structural fills. Vegetation and organics within grading limits should be stripped and removed offsite. The stripping should be performed to provide a subgrade with organic content less than 3 percent of organics and to the satisfaction of the geotechnical representative. We estimate the depth of stripping is approximately 3 to 4 inches across the site and could be deeper in areas with denser growth of brush. Trees and their root foundation should be removed entirely. No measurements were made on the root layers but based on the dense growth of the vegetation brush and trees throughout, it is anticipated that excavation and removal of the brush and/or trees will create large void spaces and disturb the existing ground. The cavities created by complete removals of the root balls from the brush and trees should be replaced with compacted engineered fill.

5.8.2. Site Grading

Prior to placing any fills, the exposed subgrade should be scarified 12 inches, moisture conditioned and mechanically compacted. Once the exposed subgrade is moisture conditioned and compacted, the new fill meeting the requirements of in this report should be moisture conditioned and placed horizontally in 8-inch maximum lifts, then compacted. Moisture content and the level of compaction will vary according to the definable feature. The acceptance criteria are presented in Section 5.13.

5.8.3. Engineered Fill

Imported engineered fill may be used and should be free of organic or other deleterious debris, non-plastic, and less than 3 inches in maximum dimension. Onsite soil may be used as engineered fill material provided it is processed and compacted as recommended in this report. **Expansive soils, if encountered, should not be allowed within the upper 12 inches of building pads. Clay exposed in the soils in the upper 12 inches of building pads should be removed and replaced with non-expansive fill or lime treated, subject to the Geotechnical Engineer of Record.** Specific requirements for engineered fill including the applicable test procedures to verify suitability are presented in Table 5.8.

Table 5.8 – Materials for Engineered Fill (Imported)		
Gradation		
Sieve Size	Percent Passing	Test Procedures
3 inches	100	ASTM[1] D6913 or ASTM D1140
¾ inch	80-100	ASTM[1] D6913 or ASTM D1140
No. 4	40-70	ASTM[1] D6913 or ASTM D1140
No. 200	More than 10	ASTM[1] D6913 or ASTM D1140
Test	Criteria	Test Procedure
Liquid Limit	Less than 40	ASTM D4318
Plasticity Index	Less than 15	ASTM D4318
Swell Test	Less than 4%	
Organic Content	Less than 3%	ASTM D2974
Expansion Index	Less than 20	ASTM D4829
Sand Equivalent	Greater than 10	CT[2]217

Notes
[1] ASTM = American Society for Testing and Materials Standards
[2] CT = California Test Method

If fill is to be imported from off-site, it should meet the requirements of engineered fill above and be non-corrosive and free of deleterious material. Any imported fill should be sampled by the project Geotechnical Engineer prior to being imported to evaluate its suitability for its intended use and to perform confirmatory testing listed above, if necessary.

5.8.4. Wet Weather and/or Unstable Soil Conditions

The in-situ moisture content of the site soil may increase after extended periods of rainfall. Soil subgrades may become saturated due to exposure to wet weather conditions. When wet soils are encountered, they should be remediated by aeration, removing and replacing with drier material, and/or chemically treated with lime or cement combinations. We should be contacted if these conditions are encountered.

5.8.5. Rat Slab for Foundation Working Surfaces

An alternative for aeration or removal of wet soils and replacement with engineered fill for mat foundations may consist of construction of a lean concrete slab at least 2 inches thick placed over a subgrade prepared in accordance with this report. The lean concrete slab should have a minimum compressive strength of 1000 psi. This slab would provide a dry working surface for construction of foundations.

5.9. EXCAVATIONS

5.9.1. Temporary Excavations and Excavatability

Pipelines, excavation, and earthwork following removal of paving and/or flatwork within trench zones can be performed with the typical conventional excavating and filling machines generally in use for such projects Soil on trench walls or bottoms should not be allowed to dessicate (dry out) or become saturated due to inclement weather. Ultimately, it is the Contractor's responsibility for implementing means and methods to protect exposed soil on the trench walls or bottom of excavations. If materials become saturated and cause sliding, toppling, subsidence and bulging, or heaving or squeezing conditions as

defined by OSHA, remedial actions will be required to address the conditions. The Contractor and/or Geotechnical Engineer, or his representative shall periodically review the near-surface and subsurface materials when the conditions are encountered. As the site has variable materials, excavations should be addressed on an individual basis to meet the requirements established by OSHA. Temporary excavations may require shoring to meet these requirements.

5.9.2. General Considerations for Temporary Shoring (if needed)

During construction, the Contractor is responsible for maintaining safe excavations in accordance with OSHA guidelines. Where temporary shoring and internal bracing is used, it should be designed by a registered design professional experienced in shoring design.

A monitoring program should be implemented by the Contractor and set on existing permanent benchmarks or survey points as well as the installed shoring system to evaluate if any movement is occurring as the excavation continues. The instrumentation used, monitoring program workplan, and readings of survey points should be documented, submitted, and reviewed by the project team.

5.9.3. Bedding and Backfill Materials for Utility Trenches

Trench bedding and backfill should meet the meet stricter requirements outlined in the local jurisdictional requirements and the recommendations presented herein.

Trench backfills generally fall within two categories typically characterized as pipe zone backfill and trench zone backfill. The pipe zone backfill refers to the material in the immediate vicinity of the pipe and is often termed “shading”. Trench zone backfill refers to the material between the pipe zone backfill and the finished subgrade.

We do not recommend using coarse-grained sand and/or gravel for either pipe or trench zone backfill unless they are separated from the native soils by a non-woven geotextile fabric equivalent to Mirafi® 140N. This is due to the potential for soil migration into the comparatively large void spaces in these types of materials which will, over time, result in ground settlement.

5.9.4. Pipe Zone Materials

Pipe zone backfill should be placed loosely and then thoroughly tamped by hand-working the soil beneath the pipe’s spring line using shovels and by walking on three-inch loose lifts. It should extend to at least one foot above the crown of the pipe. We generally recommend against ponding or jetting or using mechanical compactors to densify pipe-zone backfill but requests for use in specific situations may be referred to the geotechnical engineer for consideration.

Piping with sensitive coatings should be designed to ensure that the outside dimension of the insulation or other coating is buried deeply enough below the road’s subgrade elevation and covered with appropriate thickness of shading that will protect the coating from construction damage. Pipes and their insulation should be located deeper than a foot below top of road subgrade/ underside of aggregate base course zone to minimize the possibility of insulation and pipe damage and/or corrosion when the road subgrade is scarified prior to compaction. Conflicts between these recommendations and the backfill requirements of pipe manufacturers should be referred to the project civil engineer for resolution.

Pipes should be encapsulated with clean sand at least 6 inches in each direction from the bottom of the trench to over the pipe.

5.9.5. Trench Zone Materials

The trench zone should be backfilled with onsite soil placed and compacted as recommended for engineered fill. As stated above, pipe manufacturers or design professionals may require special backfill materials. We recommend that the geotechnical engineer be included in the consideration of alternate backfill materials. Mechanical compaction is recommended; ponding or jetting of backfill should be avoided.

Based on the materials encountered during our investigation and the results of the laboratory test program performed on selected samples, the native materials appear to be suitable for use as backfill materials in the trench areas. However, consideration should be given if earthwork activities occur during the wet winter or early spring seasons where it is possible that moisture conditions could increase prior to trench excavations or earthwork which could render the materials difficult to compact. Consideration should be given for drying, mixing, and/or importing drier material or chemically treating the soil to facilitate compaction and meeting the requirements of engineered fill herein.

5.9.6. Protection of Existing Foundations and Buried Utilities

Where excavations are made next to foundations or buried utilities, the excavations should not be allowed to encroach to within a line projected downward at a slope of 2 horizontal to 1 vertical from a point 9 inches above the bottom of the foundation as outlined in CBC 1809.14. Each case may be specific, but the registered design professional shall determine the requirements for support and protection of the existing foundation and prepare site-specific plans, details, and sequence of work. Typical support means and methods may include underpinning, bracing, excavation retention systems, or other means. Where pipes cross under footings or encroach within the near surface of fills, the footings shall be specially designed. The existing utilities shall be protected. Pipe sleeves shall be provided where pipes cross through footings or footing walls and sleeve clearances shall provide for possible footing settlement but not less than 1 inch all around the pipe.

5.10. COMPACTION AND MOISTURE CONDITIONING SUMMARY

Site subgrade prior to placing fill, engineered fill and trench backfill, and pavement section materials meeting the criteria presented above should be placed in uniform, horizontal, loose lifts not exceeding 8 inches, and moisture conditioned and mechanically compacted as noted in Table 5.9. Jetting should not be allowed.

Table 5.9 – Compaction and Moisture Conditioning Summary

Area to be Compacted	Minimum Relative Compaction (RC) [1, 3]	Moisture Content[2] Required
Non-Expansive Engineered fill (Import)	≥95%	0 to 3% > optimum moisture
Subgrade prior to placing fill	≥95%	0 to 3% > optimum moisture
Expansive soils (in place compaction, if encountered)	88%<RC<92%	Min 3% > optimum moisture
Trench backfill[6]	88%<RC<92%	Min 3% > optimum moisture
Upper 12 inches of Trench backfill in paved areas	≥95%	0 to 3% > optimum moisture
Lime Treatment as Engineered Fill (if used)	≥95%[4]	Min 3% > optimum moisture[4]
Lime Treatment as Pavement Subgrade (if used)	≥95%[4]	Min 3% > optimum moisture[4]
Upper 12 inches of pavement subgrade	≥95%	0 to 3% > optimum moisture
Aggregate Baserock for pavement[5] section	≥95%	0 to 3% > optimum moisture

[1]Minimum relative compaction is a ratio of the in place dry density and the maximum dry density determined by the ASTM D1557 test method

[2]Moisture content is determined by ASTM D1557 for optimum moisture content and D6938, D1556, or D8167 for field determination by nuclear gauge. **Moisture content shall be maintained in its tested state until it is covered with the next lift of engineered fill, aggregate base, or flatwork. It shall not be allowed to dessicate or dry to below the moisture content requirements shown.**

[3]In place dry density and moisture content can be determined by ASTM D6938, D1556, or D8167.

[4]Optimum moisture content and maximum density determined by California Test Methods.
[5]The compaction requirement for aggregate baserock applies to both flexible (asphalt) and rigid (concrete) pavements.
[6]Fills greater than 5 feet should be compacted to a minimum of 95 percent for the entire depth.

5.11. DRAINAGE

To minimize moisture intrusion into foundation and slab subgrades, we recommend the ground surface slope away from the building pad and pavement areas in accordance with jurisdictional and/or local Building Code requirements toward the appropriate drop inlets or other surface drainage devices. These grades should be maintained for the life of the project. Building pads should also be designed such that the lowest adjacent grade surrounding the building is at or below the elevation of the building pad surface (at or below the bottom of the capillary break material beneath the floor slab. Landscaping after construction should not promote ponding of water adjacent to the structures.

5.12. INFILTRATION BASIN

Infiltration testing (converted by percolation methods) was performed at IN-1 on the at a depth of about 5 feet on the north side and indicated a design infiltration rate of 0.58 in/hr (8.61 gal/sf/day) based on a safety factor of 5. Side slopes are stable at 3:1 (H:V). For final design of other ponds elsewhere onsite, we recommend testing be performed at each basin to determine specific infiltration rates.

5.13. SOILS SPECIAL INSPECTION

Special inspection and tests of soils should be performed per Table 1705.6 of the 2022 California Building Code at a minimum. Specifically, these requirements include the special inspector to:

1. Periodically verify materials below shallow foundations are adequate to achieve the design bearing capacity.
2. Periodically verify excavations are extended to proper depth and have reached proper material.
3. Periodically perform classification and testing of compacted fill materials.
4. Continuously verify use of proper materials, densities and lift thicknesses during placement and compaction of fill.
5. Periodically inspect subgrade and verify the site has been prepared properly prior to placement of compacted fill.

5.14. FURTHER STUDIES AND CONSIDERATIONS FOR FINAL DESIGN

The preliminary recommendations presented herein are based on the current data and findings from the field exploration recently completed at the site. This field exploration included a series of drilled borings to depth of approximately 51½ feet bgs. We also advanced shallow borings around the perimeter to verify the near subsurface conditions. Laboratory testing was performed on samples collected from the field exploration. To develop specific criteria for preparing the final geotechnical report we recommend the following be performed:

1. Refine foundation design parameters and provide construction considerations for the selected foundation type.
2. Perform confirmatory testing of test pits to verify the extent of the existing buried structures.
3. Excavate test pits to verify extent of undocumented fills, and deleterious matter.
4. Perform additional infiltration testing at the proposed invert locations of the basins if others are identified.

PART 6. ADDITIONAL SERVICES

6.1. MODIFICATIONS TO THE GEOTECHNICAL ENGINEERING REPORT

The building layout, load conditions, and/or design elevations were based on correspondence with the project team during preparation of this report. If the building layout, load conditions, and/or design elevations exceed what was initially assumed and stated in this report, additional services and fee may be required to review the updated information and to perform additional analysis as necessary for the new design concepts. An Addendum to this report may be prepared and submitted to document the findings and provide updated recommendations, if needed.

6.2. PLAN AND SPECIFICATIONS REVIEW

It is essential that we perform a general review of the plans and specifications to evaluate if the recommendations contained in this report were properly interpreted and incorporated into the project documents. We will not be responsible for any misinterpretation of our recommendations if we are not retained to perform this task.

6.3. GEOTECHNICAL ENGINEER OF RECORD DURING CONSTRUCTION PHASE

To provide continuity of service into the construction phase, it is essential that we be retained as Geotechnical Engineer of Record through project closeout. The purpose of this task is to verify the geotechnical aspects of design and construction are implemented as recommended in this report during the construction phase. This is also a recommended practice promoted by the California Geotechnical Engineering Association (CalGeo).

PART 7. LIMITATIONS

We based our conclusions and recommendations based on our understanding of the proposed project development and improvements, data derived from our field explorations and laboratory testing, interpretations of available published data, and our geotechnical engineering analysis. The reported locations of the field explorations were determined by pacing from available landmarks; survey of the field explorations was not included in this scope. It is possible that actual subsurface conditions can vary between points of exploration. Similarly, load conditions may vary from what we have assumed during our analysis. If this is found to be the case, we should be notified and requested to review the changes and provide modifications to our conclusions and recommendations if needed.

We prepared this report in general accordance with the generally accepted geotechnical engineering practice as it exists in the project vicinity at the time the work was performed. No warranty, express or implied, is made. This report may be used by the Client and its design consultants, for the purpose stated for this project site for up to two years from the date of this report. If construction is delayed, or if land use, or other factors modify the site and subsurface conditions, additional field work may be needed (i.e., additional borings and/or laboratory testing) and an updated report issued. We shall be released from any liability resulting from misuse of the report by the authorized party. The Client agrees to defend, indemnify, and hold harmless Siegfried from any claim or liability associated with such unauthorized use or non-compliance with the requirements outlined herein.

PART 8. REFERENCES

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PLATES

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t: 209.943.2021

SAN JOSE
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San Jose, CA 95113
t: 408.754.2021

SACRAMENTO
1164 National Ave, #20
Sacramento, CA 95834
t: 916.520.2777

MODESTO
101 Sycamore Ave, #100
Modesto, CA 95354
t: 209.762.3580

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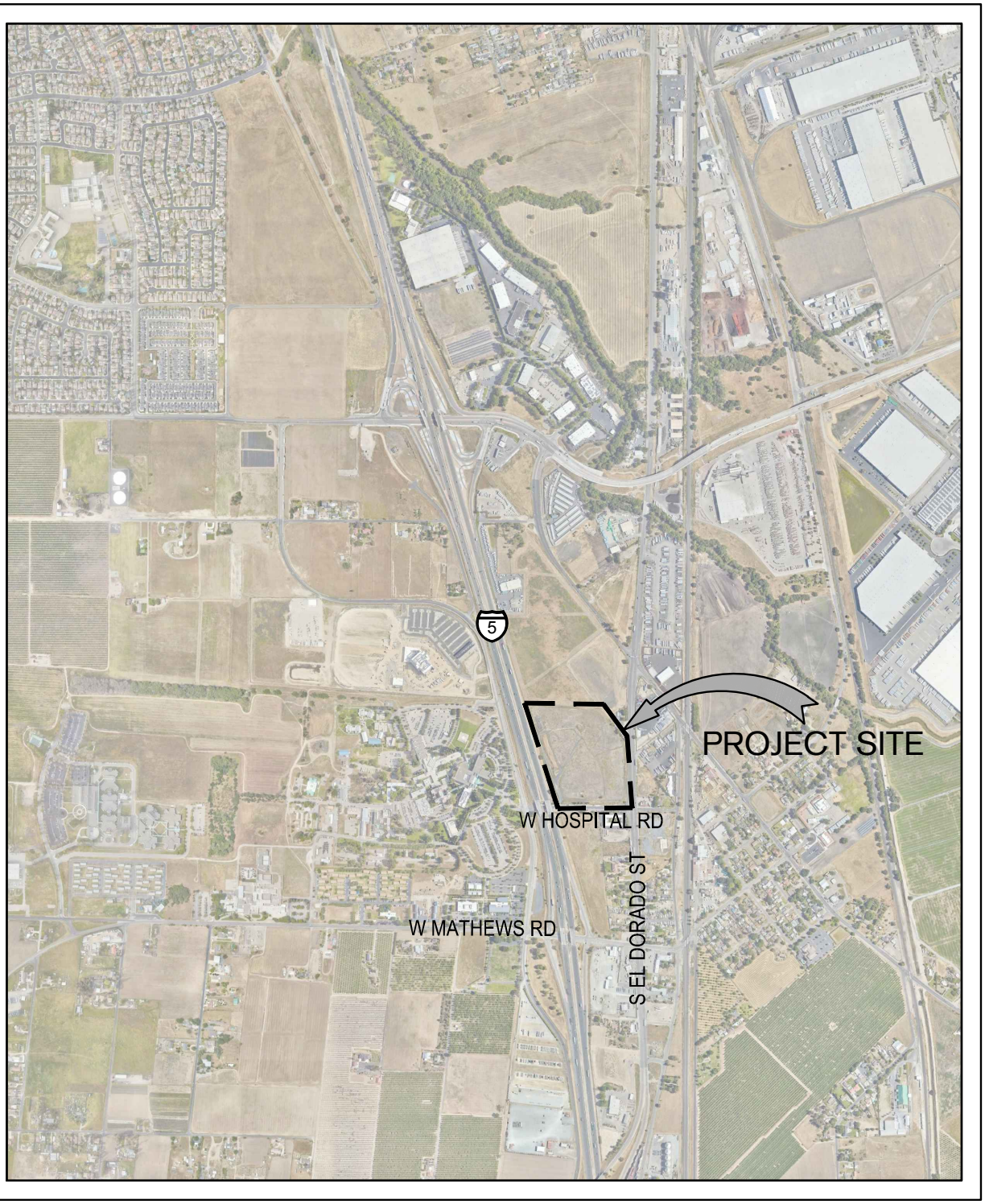

SITE LOCATION MAP

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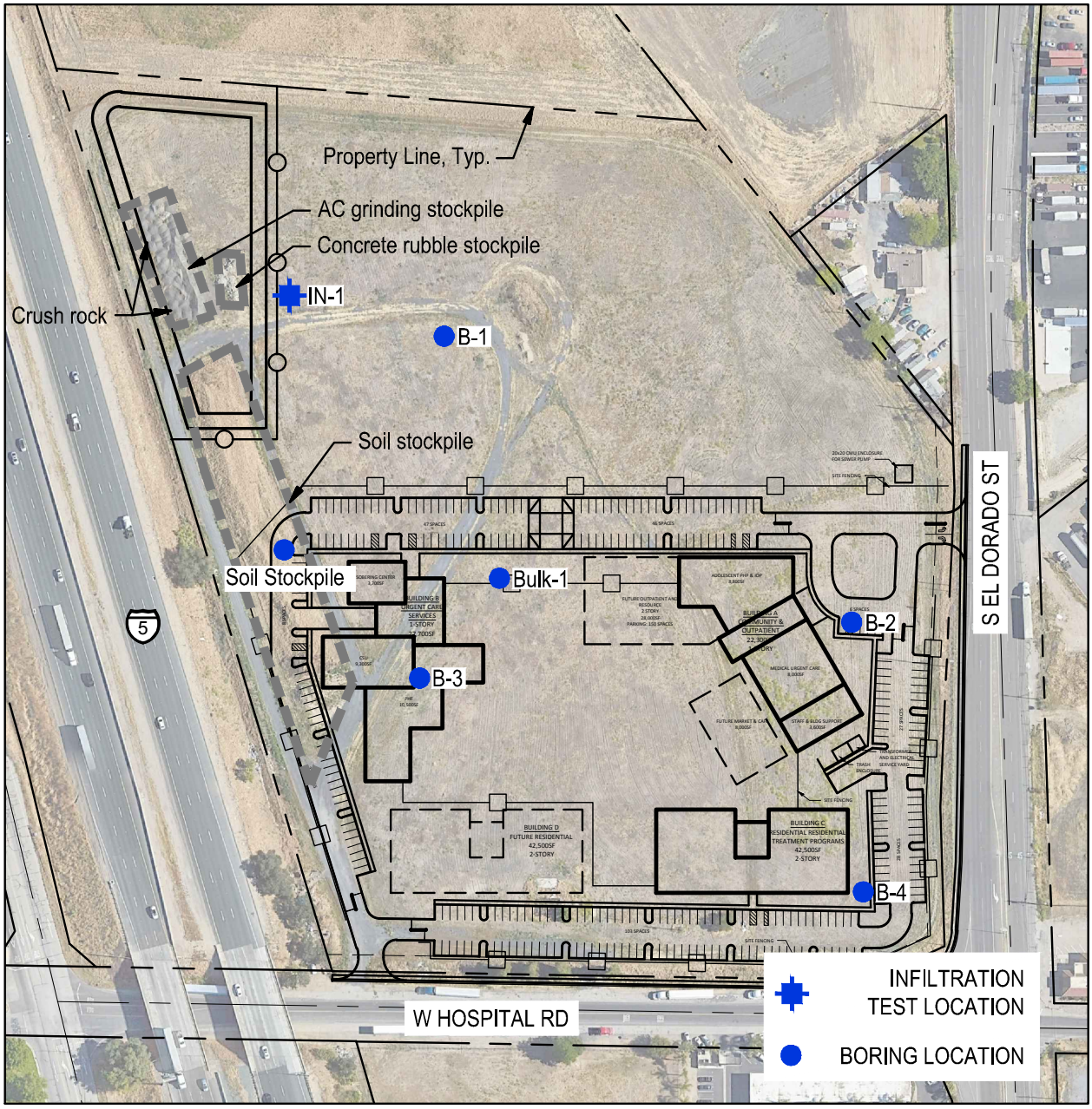
SCALE: NO SCALE

PLATE 1

F:\23PROJECTS\23288 HEALTH PLAN OF SAN JOAQUIN BE WELL\PLANS AND GRAPHICS\EXHIBITS\GEOTECH EXHIBIT\23288 BE WELL – EXPLORATION LOCATION MAP.DWG 11/17/2023 4:27 PM



BORING NOTES

B-2 AND B-3: 15' BORING
B-1: 20' BORING
B-4: 50' BORING
IN-1: 5' BORING WITH 8" DIAMETER ROD

Aerial from Google Earth

Survey from Siegfried (2023)

EXPLORATION LOCATION MAP

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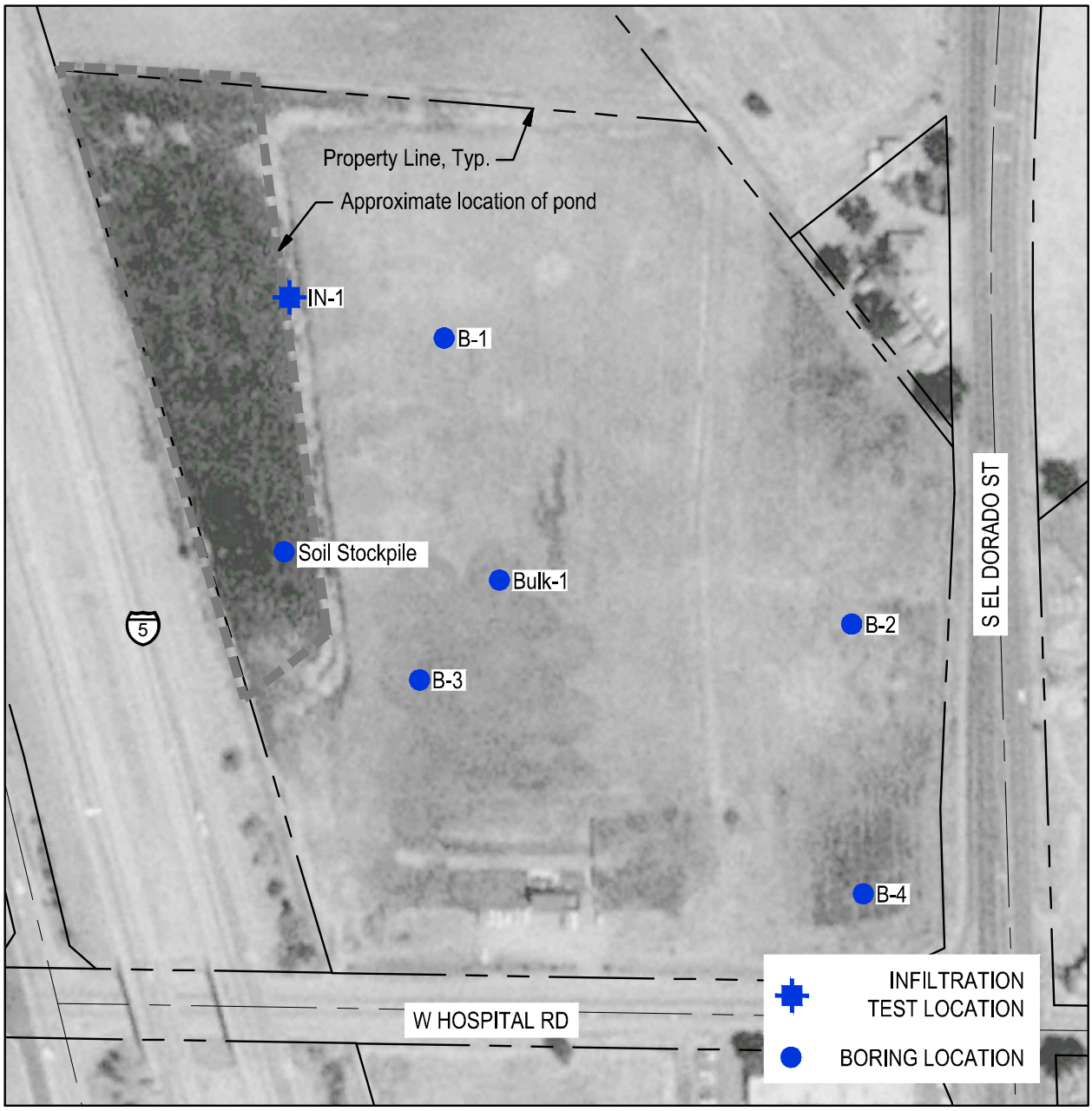
SCALE: 1" = 200'

PLATE 2



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HISTORIC IMAGE 1993

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PLATE 3

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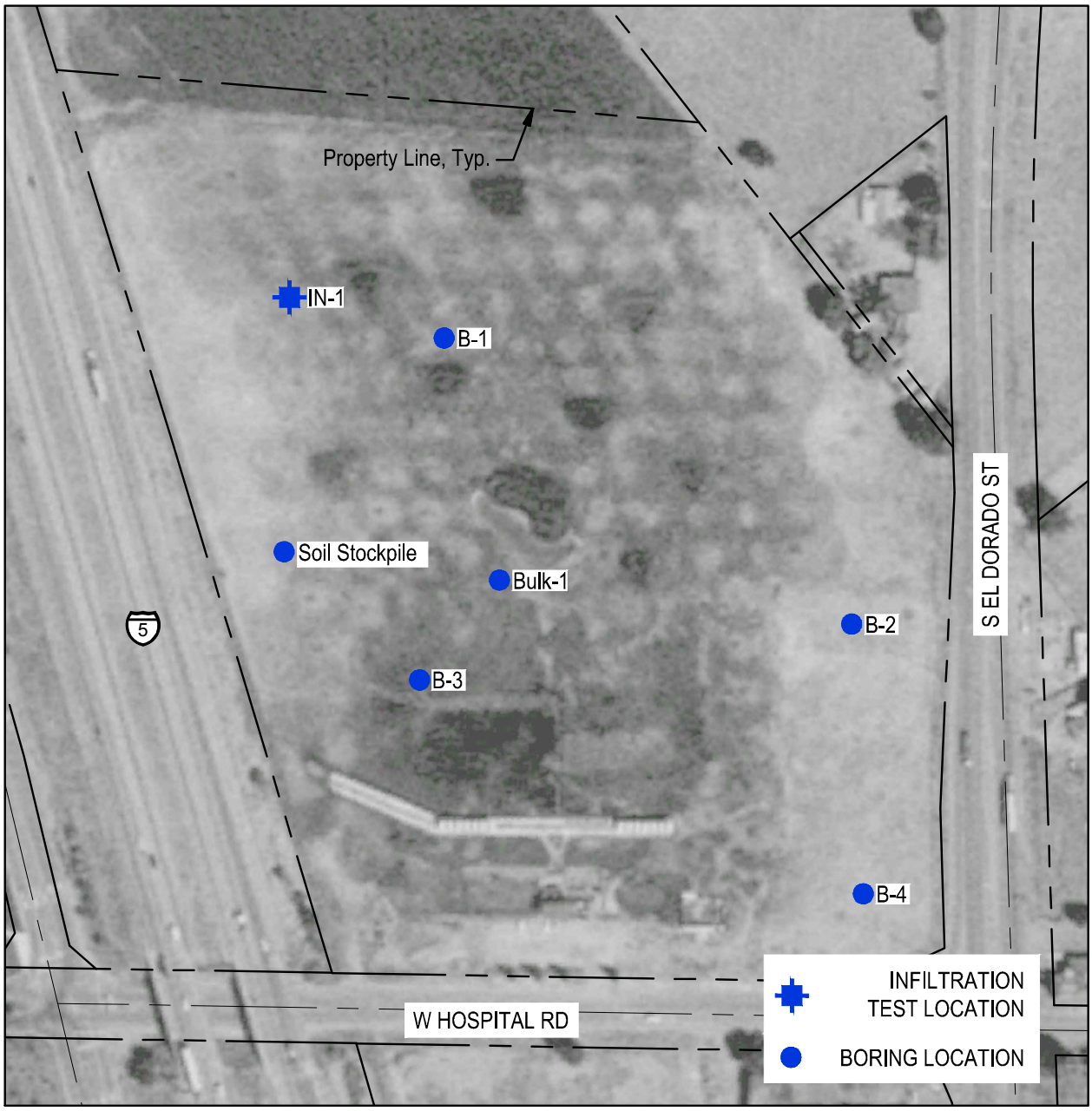

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PLATE 4

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HISTORIC IMAGE 2007

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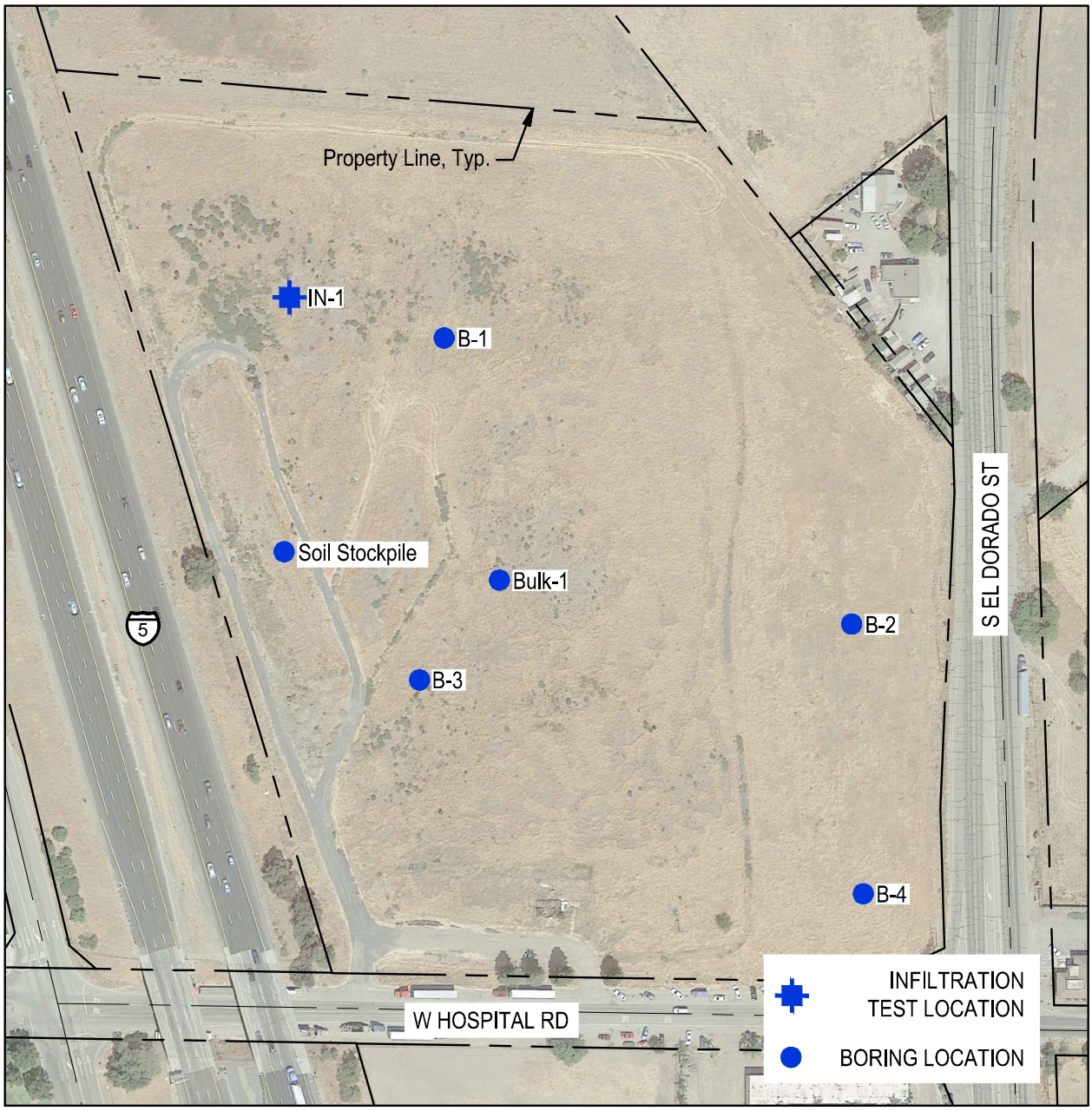
SCALE: 1" = 200'

PLATE 5



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HISTORIC IMAGE 2018

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PLATE 6

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APPENDIX A
FIELD EXPLORATION

Prior to initiating our field exploration, the planned exploration locations were checked for underground utilities by contacting Underground Service Alert (USA) which located underground and aboveground utilities within the vicinity of our proposed explorations. Based on the planned depths of the explorations and review of the available data regarding depth to groundwater, it was determined drilling permits with the San Joaquin County Environmental Health Department would be required for both the borings and CPTs.

The soil borings were advanced on November 17, 2023. The locations of the soil borings are shown on Plate 2.

Drilled Borings

Four (4) soil borings identified as Borings B-1, B-2, B-3, and B-4 were drilled to depths of between approximately 16½ and 51½ feet around the site. A shallow boring, IN-1, was advanced near the proposed infiltration area to a depth of about 5 feet bgs. The borings were advanced using a truck-mounted CME 75 drill rig equipped with 8-inch outer diameter hollow-stem augers.

Samples were collected from the borings using split barrel soil samplers having nominal outer dimensions of 3.0 inches or standard penetration test sampler (i.e., SPT) without liners which were advanced automatically with a 140-pound hammer free-falling 30 inches. The number of blows required to drive the samplers for the 18-inch sample interval was recorded on the Boring logs. The sum of the blow counts for the final 12 inches of driving is recorded as the “N Value”. The N Values reported are raw values obtained in the field and are not corrected for overburden, rod length, bore diameter, and hammer energy effects. Relatively undisturbed and bulk samples were collected at select depths from the bores and transported to our laboratory for further analysis and geotechnical testing. The boring logs are presented in this Appendix.

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BOREHOLE NUMBER B-1

CLIENT Boulder Associates, Inc.
PROJECT NAME Health Plan of San Joaquin Be Well
PROJECT NUMBER 23288-5001
PROJECT LOCATION El Dorado Street and Hospital Road, French Camp, CA
DATE STARTED 11-07-2023 **COMPLETED** 11-07-2023
POSITION
DRILLING CONTRACTOR Baja Exploration
GROUND ELEVATION **FINAL DEPTH** 21.50 ft
DRILLING METHOD Hollow Stem Auger
GROUNDWATER LEVELS:
EQUIPMENT CME 75
▽ **AT TIME OF DRILLING** Not Encountered
HOLE SIZE 8.0 in.
▼ **AT END OF DRILLING**
LOGGED BY Alejandro Aguilera, EIT **CHECKED BY** Charley Scott, PE
▽ **AFTER DRILLING**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	DRY UNIT WT (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
		Sandy Lean CLAY (CL): brown; dry; low plasticity; fine; dead grass and tumbleweeds on surface, undocumented fill.								
		2.50								
		Sandy SILT (ML): hard; brown; dry; nonplastic; fine.	1B 1C	6-19-28 (47)	102	9				
5			2B 2C	17-22-22 (44)	104	4				
		7.50								
		: gray with rust mottling; moist.	3B 3C	19-16-22 (38)	102	22	NP	NP	NP	8
		8.75								
		Poorly-graded SAND with silt (SP-SM): light brown; moist; nonplastic; fine to medium.								
		10.00								
10		Poorly-graded SAND (SP): medium dense; light brown; dry to moist; nonplastic; fine to medium.	4B 4C	9-15-17 (32)	100	2	NP	NP	NP	3
		15.00								
15		: light gray.	5B 5C	7-9-10 (19)	96	29				
		15.75								
		Lean CLAY (CL): very stiff; brown; moist; medium plasticity; fine.								
		20.00								
20		: hard.	6B 6C	8-14-17 (31)	104	22				
		21.50								
		Terminated at 21.50 ft.								
25										

NOTES

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BOREHOLE NUMBER B-2

CLIENT Boulder Associates, Inc.
PROJECT NAME Health Plan of San Joaquin Be Well
PROJECT NUMBER 23288-5001
PROJECT LOCATION El Dorado Street and Hospital Road, French Camp, CA
DATE STARTED 11-07-2023 **COMPLETED** 11-07-2023
POSITION
DRILLING CONTRACTOR Baja Exploration
GROUND ELEVATION **FINAL DEPTH** 16.50 ft
DRILLING METHOD Hollow Stem Auger
GROUNDWATER LEVELS:
EQUIPMENT CME 75
▽ **AT TIME OF DRILLING** Not Encountered
HOLE SIZE 8.0 in.
▼ **AT END OF DRILLING**
LOGGED BY Alejandro Aguilera, EIT **CHECKED BY** Charley Scott, PE
▽ **AFTER DRILLING**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	DRY UNIT WT (pcf)	MOISTURE CONTENT (%)
		Sandy Lean CLAY (CL): gray; dry; low plasticity; fine; dead grass and tumbleweeds on surface, undocumented fill.	1B 1C	19-15-19 (34)	113	9
		2.25 Silty SAND (SM): dense; dark gray; dry to moist; nonplastic; fine.				
5		4.25 : very dense; gray with rust mottling; moist; strong reaction to HCl.	2B 2C	38-33-19 (52)	99	20
		6.00 SILT with sand (ML): hard; gray with rust mottling; moist; nonplastic; fine.	3B 3C	12-13-24 (37)	98	20
		8.50 Sandy Lean CLAY (CL): very stiff; gray with rust mottling; moist; low plasticity; fine.	4B 4C	8-14-16 (30)	97	28
10						
15		15.00 Lean CLAY with sand (CL): hard; brown with white mottling; moist; medium plasticity; medium reaction to HCl.	5B 5C	8-15-18 (33)	97	28
		16.50 Terminated at 16.50 ft.				
20						
25						

NOTES

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BOREHOLE NUMBER B-3

CLIENT Boulder Associates, Inc.
PROJECT NAME Health Plan of San Joaquin Be Well
PROJECT NUMBER 23288-5001
PROJECT LOCATION El Dorado Street and Hospital Road, French Camp, CA
DATE STARTED 11-07-2023 **COMPLETED** 11-07-2023
POSITION
DRILLING CONTRACTOR Baja Exploration
GROUND ELEVATION **FINAL DEPTH** 16.50 ft
DRILLING METHOD Hollow Stem Auger
GROUNDWATER LEVELS:
EQUIPMENT CME 75
▽ **AT TIME OF DRILLING** Not Encountered
HOLE SIZE 8.0 in.
▼ **AT END OF DRILLING**
LOGGED BY Alejandro Aguilera, EIT **CHECKED BY** Charley Scott, PE
▽ **AFTER DRILLING**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	DRY UNIT WT (pcf)	MOISTURE CONTENT (%)
		Sandy SILT (ML): gray; dry; nonplastic; fine; dead grass and tumbleweeds on surface, undocumented fill.				
		2.00	1B	12-12-12		
		Silty SAND (SM): medium dense; gray; dry; nonplastic; fine.	1C	(24)		4
		3.50				
		Sandy SILT (ML): hard; dry to moist.	2B	13-23-18		
5			2C	(41)	108	4
		6.00				
		SILT (ML): hard; gray with rust mottling; dry to moist; nonplastic; fine.	3B	7-15-17		
			3C	(32)	92	14
		8.50				
		: moist.	4B	13-20-22		
10			4C	(42)	104	21
15		15.00				
		Sandy Lean CLAY (CL): hard; brown; moist; medium plasticity; fine.	5B	18-27-33		
		16.50	5C	(60)	100	23
		Terminated at 16.50 ft.				
20						
25						

NOTES

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BOREHOLE NUMBER B-4

CLIENT Boulder Associates, Inc.
PROJECT NAME Health Plan of San Joaquin Be Well
PROJECT NUMBER 23288-5001
PROJECT LOCATION El Dorado Street and Hospital Road, French Camp, CA
DATE STARTED 11-07-2023 **COMPLETED** 11-07-2023
POSITION
DRILLING CONTRACTOR Baja Exploration
GROUND ELEVATION **FINAL DEPTH** 51.50 ft
DRILLING METHOD Hollow Stem Auger
GROUNDWATER LEVELS:
EQUIPMENT CME 75
▽ **AT TIME OF DRILLING** 24.00 ft
HOLE SIZE 8.0 in.
▼ **AT END OF DRILLING**
LOGGED BY Alejandro Aguilera, EIT **CHECKED BY** Charley Scott, PE
▽ **AFTER DRILLING**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	DRY UNIT WT (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
		Silty SAND with gravel (SM): gray; dry; nonplastic; dead grass and tumbleweeds on surface, undocumented fill.								
		2.50								
		SILT (ML): hard; gray with rust mottling; moist; nonplastic; fine.	1B 1C	26-23-27 (50)	109	8	NP	NP	NP	97
5		5.00								
		: very stiff.	2B 2C	10-13-13 (26)	98	9				
		7.50								
		: hard.	3B 3C	7-18-21 (39)	100	19				
10		11.00								
		Lean CLAY (CL): very stiff; gray with rust mottling; moist; low to medium plasticity; fine.	4B 4C	8-10-15 (25)	98	25				
15		15.00								
		Silty SAND (SM): very stiff; reddish brown; moist; nonplastic; fine.	5B 5C	5-15-15 (30)		17	NP	NP	NP	14
		16.25								
		Poorly-graded SAND with silt (SP-SM): medium dense; reddish brown; moist; nonplastic; fine to medium.								
20		20.00								
		Sandy Lean CLAY (CL): very stiff; brown with red and black mottling; moist; medium plasticity; fine.	SPT 6	9-9-8 (17)		19				
		▽								
25		25.00								
		: brown with rust mottling; low plasticity.	7B 7C	9-17-20 (37)	99	29				
		26.33								
		Silty SAND (SM): dense; brown with rust mottling; moist; nonplastic; fine.								

NOTES

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BOREHOLE NUMBER B-4

CLIENT Boulder Associates, Inc.

PROJECT NAME Health Plan of San Joaquin Be Well

PROJECT NUMBER 23288-5001

PROJECT LOCATION El Dorado Street and Hospital Road, French Camp, CA

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	DRY UNIT WT (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
		Silty SAND (SM): dense; brown with rust mottling; moist; nonplastic; fine.								
30		30.00 Clayey SAND (SC): very stiff; brown; moist; low plasticity; fine to medium.	SPT 8	16-10-13 (23)		26				
35		35.00 Lean CLAY with sand (CL): very stiff; brown; moist; medium plasticity; fine.	9B 9C	4-8-11 (19)		29				
		35.75 : dark gray.								
40		40.00 : stiff; light gray; medium to high plasticity.	SPT 10	3-6-5 (11)		33				
45		45.75 Silty SAND (SM): medium dense; brown; moist; nonplastic; fine.	11B 11C	3-6-9 (15)	104	26				
50		50.00 Sandy Lean CLAY (CL): very stiff; light gray; moist to wet; medium plasticity; fine.	SPT 12	6-7-9 (16)		35				
		51.50 Terminated at 51.50 ft.								
55										

NOTES

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BOREHOLE NUMBER IN-1

CLIENT Boulder Associates, Inc.
PROJECT NAME Health Plan of San Joaquin Be Well
PROJECT NUMBER 23288-5001
PROJECT LOCATION El Dorado Street and Hospital Road, French Camp, CA
DATE STARTED 11-07-2023 **COMPLETED** 11-07-2023
POSITION
DRILLING CONTRACTOR Baja Exploration
GROUND ELEVATION **FINAL DEPTH** 5.00 ft
DRILLING METHOD Hollow Stem Auger
GROUNDWATER LEVELS:
EQUIPMENT CME 75
▽ **AT TIME OF DRILLING** Not Encountered
HOLE SIZE 8.0 in.
▼ **AT END OF DRILLING**
LOGGED BY Alejandro Aguilera, EIT **CHECKED BY** Charley Scott, PE
▽ **AFTER DRILLING**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	DRY UNIT WT (pcf)	MOISTURE CONTENT (%)
		0.50 Silty SAND (SM): brown; dry; nonplastic; fine; dead grass and tumbleweeds on surface, native.				
		: medium dense.	SPT 1	2-3-9 (12)		
		2.00 : dense.	2B	15-18-21 (39)		
			2C		107	4
			3B	17-21-24 (45)		
5		5.00	3C		107	4
		Terminated at 5.00 ft.				
10						
15						
20						
25						

NOTES

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APPENDIX B
LABORATORY TESTING

Laboratory testing was performed to quantify and evaluate the geotechnical characteristics of the soil samples obtained at the site. The following laboratory tests were performed on selected samples from the borings:

- Moisture Content (ASTM D 2216)
- Dry Density (ASTM D 2937)
- Atterberg Limits (ASTM D 4318)
- Particle Size Distribution (ASTM D 6913)
- R-Value (ASTM D 2844/CT301)
- Expansion Index (ASTM D 4829)
- pH and Electrical Resistivity (CT643)
- Sulfate and Chloride Content (CT417 and CT422)
- Redox Potential (ASTM G 200m)
- Sulfides (AWWA C105/A25.5)

Tests were performed by Siegfried, Blackburn Consulting, and Sunland Analytical.

The results of the tests performed above are discussed in the Subsurface Conditions section of the report (Section 3.1). They are also presented on the boring logs provided in Appendix A, and as summaries and reports provided in Appendix B.

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Geotechnical Materials Testing Summary

Tested in General Accordance with ASTM D1140, D2487, D4318, D6913, and D7263

Project Name: Health Plan of San Joaquin Be Well

Project Number: 23288-5001

Project Location: French Camp, CA

					ASTM D2216	ASTM D7263		ASTM D4318		ASTM D1140/D6913			ASTM D2487	
Sample Date	Location ID	Depth Top (ft)	Depth Base (ft)	Color	Moisture (%)	Wet Density (pcf)	Dry Density (pcf)	Liquid Limit	Plasticity Index	Gravel (%)	Sand (%)	Fines (%)	USCS Group Symbol	USCS Description
11/7/2023	B4-1C	3.5	4.0	Gray with rust mottling	8.4	118.2	109.1	NP	NP	0	3	97	ML	Silt
11/7/2023	B4-2C	6.0	6.5	Gray with rust mottling	9.4	106.7	97.5	---	---	---	---	---	---	---
11/7/2023	B4-3C	8.5	9.0	Gray with rust mottling	19.4	120.0	100.5	---	---	---	---	---	---	---
11/7/2023	B4-4B	10.5	11.0	Gray with rust mottling	25.3	123.5	98.5	---	---	---	---	---	---	---
11/7/2023	B4-5C	16.3	16.5	Reddish Brown	17.3	---	---	NP	NP	0	86	14	SM	Silty Sand
11/7/2023	B4-SPT6	20.0	21.5	Brown with black and red mottling	19.0	---	---	---	---	---	---	---	---	---
11/7/2023	B4-7C	26.0	26.5	Brown	29.2	128.0	99.1	---	---	---	---	---	---	---
11/7/2023	B4-SPT8	30.0	31.5	Brown	26.3	---	---	---	---	---	---	---	---	---
11/7/2023	B4-9C	36.0	36.5	Dark gray	29.2	---	---	---	---	---	---	---	---	---
11/7/2023	B4-SPT10	40.0	41.5	Light gray	33.2	---	---	---	---	---	---	---	---	---
11/7/2023	B4-11C	46.0	46.5	Brown	25.5	130.1	103.7	---	---	---	---	---	---	---
11/7/2023	B4-SPT12	50.0	51.5	Light gray	35.2	---	---	---	---	---	---	---	---	---
11/7/2023	Bulk 1	EL 16.0	EL 16.5	Dark Brown	---	---	---	28	11	1	36	63	CL	Sandy Lean Clay
11/7/2023	Bulk 2	EL 21.0	EL 21.5	Light Brown	---	---	---	27	9	1	39	60	CL	Sandy Lean Clay

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Modesto, CA 95354
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CIVIL STRUCTURAL GEOTECHNICAL SURVEY LANDSCAPE PARTNERING

Geotechnical Materials Testing Summary

Tested in General Accordance with ASTM D1140, D2487, D4318, D6913, and D7263

Project Name: Health Plan of San Joaquin Be Well

Project Number: 23288-5001

Project Location: French Camp, CA

					ASTM D2216	ASTM D7263		ASTM D4318		ASTM D1140/D6913			ASTM D2487	
Sample Date	Location ID	Depth Top (ft)	Depth Base (ft)	Color	Moisture (%)	Wet Density (pcf)	Dry Density (pcf)	Liquid Limit	Plasticity Index	Gravel (%)	Sand (%)	Fines (%)	USCS Group Symbol	USCS Description
11/7/2023	B1-1C	3.5	4.0	Brown	9.1	110.9	101.6	---	---	---	---	---	---	---
11/7/2023	B1-2C	6.0	6.5	Brown	4.2	108.8	104.4	---	---	---	---	---	---	---
11/7/2023	B1-3C (TOP)	8.5	8.8	Gray with rust mottling	22.1	124.8	102.2	---	---	---	---	---	---	---
11/7/2023	B1-3C (BOTTOM)	8.8	9.0	Light brown	3.5	---	---	NP	NP	0	92	7.7	SP-SM	Poorly-Graded Sand with Silt
11/7/2023	B1-4C	11.0	11.5	Light brown	2.1	102.5	100.5	NP	NP	0	97	2.8	SP	Poorly-Graded Sand
11/7/2023	B1-5C	16.0	16.5	Brown	28.8	123.5	95.9	---	---	---	---	---	---	---
11/7/2023	B1-6C	21.0	21.5	Brown	22.4	127.9	104.5	---	---	---	---	---	---	---
11/7/2023	B2-1C	2.0	2.5	Dark gray	8.8	123.0	113.0	---	---	---	---	---	---	---
11/7/2023	B2-2C	4.5	5.0	Gray with rust mottling	19.8	118.6	98.9	---	---	---	---	---	---	---
11/7/2023	B2-3C	7.0	7.5	Gray with rust mottling	20.0	117.7	98.1	---	---	---	---	---	---	---
11/7/2023	B2-4C	9.5	10.0	Gray with rust mottling	28.4	124.6	97.1	---	---	---	---	---	---	---
11/7/2023	B2-5C	16.0	16.5	Brown with white mottling	28.0	124.2	97.0	---	---	---	---	---	---	---
11/7/2023	B3-1C	2.0	2.5	Gray	4.1	---	---	---	---	---	---	---	---	---
11/7/2023	B3-2C	4.5	5.0	Gray	4.5	112.8	107.9	---	---	---	---	---	---	---
11/7/2023	B3-3C	7.0	7.5	Gray with rust mottling	14.0	104.6	91.7	---	---	---	---	---	---	---
11/7/2023	B3-4C	9.5	10.0	Gray with rust mottling	20.7	125.9	104.3	---	---	---	---	---	---	---
11/7/2023	B3-5C	16.0	16.5	Brown	23.4	123.4	100.0	---	---	---	---	---	---	---
11/7/2023	IN1-2C	3.0	3.5	Brown	3.7	111.1	107.1	---	---	---	---	---	---	---
11/7/2023	IN1-3C	4.5	5.0	Brown	4.0	111.1	106.8	---	---	---	---	---	---	---

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BLACKBURN CONSULTING

Unconfined Compression
ASTM D 2166

Project Name: Siegfried - 23288-5001
Project Number: 4437.X012
Sample ID: B4-4C
Type of Sample: CalMod
Sample Description: SILT, grayish brown
Depth: 11-11.5'

Sample Data

Sample Length:	5.01	in	Sample + Tube:	772	g
Diameter:	2.39	in	Tube:	0.00	g
Height-to-Diameter Ratio:	2.10		Sample Weight:	772	g
Sample Area:	4.48	in^2	Wet Density:	130.9	pcf
Sample Volume:	22.5	in^3	Moisture:	18	%
Specific Gravity:	2.65	(assumed)	Dry Density:	110.5	pcf
			Saturation:	98.6	%

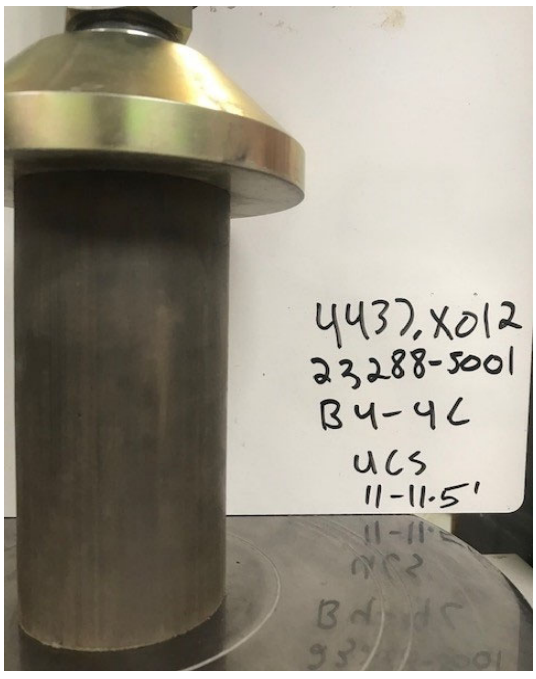
**Moisture content taken after test*

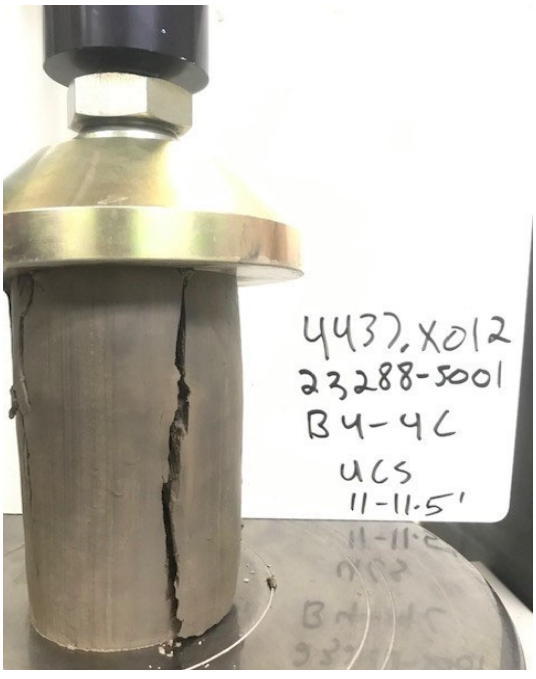
Test Results

Rate of Strain:	0.0300	in/min
Deflection at Max. Load:	0.473	in
Maximum Load:	264	lbs
Strain at Failure:	9.44	%
Average cross-sectional area at failure:	4.95	in^2
Compressive Strength:	**3.84**	**tsf**
	53.4	**psi**

Strain Information

Rate of Strain ½%:	0.025	in/min
Rate of Strain 2%:	0.100	in/min
Strain Rate:	0.030	in/min
15% Strain:	0.752	in



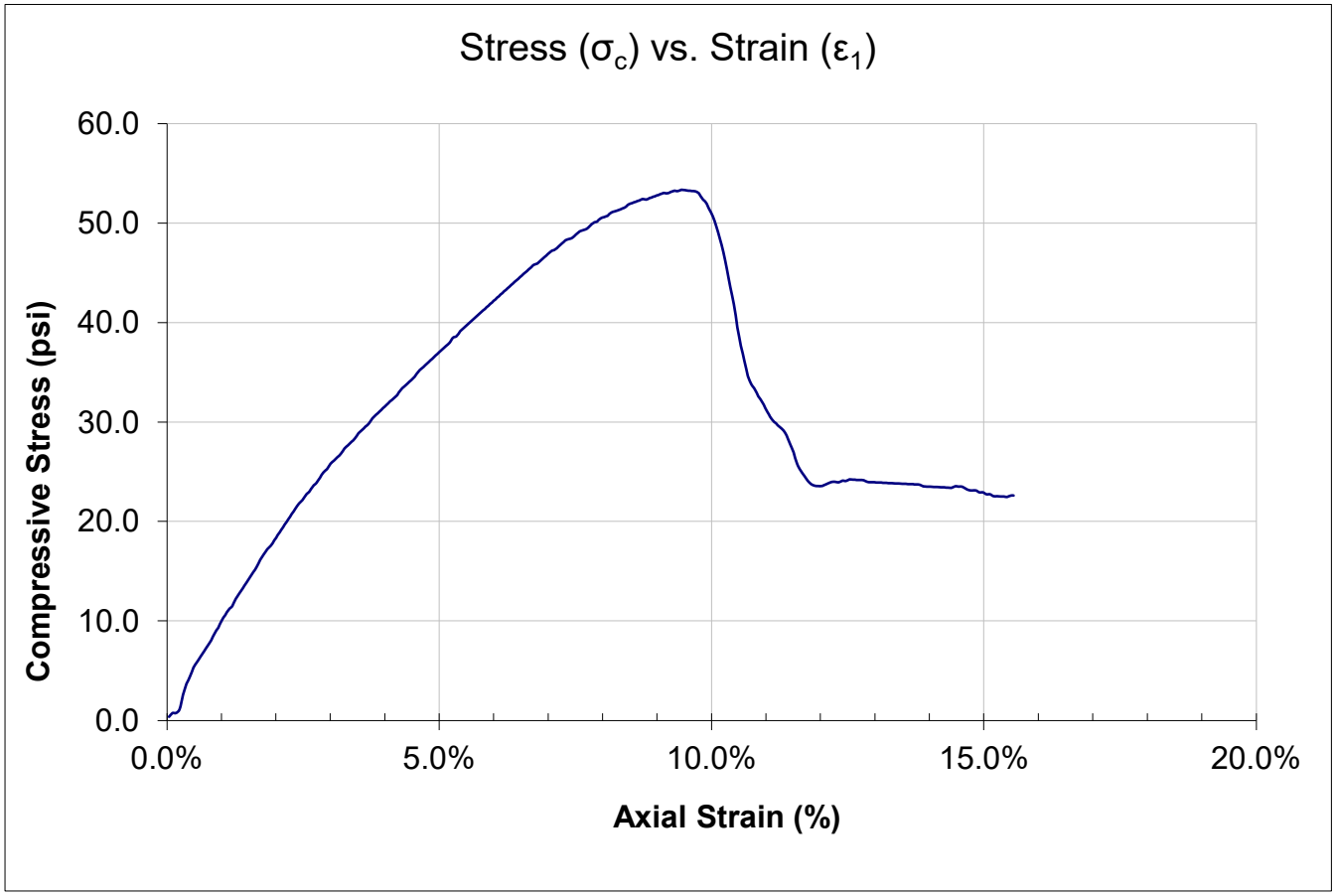


BLACKBURN CONSULTING

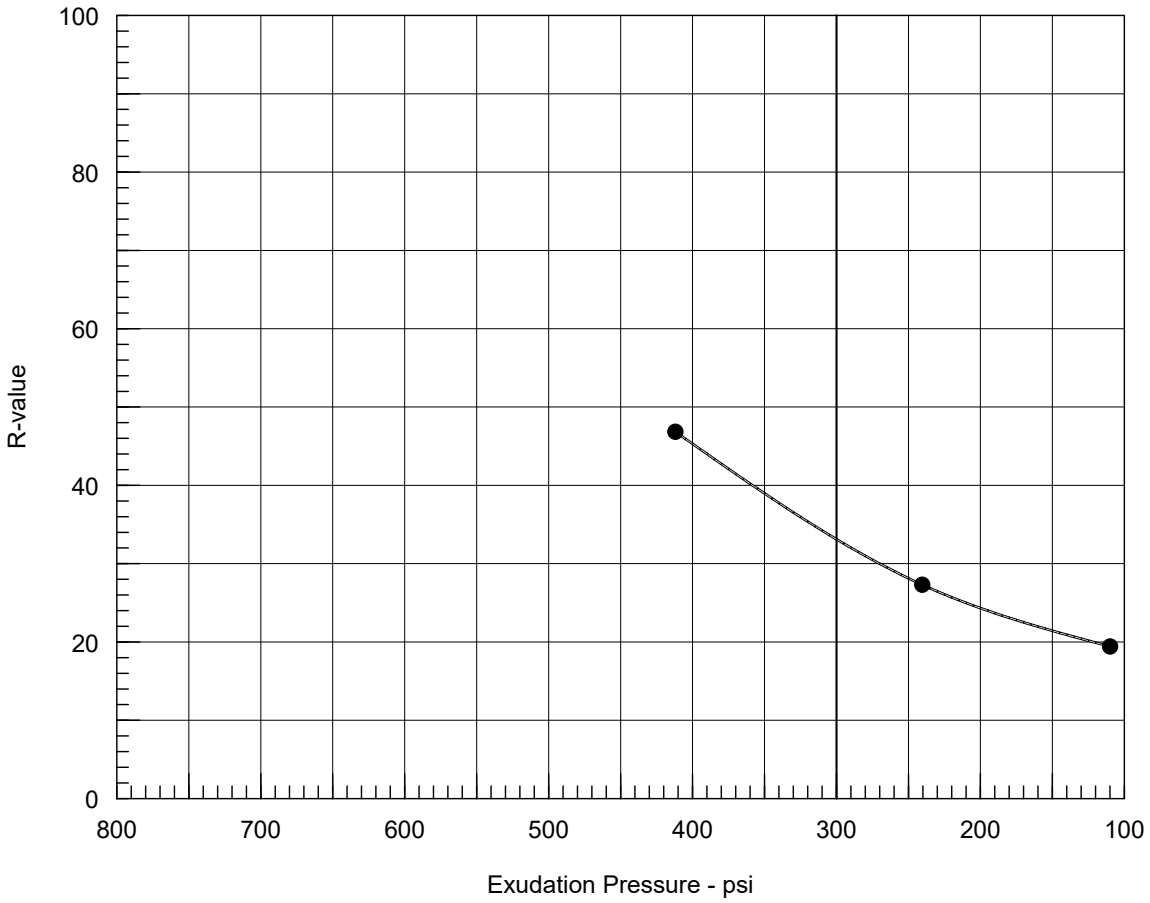
Unconfined Compression
ASTM D 2166

Project Name: Siegfried - 23288-5001
Project Number: 4437.X012
Sample ID: B4-4C
Type of Sample: CalMod
Sample Description: SILT, grayish brown
Depth: 11-11.5'

Compressive Strength: **3.84** **tsf**
53.4 **psi**



R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psf	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	125	113.1	14.3	109	54	2.55	412	47	47
2	83	110.5	15.4	65	87	2.60	240	26	27
3	63	109.5	16.5	70	100	2.55	110	19	19

Test Results	Material Description
R-value at 300 psi exudation pressure = 33	SANDY SILT, dark brown

Project No.: 4437.X012
Project: Health Plan of San Juaquin Be Well 23288
Source of Sample: Center of Site **Depth:** Surface
Sample Number: Bulk 1
Date: 11/13/2023

Tested by: DSB
Checked by: RBL
Remarks:

R-VALUE TEST REPORT

Blackburn Consulting

Figure _____

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 11/15/2023
Date Submitted 11/08/2023

To: Charley Scott
Siegfried-Stockton
3428 Brookside Rd.
Stockton, CA 95219

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 23288-5001 CNTR SITE Site ID : BULK 1.
Thank you for your business.

* For future reference to this analysis please use SUN # 90921-188516.

EVALUATION FOR SOIL CORROSION

Soil pH	7.01	
Moisture	5.0 %	
Minimum Resistivity	1.82 ohm-cm (x1000)	
Chloride	5.0 ppm	00.00050 %
Sulfate	6.1 ppm	00.00061 %
Redox Potential	(+) 268 mv	
Sulfides	Presence - NEGATIVE	

METHODS
pH and Min.Resistivity CA DOT Test #643 Mod.(Sm.Cell)
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m
Redox Potential ASTM G-200m, Sulfides AWWA C105/A25.5

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 11/15/2023
Date Submitted 11/08/2023

To: Charley Scott
Siegfried-Stockton
3428 Brookside Rd.
Stockton, CA 95219

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager RH

The reported analysis was requested for the following location:
Location : 23288-5001 STOCKPILE Site ID : BULK 2.
Thank you for your business.

* For future reference to this analysis please use SUN # 90921-188517.

EVALUATION FOR SOIL CORROSION

Soil pH	7.63	
Moisture	7.3 %	
Minimum Resistivity	1.28 ohm-cm (x1000)	
Chloride	3.5 ppm	00.00035 %
Sulfate	0.2 ppm	00.00002 %
Redox Potential	(+) 255 mv	
Sulfides	Presence - NEGATIVE	

METHODS
pH and Min.Resistivity CA DOT Test #643 Mod.(Sm.Cell)
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m
Redox Potential ASTM G-200m, Sulfides AWWA C105/A25.5

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End of Report

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