Appendix C

Biological Resources Report and the Tree Resource Analysis

BIOLOGICAL RESOURCES REPORT
SHILOH BUSINESS PARK PROJECT
WINDSOR, SONOMA COUNTY, CALIFORNIA

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1.0 INTRODUCTION

On behalf of Brennan Investment Group, Huffman-Broadway Group, Inc. (HBG) has prepared a Biological Resources Report for the Shiloh Business Park in the Town of Windsor, Sonoma County, California. It is expected that this Biological Resources Report will be used in decision-making with respect to the documentation necessary for the project pursuant to the California Environmental Quality Act (CEQA). A new CEQA environmental document is anticipated to be an update of a Mitigated Negative Declaration and Initial Study prepared for the site for a different project in 2006.

Brennan Investment Group (the project applicant) is seeking approval to develop a multi-tenant, light industrial and manufacturing business park at 790 Shiloh Road, in the Town of Windsor, California (Attachment 1, Figures 1, 2 and 3). The development will consist of three (3) buildings totaling approximately 477,093 square feet (Attachment 2). The buildings are designed to accommodate individual tenant spaces as small as 20,000 square feet, allowing maximum flexibility to attract as many as 15 potential new businesses to the Town of Windsor.

The objective of this study was to provide a determination of the potential for the Project Site to support sensitive habitats as defined by state or federal regulation and/or pursuant to the California Environmental Quality Act (CEQA) or for the Project Site to support special status species of flora and fauna. The objective of the study is also to determine if construction of the proposed project would result in potentially significant biological impacts and, if so, to recommend mitigation measures to reduce biological impacts to levels of insignificance as defined by CEQA guidelines.

HBG's analysis included: (1) a review of pertinent literature on habitat characteristics of the site, including species of plants and animals expected to utilize the Project Site and a review of planning documents referencing ecological aspects of the site, (2) review of the California Natural Diversity Data Base (CNDDB) to determine if any populations of endangered, threatened, or rare species have occurred historically or are currently known to exist in the project vicinity; (3) field surveys of the site conducted by HBG biologists during the winter and spring of 2022, and (4) an evaluation to determine whether the proposed construction would result in impacts to sensitive habitats or special status species.

The Project Site is located within the Santa Rosa Plain, which encompasses much of central Sonoma County, and is characterized by vernal pools, seasonal wetlands, and associated grasslands. These habitats support a unique population of the federally listed endangered California tiger salamander (CTS) (*Ambystoma californiense*), and three state and federally listed endangered plant species that have a large proportion of their population on the Plain. The Santa Rosa Plain Conservation Strategy designates the Project Site as one where "presence of CTS is not likely but mitigation for listed plants may be required", but an adjacent property proposed to be used for project access to and from Aviation Boulevard is designated as "may adversely affect listed plants and/or CTS." The three plant species are Sonoma sunshine (*Blennosperma bakeri*), Burke's goldfields (*Lasthenia burkei*), and Sebastopol meadowfoam

(*Limnanthes vinculans*), and all are state and federally listed as endangered. All three species have potential to occur within suitable habitats in the vicinity of the Project Site.

The USFWS and California Department of Fish and Wildlife (CDFW) issued guidelines for compensation for effects to listed species in the Santa Rosa Plain in (1) the December 1, 2005 Final *Santa Rosa Plain Conservation Strategy*; (2) the May 16, 2006 *Interim Mitigation Guidelines*; (3) the November 9, 2007, *Programmatic Biological Opinion for Corps Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California (Service File Number 81420-2008-F-0261 and Corps File Number 223420N*) (2007 Programmatic); (4) the USFWS 2016 Recovery Plan for the Santa Rosa Plain; and (5) the June 2020 Programmatic Biological Opinion entitled "*Reinitiation of Formal Consultation on Issuance of Clean Water Act, Section 404 Permits by the U.S. Army Corps of Engineers (Corps) on the Santa Rosa Plain, Sonoma County, California*". Some information presented in this Biological Resources Report is based on these documents.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Shiloh Business Park Project (Project) is proposed at 790 Shiloh Road in the southwestern portion of the Town of Windsor, Sonoma County, California. Attachment 1, Figure 1 is a location map showing the Project Development Site (Project Site); Figure 2 is a USGS map showing the location of the Project Site on the Healdsburg USGS 7.5-minute quadrangle map; and Figure 3 is an aerial photograph of the Project Site showing current land use conditions and adjacent areas. The approximate center point latitude is 38.520293°N and longitude 122.786896°W. The Project is southwest of the intersection of U.S. Highway 101 with Shiloh Road. The Project Site is accessible from Shiloh Road via Caletti Avenue then Pruitt Avenue.

2.2 Project Purpose

The purpose of the project is to develop a multi-tenant light industrial/manufacturing business park in the Town of Windsor in response to the extreme shortage of new, modern facilities capable of supporting the growth of established and new companies seeking alternatives which would enable them to operate their businesses closer to workforce housing and labor. This development will also greatly enhance the Town's ability to deliver on the primary Economic Development goal under the 2040 General Plan, which is to increase the tax base and create more local jobs through business attraction, retention, and expansion.

2.3 Project Description

The Project Area totaling 48.03 acres consists of 45.62 acres of lands owned in fee title by the Brennan Investment Group ((APN) 059-271-095) and 2.41 acres of offsite adjacent lands secured by easement (Attachment 2). The Project Development Site (Project Site) where ground disturbing and other related construction activities will occur comprises 30.65 acres which includes 27.95 acres within the Project Area, a 0.29 acre area within the Caletti Conservation Easement for construction of a pedestrian trail, and 2.41 acres in two easement areas needed for Pruitt Avenue roadway construction. This construction activity includes an extension of Pruitt Avenue on the north side of the Project Site (1.42 acres) and extending Pruitt Avenue to Aviation Boulevard (0.99 acre) on the south side of the Project Site (Attachment 2). Remaining portions of the 45.62 acre parcel owned by Brennan Investment Group, totaling 17.38 acres, will be undisturbed by the current Project (Attachment 2).

The applicant intends to submit a tentative map showing a minor subdivision of 4 lots with a potential remainder parcel not proposed for development within the foreseeable future. The Project will include several offsite improvements generally following the Mitigated Negative Declaration for the Shiloh Oaks Master Plan adopted by the Town under resolution 1960-06. The areas to be developed are described as Areas 3 and 4 in the resolution.

The proposed Project consists of three new warehouse structures, totaling approximately 477,093 square feet, which will be placed on their own parcels (Attachment 2). The twin buildings fronting Highway 101 (Buildings 1 and 2) will be designed to comply with the Design

Standards established for the “101 Interface Zone” as well as consistency with the Town of Windsor’s rural “wine country” architectural style. Primary building entrances will face Highway 101 and the use of canopied office entries, panelized glass, lighted signage, wall articulation and other architectural features will enhance the attractiveness of this southern “Town Entry”. The landscape plan for the project has been designed to complement the abundance of trees and vegetation existing on the site with drought resistant plants and ground cover to ensure compliance with current water management practices and to provide screening of parking areas while also creating a visual buffer between Highway 101 and the heavier industrial uses to the west of the subject site. Existing trees and vegetation within the 140’ wide Caletti Conservation Easement area separating the site from Highway 101 will be pruned and enhanced with additional trees and other vegetation that will create a park-like aesthetic as viewed from Highway 101. In addition, the planting of numerous trees along new Pruitt Avenue will establish a scenic boundary to the west, running the entire north/south length of the development site. Trees, shrubbery, and other drought resistant vegetation will be incorporated throughout the remainder of the project and new Pruitt Avenue streetscapes, which are consistent with the Shiloh Oaks Master Plan.

The buildings are designed to accommodate individual tenant spaces as small as 20,000 square feet, allowing maximum flexibility to attract as many as 15 potential new businesses to the Town of Windsor. While it is impossible to determine the ultimate mix of tenant use types, the project is expected to attract businesses that mirror historical demand in the North Bay including light manufacturing, warehouse/distribution and food manufacturing uses necessary to support the dominant industries in Sonoma County. These include wine production, bottling, testing and cased goods storage; construction/home improvement suppliers; retail trade support; agricultural materials and equipment; food production, storage and shipping and various other light manufacturing and assembly operations. Based on a proxy of industrial leases signed in the North Bay over the last two years, it is anticipated that 50% of the project (238,590 square feet) will be leased by light manufacturing tenants; 25% to warehouse/distribution users and 25% to food production operators (119,294 square feet each). Further, it is estimated that the completed project will support approximately 160 new jobs assuming the following employees per square foot ratios: light manufacturing (1/2500 square feet); warehouse/distribution (1/5000 square feet) and food production (1/3000 square feet). The development site plan provides for 419 total spaces, including EVA and ADA parking.

The primary ingress and egress to the project will be from newly constructed Pruitt Avenue, entering the site from the north and extending south along the west property line. The developer has reached an agreement with the western adjacent property owner to modify the existing Pruitt Avenue right-of-way easement such that the centerline of the easement would be placed on the shared property line between the properties. Access has been designed to separate on-site passenger car and truck traffic by virtue of four curb cuts off Pruitt Avenue with the primary truck entrance directly servicing the truck staging/courtyard area separating the three buildings. Pruitt Avenue will extend eastward across the southern Project site and transition south to an also newly built access road connecting with Aviation Boulevard in the Airport Business Center. The northerly stretch up to the end of Area 3 near the upper reaches

of Airport Creek will maintain a right of way width of 64 feet matching Section #3C from the Shiloh Oaks Master Plan. As Pruitt Ave then veers into Area 3 and on out to Aviation Blvd, the road width from curb to curb is reduced to a minimum of 28 feet with curb, gutter, sidewalk, and planters matching Section #2 of the Shiloh Oaks Master Plan.

Project access also includes the construction of a 5-foot wide, decomposed granite pedestrian access trail through the Caletti conservation easement area between Highway 101 and the proposed development (Attachment 2). This new trail will cross over a small stream drainage channel within the Caletti Conservation Easement area using the existing culvert that drains into Pruitt Creek.

Construction. Equipment to be used in grading the 30.7-acre footprint for the site will include front-end loaders, dump trucks, and an excavator or back-hoe that may be needed for installation building foundations and infrastructure. The area planned for equipment staging/storage and materials storage will be established at the northern end of the Project Site. Construction of the project is anticipated to last approximately one year.

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to ground disturbing activities. The SWPPP will require proper construction techniques and implementation of Best Management Practices (BMPs) to ensure that the water quality of nearby waterways is not affected by onsite construction activities. Implementation of water quality controls shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction. In addition, vegetation will only be cleared from the permitted construction footprint. Areas cleared of vegetation, pavement, or other substrates shall be stabilized as quickly as possible to prevent erosion and runoff.

The project will require importation of approximately 20,253 cubic yards of imported base rock to the site. The site will be graded to drain following natural drainage patterns. Currently, over half of the northerly area of the development portion of the Project Site drains to the north to Pruitt Creek. As proposed, all of Building 1 and associated parking around that building would drain in this direction. Buildings 2 & 3 drain to the south/southwest to a man-made drainage course that conveys stormwater flows to Airport Creek. All proposed impervious areas will be directed to bio-retention areas prior to release of stormwater off Project Site. Bio-retention areas will be located within planter areas around the parking and buildings as needed to meet the County Low Impact Development Standards.

The project proposes to realign a 2 foot wide man-made drainage course that bisects the southern portion of the Project Site to near the southern edge of the site and reconnect it to Airport Creek on the western edge of the Project Site, as shown in the preliminary plans in Attachment 2. The current man-made approximately 2-foot wide drainage ditch containing wetland vegetation extends directly from U.S. Highway 101 through the Caletti Conservation Easement area and the Project Site to a portion of Airport Creek where past flood control improvements have occurred. The applicant proposes to fill a 1,135 foot long portion of the

drainage ditch where it crosses the Project Site and re-route the ditch around the southern portion of the proposed development and reconnect it to Airport Creek at the western boundary of the Project site in order to allow for greater development area. The realigned channel will be significantly wider (8 feet) and longer (1,597 linear feet) than the existing channel and will provide mitigation for the loss of the existing drainage ditch and associated wetland habitat contained within the existing channel and other man-made drainage ditches with wetland habitat that will be filled by the Project. The new channel will also be lined with riparian trees and other native vegetation to provide additional wildlife habitat. Seasonal wetlands will also be established at various locations above the top of bank along the realigned channel with the objective of establishing wetland habitat for federal and state-listed plant species. Topsoil taken from the seasonal wetlands being fill by the Project will be spread over and blended into the ground surface of the newly established wetlands to allow for the potential introduction of listed plant species seed from the existing wetland soil.

Discussions are ongoing related to a second option for realignment of the drainage ditch to Airport Creek that would include extending construction of the realigned and significantly widened channel from Highway 101 through the Caletti Conservation Easement area, and then around the southern portion of the Project Site to Airport Creek at the western boundary of the Project Site. This would allow for the establishment of a greater acreage of stream and wetland habitat.

Water. There is a public water main and fire hydrants running within Pruitt Avenue. The proposed project would pick up at the south end of this main and extend it to the south end of Pruitt Avenue through the project and out to Aviation Boulevard within a public easement.

Sewer. The sewer for this project would be constructed within the Pruitt Avenue extension and extended to the south end of the subject parcel to an extent as needed to serve the project. The Master Plan shows the sewer main extending along the south side of the project up to the proposed road extension to Aviation Boulevard.

Landscaping. The landscape plan will be designed to incorporate the existing trees and foliage within the Caletti Conservation Easement area to enhance the visual appeal within the 101 Freeway Interface Zone. No new landscaping will be added to the Caletti Conservation Easement area. New landscaping within the Project Site will be drought-tolerant and compatible with the local ecology. Irrigation will be drip-type and monitored via separate meter. Reclaimed water may be used to supplement irrigation needs. Stormwater will be directed towards bio-retention areas, as needed, to meet County Low Impact Development Standards. As indicated above, the new stream channel and adjacent riparian and seasonal wetland areas will be lined with native vegetation including riparian trees to provide additional wildlife habitat.

Reclaimed Water. Reclaimed water would be extended within the new Pruitt Avenue extension, through the subject parcel and down the road extension and connected to Aviation Boulevard as shown in Attachment 2.

3.0 REGULATORY BACKGROUND

The following is a description of federal, state, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process.

3.1 Federal Regulations

Clean Water Act-Section 404

The U.S. Army Corps of Engineers (Corps or USACE) regulates discharges of dredged or fill material into Waters of the United States under Section 404 of the Clean Water Act (CWA; 33 U.S.C. §1251 et seq.). "Discharge of fill material" is defined as the addition of fill material into Waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 Code of Federal Regulations [CFR] §328.2(f)). In addition, Section 401 of the CWA requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

The Corps and the U.S. Environmental Protection Agency (US EPA) are responsible for implementing the Section 404 program. Section 404(a) authorizes the Corps to issue permits, after notice and opportunity for comment, for discharges of dredged or fill material into Waters of the United States (WOTUS) (33 U.S.C. §1344). Section 404(b) requires that the Corps issue permits in compliance with EPA guidelines, which are known as the Section 404(b)(1) Guidelines (40 CFR Part 230). Specifically, the Section 404(b) (1) guidelines require that the Corps only authorize the "least environmentally damaging practicable alternative" (LEDPA) and include all practicable measures to avoid and minimize impacts to the aquatic ecosystem. The guidelines also prohibit discharges that would cause significant degradation of the aquatic environment or violate state water quality standards.

Waters of the U.S. include both wetlands and "other waters of the U.S." Wetlands and other waters of the U.S. are described by US EPA and Corps regulations (40 CFR §230.3(s) and 33 CFR §328.3(a), respectively). US EPA and the Corps define wetlands as "…those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (US EPA regulations at 40 CFR § 230.3(t); Corps' regulations at 33 CFR §328.3(b)). Both natural and manmade wetlands and other waters (not vegetated by a dominance of rooted emergent vegetation) are subject to regulation. Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows.

The geographic extent of wetlands is defined by the collective presence of a dominance of wetland vegetation, wetland hydrology conditions, and wetland soil conditions as determined following the Corps' 1987 Wetlands Delineation Manual (1987 Manual); the Corps' 2008

Regional Supplement to Corps of Engineers Wetland Delineation Manual: Arid West, Version 2.0 (Arid West Regional Supplement); and supporting guidance documents.

The geographic extent of other waters of the U.S. is defined by an ordinary high-water mark (OHWM) in non-tidal waters (33 CFR §328.3(e)) and by the High Tide Line within tidal waters (33 CFR §328.3(d)). The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR §328.3(e)). Tidal waters are also under the jurisdiction of the Corps. The landward limits of jurisdiction in tidal waters extend to the high tide line…"or, when adjacent non-tidal waters of the United States are present, to the limits of jurisdiction for such non-tidal waters" (33 CFR§328.4(b)). High tide is further defined to include the line reached by spring high tides and other high tides that occur with periodic frequency (33 CFR §328.3(d)).

SWANCC and Rapanos*.* In the U.S. Supreme Court decision *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (SWANCC), No. 99-1178 (2001),* some isolated wetlands may be excluded from the Corps' Section 404 jurisdiction because they are (1) non-tidal, (2) non-navigable, (3) not hydrologically connected to navigable waters or adjacent to such waters, and (4) not subject to foreign or interstate commerce. Subsequent to SWANCC, the U.S. Supreme Court decided on *Rapanos v. United States* and *Carabell v. United States*, 126 U.S. 2208 (2006) (herein referred to as Rapanos). In 2007, guidance was given to US EPA regions and Corps districts to implement the Supreme Court's decision which addresses the jurisdiction over waters of the U.S. under the Clean Water Act. The Rapanos guidance requires the Corps to conduct detailed analysis of the functions and values of wetlands and other waters of the U.S. potentially onsite and in some cases offsite, to determine if there is a nexus to traditional navigable waters (33 CFR Part 329) and to evaluate the significance of the nexus to the traditional navigable water. Neither the Court nor the recently issued guidance draw a clear line with respect to the geographic reach of jurisdiction, particularly in drainages where flows are ephemeral and where wetlands are adjacent to but not directly abutting relatively permanent water.

Navigable Waters Protection Rule*.* In 2020, the Trump Administration obtained approval of the Navigable Waters Protection Rule (NWPR) that altered the reach of the nation's Clean Water Act. The NWPR has four categories of jurisdictional waters and twelve categories of excluded waters/features. There is no standalone interstate waters category and no case-specific significant nexus analysis. Key changes were made for defining tributary, adjacent wetland, ditches, lakes, ponds, and impoundments. New definitions for defining typical year versus normal, perennial, intermittent, ephemeral, snowpack, and ditches. No change was made to the definition of wetlands or the methodology for defining wetlands. Under the NWPR, WOTUS includes 1) territorial seas and traditional navigable waters; 2) tributaries; 3) lakes and ponds, and impoundments of jurisdictional waters; and 4) adjacent wetlands.

Navigable Waters Protection Rule Vacated. In June 2021, the US EPA and the Corps announced their intent to revise the definition of “waters of the United States” that would restore regulations defining "waters of the United States" that had been in place for decades until 2015, along with updates for consistency with relevant Supreme Court decisions; a second proposed rule would build on that regulatory foundation.

Subsequently, a ruling in the U.S. District Court for the District of Arizona on August 30, 2021, in the case of Pascua Yaqui Tribe v. U.S. Environmental Protection Agency, may result in the Final NWPR being overturned permanently. The US EPA and the Corps are reviewing the U.S. District Court’s order vacating and remanding the NWPR, have halted implementation of the NWPR, and are currently interpreting “waters of the United States” consistent with the pre-2015 WOTUS definition and US EPA and Corps regulatory policies and guidance regime until further notice.

On November 18, 2021 a proposed rule to revise the definition of “waters of the United States” was announced by the US EPA and Corps. As described on the US EPA website, the agencies propose to put back into place the pre-2015 definition of “waters of the United States,” updated to reflect consideration of Supreme Court decisions. This familiar approach would support a stable implementation of “waters of the United States” while the agencies continue to consult with states, tribes, local governments, and a broad array of stakeholders in both the current implementation and future regulatory actions. (https://www.epa.gov/wotus/current-implementation-waters-united-states).

Section 402 of the Clean Water Act

In 1972, the Clean Water Act was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollution Discharge Elimination System (NPDES) permit. Section 402 of the Clean Water Act requires that a discharge of any pollutant or combination of pollutants to surface waters that are deemed waters of the United States be regulated by a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments established a framework for regulating municipal, industrial, and construction-related storm water discharges under the CWA Section 402 NPDES Program. On November 16, 1990, the US EPA published final regulations that establish stormwater permit application requirements for specified categories of industries. The regulations provide, that discharges of stormwater from construction projects that encompass one or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit.

The federal NPDES permit program has been delegated to the State of California with limited federal oversight. The California State Water Resources Control Board (SWRCB) has developed a general construction stormwater permit to implement the requirements for the federal NPDES permit. The permit requires submittal of a Notice of Intent to comply, fees, and the implementation of a Storm Water Pollution Prevention Plan that specifies Best Management Practices (BMPs) that will prevent construction pollutants from entering stormwater and keep products of erosion from migrating offsite into downstream receiving waters. The Construction

General Permit includes post-construction requirements that site design provide no increase in overall site runoff or the concentration of drainage pollutants and requires implementation of Low Impact Development ("LID") design features. The Construction General Permit is implemented and enforced by California's nine Regional Water Quality Control Boards (RWQCBs).

The RWQCBs have also adopted requirements for NPDES stormwater permits for medium and large municipalities, and the SWRCB has adopted a General Permit for the discharge of storm water from small municipal storm sewer systems. This General Permit requires projects to develop and implement a post-construction Storm Water Management Plan (SWMP) to reduce the discharge of pollutants to the maximum extent practicable.

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The FESA establishes an official listing process for plants and animals considered to be in danger of extinction, requires development of specific plans of action for the recovery of listed species, and restricts activities perceived to harm or kill listed species or affect critical habitat (16 USC 1532, 1536).

The FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Taking can result in civil or criminal penalties. Federal regulation 50 CFR 17.3 further defines the term "harm" in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. Therefore, the ESA is invoked when the property contains a federally listed threatened or endangered species that may be affected by a permit decision.

In the event that listed species are involved and a Corps permit is required for impacts to jurisdictional waters, the Corps must initiate consultation with US Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service, (NMFS) pursuant to Section 7 of the ESA (16 USC 1536; 40 CFR § 402). Section 7 of the FESA requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitat (16 USC 1536). In the regulations found at 50 CFR 402.2, destruction or adverse modification is defined as a "direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species." Critical habitat is defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species." Critical habitat designations identify, with the best available knowledge, those biological and physical features (primary constituent

elements) which provide for the life history processes essential to the conservation of the species.

If formal consultation is required, USFWS or NMFS will issue a biological opinion stating whether the permit action is likely to jeopardize the continued existence of the listed species, recommending reasonable and prudent measures to ensure the continued existence of the species, establishing terms and conditions under which the project may proceed, and authorizing incidental take of the species.

For discretionary permit actions by non-federal entities, Section 10 of the ESA provides a mechanism for obtaining take authorization through submittal and approval of a Habitat Conservation Plan that details species impacts, measures to minimize or mitigate such impacts, and funding mechanisms to implement mitigation requirements.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The regulations governing migratory bird permits are in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. Most bird species within California fall under the provisions of the Act. Excluded species include nonnative species such as house sparrow, starling, and ring-necked pheasant and native game species such as quail.

On December 22, 2017, the U.S. Department of Interior's Office of the Solicitor issued Memorandum M-37050, which states an interpretation that the Migratory Bird Treaty Act does not prohibit the accidental or "incidental" taking or killing of migratory birds. In response to the Trump Administration's attempted changes to the MBTA, eight states, including California, filed suit in September of 2018, arguing that the new interpretation inappropriately narrows the MBTA and should be vacated. On August 11, 2020, the Southern District of New York ruled in favor of the long-standing interpretation of the MBTA to protect migratory birds, reinstating the historical ban on incidental take. Just days before leaving office, the Trump Administration finalized its pullback of MBTA regulations, despite the ruling of the federal court, and the elimination of protections pursuant to the MBTA went into effect in January of 2021. On his first day in office, new President Joe Biden placed the Trump Administration's changes to the MBTA on hold, pending further review. The Biden Administration announced the repeal of the January 2021 changes and the reinstatement of protections for migratory birds in December of 2021.

Fish and Wildlife Coordination Act

The USFWS also has responsibility for project review under the Fish and Wildlife Coordination Act. This statute requires that all federal agencies consult with USFWS, NMFS, and the state's wildlife agency (California Department of Fish and Wildlife, CDFW) for activities that affect, control, or modify streams and other water bodies. Under the authority of the Fish and Wildlife

Coordination Act, USFWS, NMFS, and CDFW review applications for permits issued under Section 404 and provide comments to the Corps about potential environmental impacts.

3.2 State Regulations

CWA Section 401 Water Quality Certification

Pursuant to section 401 of the federal Clean Water Act, projects that require a Corps permit for the discharge of dredge or fill material must obtain water quality certification from the state water quality authority that confirms a project complies with state water quality standards before the Corps permit is valid. State water quality is regulated/administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). A water quality certification from a RWQCB must be consistent with not only the Clean Water Act, but with CEQA, the California Endangered Species Act (CESA), and the SWRCB's requirement to protect beneficial uses of waters of the State.

Porter-Cologne Act

The State also maintains independent regulatory authority over the placement of waste, including fill, into waters of the State under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). Waters of the State are defined more broadly than "waters of the US" to mean "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code section 13050(e)). Examples include, but are not limited to, rivers, streams, lakes, bays, marshes, mudflats, unvegetated seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked baylands, seasonal wetlands, and riparian woodlands. Waters of the State include all waters within the state's boundaries, whether private or public, including waters in both natural and artificial channels. They include all "waters of the United States"; all surface waters that are not "waters of the United States, e.g., non-jurisdictional wetlands; groundwater; and the territorial seas.

The SWRCB's *State Wetland Definition and Procedures for Discharges of Dredge of Fill Material to Waters of the State* adopted April 2, 2019 (the Procedures) along with the *Implementation Guidance for the Procedures* dated April 2020 (the Implementation Guidance) defines a wetland as an area that *under normal circumstances, (1) has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.* The Procedures, along with the Implementation Guidance, state that the permitting authority (e.g., RWQCB) shall rely on any wetland area delineation from a final aquatic resource report verified by the Corps. If the Corps does not require an aquatic resource delineation report, an applicant must submit a delineation of all waters, but these delineations will be verified by the RWQCB staff during application review. Similarly, if the Corps does not require a delineation, but similar information is prepared for CDFW, the applicant can submit that information to the RWQCB, who will determine if it is sufficient for the Water Board's purposes. In addition, as a matter of policy, the SWRCB / RWQCBs consider wetlands and waters determined to be non-jurisdictional by the Corps / USEPA under SWANCC or Rapanos guidance remain jurisdictional as waters of the State subject to SWRCB / RWQCB jurisdiction.

The Procedures along with the Implementation Guidance also include procedures for the submission, review, and approval of applications for activities that could result in the discharge of dredged or fill material to any Waters of the State and include elements of the Clean Water Act Section 404(b)(1) Alternatives Analysis Guidelines, thereby bringing uniformity to the SWRCB's regulation of discharges of dredged or fill material to all waters of the state. Typically, the Corps requires a Clean Water Act 404(b)(1) Alternatives Analysis for wetland impacts greater than 0.50 acres. The Procedures require an alternatives analysis to be completed in accordance with a three-tier system. The level of effort required for an alternatives analysis within each of the three tiers shall be commensurate with the significance of the impacts resulting from the discharge.

The California State Water Resource Control Board has also developed a general construction storm water permit to implement the requirements of the federal National Pollution Discharge Elimination System (NPDES) permit. Projects approved by a RWQCB must, therefore, include the preconstruction requirement for a Stormwater Pollution Prevention Plan and the post-construction requirement for a Stormwater Management Plan.

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. The CESA is similar to the FESA but pertains to state listed endangered and threatened species. CESA requires state agencies to consult with the CDFW when preparing CEQA documents. The CESA generally prohibits the taking of state listed endangered or threatened plant and wildlife species, however, for projects resulting in impacts to state listed species, CDFW may authorize take through issuance of an Incidental Take Permit (ITP) pursuant to Section 2081 of the California Fish and Game Code. Section 2081 requires preparation of mitigation plans in accordance with published guidelines that require, among other things, measures to fully mitigate impacts to State listed species. CDFW exercises authority over mitigation projects involving state listed species, including those resulting from CEQA mitigation requirements. No authorization of take under Section 2081 is permitted for species listed in state statutes as Fully Protected Species. Where Fully Protected Species are involved, projects must be designed to avoid all take of the species. CDFW cannot issue an ITP until CEQA compliance has been achieved, usually through the CEQA Lead Agency providing documentation by preparing a negative declaration or EIR.

California Department of Fish and Wildlife-Lake and Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires any person, governmental agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel or bank of any river, stream, or lake, or proposing to use any material from a streambed, to first notify CDFW of such proposed activity. Based on the information contained in the notification form and a possible field inspection, CDFW may propose reasonable modifications in the proposed construction as would allow for the protection of fish and wildlife resources. Upon request, the parties may meet to discuss the modifications. If the parties cannot agree and execute a Lake and Streambed Alteration Agreement, then the matter may be referred to arbitration. CDFW cannot issue a Streambed Alteration Agreement until the

CEQA Lead Agency has provided documentation in the form of a Notice of Determination that the project has complied with CEQA.

CDFW's regulations implementing the Fish and Game Code define the relevant rivers, streams, and lakes over which the agency has jurisdiction to constitute "all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which have intermittent flows of water." (Title 14 *California Code of Regulations* [CCR] § 720). The CDFW takes jurisdiction under its Lake and Streambed Alteration Agreement Program for any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. The CDFW does not have a methodology for the identification and delineation of the jurisdictional limits of streams except for the general guidance provided in *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607 California Fish and Game Code* (CDFG 1994). In making jurisdictional determinations, CDFW staff typically rely on field observation of physical features that provide evidence of water flow through a bed and channel such as observed flowing water, sediment deposits and drift deposits and that the stream supports fish or other aquatic life. Riparian habitat is not specifically mentioned in the Fish and Game Code provisions governing Lake and Streambed Alteration Agreement, but CDFW often asserts jurisdiction over areas within the flood plain of a body of water where the vegetation (grass, sedges, rushes, forbs, shrubs, and trees) is supported by the surface or subsurface flow.

California Department of Fish and Wildlife-Fish and Game Code Section 3503, 3503.5 and 3513

The State of California also incorporates the protection of nongame birds and birds of prey, including their nests, in Sections 3503, 3503.5, and 3513 of the California Fish and Game Code. Section 3503 of the Fish and Game Code makes it unlawful to take, possess, or needlessly destroy the nests or eggs of any bird. Section 3503.5 makes it unlawful to take or possess birds of prey (hawks, eagles, vultures, owls) or destroy their nests or eggs. In December of 2018, California issued new guidance specifying that state law includes "a prohibition on incidental take of migratory birds, notwithstanding any federal reinterpretation of the Migratory Bird Treaty Act" by the Department of Interior.

California Department of Fish and Wildlife-Fish and Game Code Section 4150

Bats and other non-game mammals are protected in California. Section 4150 of the Fish and Game Code states that all non-game mammals or parts thereof may not be taken or possessed except as otherwise provided in the code or in accordance with regulations adopted by the Fish and Game Commission. Thus, destruction of an occupied, nonbreeding, bat roost, resulting in the death of bats, or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), is prohibited.

California Department of Fish and Wildlife Fish- Sensitive Plant Communities.

CDFW has designated special status natural communities which are considered rare in the region, rank as threatened or very threatened, support special status species, or otherwise receive some form of regulatory protection. Sensitive plant communities are those natural plant communities identified in local or regional plans, policies, ordinances, regulations, or by

the CDFW which provide special functions or values. Documentation pertaining to these communities, as well as special status species (including species of special concern), is kept by CDFW as part of the California Natural Diversity Data Base (CNDDB). All known occurrences of sensitive habitats are mapped onto 7.5 minute US Geological Survey (USGS) topographic quadrangle maps maintained by the CNDDB. Sensitive plant communities are also identified by CDFW on their List of California Natural Communities Recognized by the CNDDB. Impacts to sensitive natural communities must be considered and evaluated under CEQA.

California Department of Fish and Wildlife- Species of Special Concern

CDFW tracks species in California whose numbers, reproductive success, or habitat may be threatened. Species that may be considered for review are included on a list of "Species of Special Concern" developed by the CDFW. Even though these species may not be formally listed under FESA or CESA, such plant and wildlife species must be evaluated during the CEQA review of development projects, and mitigation should be developed to prevent significant impacts to such species.

California Department of Fish and Wildlife- Fully Protected Animal Species

The classification of Fully Protected was an effort by the California Legislature in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Protection of Fully Protected species is described in four sections of the Fish & Game Code that lists fully protected species (Fish &Game Code §§ 3511, 4700, 5050, and 5515). These statutes prohibit take or possession of fully protected species at any time. CDFW is unable to authorize incidental take of Fully Protected species when activities are proposed in areas inhabited by these species, except pursuant to an approved Natural Community Conservation Plan. Most Fully Protected species have also been listed as threatened or endangered species under state endangered species laws and regulations. Permits may be issued for the take of Fully Protected bird species for necessary scientific research and relocation of the bird species for the protection of livestock (as per California Fish and Game Code Section 3511(a)(1)).

California Native Plant Society

The California Native Plant Society (CNPS), a nongovernmental organization, has no regulatory authority but provides information that is often used by regulatory bodies. CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California (CNPS 2014: https://www.cnps.org/cnps/rareplants/inventory/). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review, especially for those plant species including in Lists 1 and 2. The following identifies the definitions of the CNPS listings: https://www.cnps.org/cnps/rareplants/ranking.php

California Rare Plant Rank 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere.
California Rare Plant Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere.
California Rare Plant Rank 2A:	Plants presumed extirpated in California, but more common elsewhere.

California Rare Plant Rank 2B:	Plants rare, threatened, or endangered in California, but more numerous elsewhere.
California Rare Plant Rank 3:	Plants about which more information is needed – a review list.
California Rare Plant Rank 4:	Plants of limited distribution – a watch list.

3.3 Santa Rosa Plain Conservation Strategy

Nature of the Program

The *Santa Rosa Plain Conservation Strategy* (Conservation Strategy) was developed by a team of representatives (Conservation Strategy Team) from the U.S. Fish and Wildlife Service, Corps, US EPA, California Department of Fish and Wildlife, Sonoma County, local cities, North Coast Regional Water Quality Control Board, local governmental agencies, the Laguna de Santa Rosa Foundation, the environmental community, and the private landowner community. The Conservation Strategy is limited to the Santa Rosa Plain, which is located in central Sonoma County, bordered on the south and west by the Laguna de Santa Rosa, on the east by the foothills, and on the north by the Russian River.

The purpose of the Conservation Strategy is threefold: (1) to establish a long-term conservation program sufficient to compensate potential adverse effects of future development on the Santa Rosa Plain, and to conserve and contribute to the recovery of the California tiger salamander and a select group of listed plants (Sonoma sunshine, Burke's goldfields, Sebastopol meadowfoam, and many-flowered navarretia [*Navarretia leucocephala* ssp. *Plieantha*]) and the conservation of their sensitive habitat; (2) to accomplish the preceding in a fashion that protects stakeholders' (both public and private) land use interests, and (3) to support issuance of an authorization for incidental take of California tiger salamanders and listed plants that may occur in the course of carrying out a broad range of activities on the Santa Rosa Plain.

The Conservation Strategy provides the biological basis for a permitting process for projects that are in the potential range of listed species on the Santa Rosa Plain. This is intended to provide consistency, timeliness, and certainty for permitted activities. The Conservation Strategy study area is comprised of the potential California tiger salamander range and the range of listed plant species within the Santa Rosa Plain. The Conservation Strategy establishes interim and long-term mitigation requirements and designates conservation areas where compensation will occur. It describes how preserves will be established and managed. It also includes guidelines for translocation, management plans, adaptive management, and funding.

The USFWS and CDFW have issued guidelines for compensation for effects to listed species in the Santa Rosa Plain in the December 1, 2005 Final *Santa Rosa Plain Conservation Strategy* (USFWS 2005) and the November 9, 2007, *Programmatic Biological Opinion for Corps Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California (Service File Number 81420-2008-F-0261 and Corps File Number 223420N*) (2007 Programmatic) which was based on the Conservation Strategy. In 2016, the USFWS also prepared a recovery plan for the Sonoma County Distinct Population of CTS as well as for the three state and federally listed endangered plant species on the Santa Rosa Plain: Sonoma sunshine (*Blennosperma bakeri*), Burke's goldfields (*Lasthenia burkei*), and Sebastopol

meadowfoam (*Limnanthes vinculans*) (USFWS 2016). A June 2020 Programmatic Biological Opinion ("*Reinitiation of Formal Consultation on Issuance of Clean Water Act, Section 404 Permits by the U.S. Army Corps of Engineers (Corps) on the Santa Rosa Plain, Sonoma County, California*") effectively replaces the 2007 Programmatic Biological Opinion and is intended to streamline Section 7 consultations for projects that implement certain conservation measures.

The Santa Rosa Plain Conservation Strategy has not officially been approved by the agencies as of the date of this Biological Resources Report.

Conservation Strategy Designations in the Project Site Vicinity

The map in Figure 3 of the Santa Rosa Plain Conservation Strategy (dated April 16, 2007) (and Enclosure 1 of the (the most current, dated February 5, 2008) provides the Conservation Strategy designations for areas within the Santa Rosa Plain (see Attachment 1, Figure 4). The entire Project Site is noted in the Santa Rosa Plain Conservation Strategy with the following designation "presence of CTS is not likely but mitigation for listed plants may be required." The extension of Pruitt Avenue through beyond the southern Project Site boundary to Aviation Boulevard passes through an area designated in the Conservation Strategy as "may adversely affect listed plants and/or CTS." The Conservation Strategy designations for the site and the general site vicinity are reproduced in Attachment 1, Figure 4.

The Conservation Strategy identifies the mitigation requirements for CTS, listed plants, and seasonal wetlands. The mitigation requirements included in the Conservation Strategy will contribute to conservation and recovery of the listed species and their sensitive habitat when implemented.

Mitigation Requirements for Listed Animal Species:

California Tiger Salamander. Development projects that can be appended to this programmatic biological opinion will provide the following to be consistent with the conservation framework for the Sonoma County California tiger salamander. Mitigation requirements for development projects that impact CTS were developed under the Conservation Strategy and are detailed in the 2020 USFWS Programmatic Biological Opinion, which specifies mitigation requirements for effects to CTS in the Santa Rosa Plain.

1. Mitigation Ratios. Conservation to offset adverse effects to Sonoma County California tiger salamander habitat will be in accordance with the table below. The mitigation ratios are expressed as acres to be conserved to acres of impact. Ratios apply to the entire area subject to direct and indirect effects. Project sites that fall within more than one ratio will mitigate at the higher ratio in most cases, unless other conservation measures provide equal or greater conservation value.
2. Mitigation ratios for Sonoma County California tiger salamander.

Table 1. Mitigation Ratios for Sonoma County California Tiger Salamander	
Mitigation Ratio	**Sonoma County California Tiger Salamander**
3:1	Project sites that are within 500 feet of a breeding site.
2:1	• Project sites that are greater than 500 feet and within 2,200 feet of a breeding site. • Project sites beyond 2,200 feet from a breeding site, but within 500 feet of a non-breeding occurrence.
1:1	Project sites that are greater than 2,200 feet and within 6,864 feet (1.3 miles) of a breeding site
0.2:1	Project sites that are greater than 6,864 feet (1.3) miles from a breeding site and greater than 500 feet from a non-breeding occurrence.

3. Conservation Bank Location. The selection of sites for mitigation will be consistent with the Recovery Plan as follows:

    a) For impacts to Sonoma County California tiger salamander located in a Core Area, conservation will be within the same Core Area as first priority in order to maintain the current geographic, elevational, and ecological distribution (USFWS 2016). Conservation at a different Core Area or Management Area can be considered on a case by case basis as a second option but must be coordinated and approved by the Corps and USFWS.

    b) For impacts to Sonoma County California tiger salamander located in a Management Area, conservation may be implemented within the same Management Area or the nearest Core Area

Mitigation Requirements for Listed Plant Species:

2007 Programmatic Biological Opinion. The Programmatic Biological Opinion mitigation ratios for listed plants species on the Santa Rosa Plain are based on the presence of suitable versus occupied habitat, and the potential for presence of Burke's goldfields and Sonoma sunshine; or Sebastopol meadowfoam (USFWS 2007). The site is considered to be occupied if surveys conducted using the USFWS protocol determined presence of the plants, or if the site had listed plants in the past. Protocol botanical inventories for federal listed plants on the Santa Rosa Plain consist of a minimum of three site visits per year and a minimum of two years of negative survey data within three years of project proposal submission to substantiate a negative finding. Under the Programmatic Biological Opinion, seasonal wetlands such as those present on the study site and that are within the range of the three listed plants species are considered suitable habitat for the listed plants even if intensive surveys fail to locate their presence. This provision is necessary because seed banks are often persistent; some plant species may not produce seedlings for many years until conditions are appropriate.

Mitigation requirements of the *Santa Rosa Plain Conservation Strategy* and the Programmatic Biological Opinion (USFWS 2007) are summarized in the table below.

Table 2. Mitigation Requirements for Listed Plants as Per the Santa Rosa Plain Conservation Strategy		
Impact to:	**Occupied Habitat Compensation:**	**Suitable Habitat Compensation:**
Burke's goldfields OR Sonoma sunshine	3:1 occupied or established habitat (any combination) with success criteria met prior to ground-breaking at project site	1:1 occupied or established habitat (any combination) with success criteria met prior to groundbreaking at project site AND 0.5:1 established habitat with success criteria met prior to groundbreaking at project site
Sebastopol meadowfoam	2:1 occupied or established habitat (any combination) with success criteria met prior to ground-breaking at project site	1:1 occupied or established habitat (any combination) with success criteria met prior to groundbreaking at project site AND 0.5:1 established habitat with success criteria met prior to groundbreaking at project site

According to the Programmatic Biological Opinion (USFWS 2007), mitigation for impacts to occupied and suitable habitat will consist of preserving occupied sites or established sites with the same impacted species. Sites with suitable habitat are sites that have not been observed to flower during botanical surveys but may have viable seeds in the soil and have additional biological, hydrological, and topographic attributes necessary to support the species. Impacts to suitable habitat north of Santa Rosa Creek will mitigate with occupied or established Burke's goldfields or Sonoma sunshine. Impacts to suitable habitat south of Santa Rosa Creek will mitigate with Burke's goldfields, Sonoma sunshine or Sebastopol meadowfoam. Mitigation of occupied and suitable habitat will minimize the effects to the listed plants by ensuring sites will support the species. Adaptive management plans and endowment funding will also increase the probability of the plant populations to be viable in the long term and will be protected in perpetuity through a conservation easement or similar instrument.

Other required mitigation components include management plans, long-term endowments, and other necessary requirements, all of which must be complete and approved by the USFWS and CDFW. Preserve enhancement or management associated with permits and enforcement actions that are appended to the Programmatic Biological Opinion will be provided individual take authorization. It is anticipated that groundwork associated with enhancing a Preserve will generally have a net benefit to the California tiger salamander and/or listed plants and would not need to adhere to the mitigation ratios.

2016 USFWS Recovery Plan. The Recovery Plan for the Santa Rosa Plain defined Core Areas and management areas for the three endangered Santa Rosa plant species and the Sonoma County California tiger salamander. Core Areas comprise the heart of the species historical (and current) range and represent central blocks of contiguously occupied habitat that function to allow for dispersal, genetic interchange between populations, and metapopulation dynamics. Management areas are occupied habitat peripheral to the species' core range (the Core Areas).

Recovery criteria focus on habitat preservation within the Core Areas and management areas to support the necessary number of breeding populations and address other needs to ensure recovery of each listed species. The Project Site is in a Core Area for Burke's goldfields and Sonoma sunshine, and a Management Area for Sebastopol meadowfoam.

2020 Programmatic Biological Opinion. The 2020 Programmatic Biological opinion effectively replaces the 2007 Programmatic Biological Opinion and is intended to streamline section 7 consultations for projects that implement certain conservation measures. The Conservation Strategy, 2007 Programmatic Biological Opinion, Recovery Plan, and other information helped guide the conservation framework and conservation measures in the 2020 Programmatic Biological Opinion.

Conservation for Burke's goldfields, Sebastopol meadowfoam, and Sonoma sunshine under the 2020 Biological Programmatic Biological Opinion is similar to the 2007 Programmatic Biological Opinion with one substantial change: The revised Programmatic Biological Opinion does not cover projects that adversely affect CNDDB occurrences but does cover adverse effects to suitable habitat where a seed bank is likely to be present.

The Programmatic Biological Opinion mitigation ratios for listed plant species on the Santa Rosa Plain are based on the presence of suitable versus occupied habitat, and the potential for presence of Burke's goldfields and Sonoma sunshine, or Sebastopol meadowfoam (USFWS 2020). The site is considered to be occupied if surveys conducted using the USFWS protocol determined presence of the plants, or if the site had listed plants in the past. Protocol botanical inventories for federally listed plants on the Santa Rosa Plain consist of a minimum of three site visits per year and a minimum of two years of negative survey data within three years of project proposal submission to substantiate a negative finding. Endangered plant surveys in suitable habitat may not detect flowering plants during the 2 year survey protocol timeframe, although there can be a seedbank present.

According to the USFWS, suitable habitat includes:

1. wetland(s) containing surface water (standing or flowing) during the rainy season in a normal rainfall year for 7 or more consecutive days; or
2. wetland(s) that have an outlet barrier (i.e., is a pool) or occur in depressional terrain (i.e., is a swale or drainage feature); and
3. seasonal wetlands located within a Core or Management Area.

Development projects that can be appended to the 2020 programmatic biological opinion will offset adverse effects to listed plant suitable habitat and will implement the following conservation measures:

1. Mitigation Ratios. Conservation for direct and indirect impacts to suitable habitat will be in accordance with the following table. The ratios are expressed as acres of conservation

to acres of impact. [1]

Table 3. USFWS 2020 Programmatic Biological Opinion Mitigation Ratios for Listed Plants		
Burke's Goldfields, Sebastopol Meadowfoam, Sonoma Sunshine	**Mitigation ratio in same Core Area as Impacts**	**Mitigation ratio in different Core Area as Impacts**
Impacts to suitable habitat	1.5:1	3:1

2. Conservation Bank Credits. Mitigation for Burke's goldfields, Sebastopol meadowfoam, or Sonoma sunshine can be achieved by purchasing credits at a USFWS-approved conservation bank.
3. Determining Which Species to Conserve. The plant species to be conserved will be determined as described below.

    a) Proximity to a Species Occurrence: Suitable habitat will be conserved for the species that occurs nearest to the project site based on CNDDB occurrences.

    b) Multiple Species Occurrences Within a Core Area: Conservation for impacts to suitable habitat located within the Core Area of more than one listed plant species must be equally apportioned between those listed plant species. This latter conservation strategy equalizes conservation to best meet the conservation needs of the species as outlined in the Recovery Plan.

4. Conservation Bank Location. The selection of sites for conservation will be consistent with conservation objectives for each species in the Recovery Plan as follows:

    a) Project Sites in a Core Area: For impacts to suitable listed plant habitat located in a Core Area, conservation will be within the same Core Area as first priority in order to maintain the current geographic, elevational, and ecological distribution. Conservation in a different Recovery Plan Core or Management area can be considered on a case by case basis as a second option but must be coordinated with and approved by the Corps and USFWS

    b) Project Sites in a Management Area: For impacts to suitable listed plant habitat located in a Management Area, conservation may be implemented within the same Management Area or the nearest Core Area.

[1] The revised 2020 Programmatic Biological Opinion does not cover projects that adversely affect CNDDB occurrences, but does cover adverse effects to suitable habitat where a seed bank is likely to be present.

4.0 EXISTING BIOLOGICAL SETTING

This section describes the Project Site land use and its environmental setting, which includes discussion regarding climate, topography and soil, hydrology, vegetation, wildlife species, special status species and habitats.

4.1 Land Use

Current Zoning. Lands within the Project Site are zoned commercial and light and heavy industrial.

Current and Past Land Uses. The Project Site largely consist of a previously developed 45,200 square foot industrial building and associated yard area and unpaved access road from Pruitt Avenue with surrounding dominated with non-native annual grasslands (Attachment 1, Figure 3). Past land uses over the several decade have been industrial related.

Surrounding Land Uses. Surrounding land uses include industrial uses to the west, a vineyard and an elementary school to the south, the 8.64-acre Caletti Conservation Easement area, and U.S. Highway 101 to the east, and rural residential areas to the north. Pruitt Creek flows through culverts under U.S. Highway 101, enters the Project Area near the middle of its Highway 101 frontage, and then flows north along the western edge of the undeveloped northern portion of the Project Area (Attachment 2). Pruitt Creek continues north under Shiloh Road where it eventually merges with Pool Creek to the north. In the southern portion of the Project Area, a man-made drainage ditch flows west under Highway 101, through the Caletti Conservation Easement area (which is between the Project Site and U.S. Highway 101 south of Pruitt Creek), and then flows directly across the southern portion of the Project Site where it continues west of the Project Site to Airport Creek. A small drainage parallel to U.S. Highway 101 flows south through the Caletti Conservation Easement area (Attachment 2).

4.2 Climate

The entire Project Area and Site is in the northern San Francisco Bay Area just north of Santa Rosa in the southeastern portion of the Town of Windsor. The Bay Area is characterized by dry, mild summers and moist, cool winters. About 80 percent of the total annual precipitation occurs between November and March. In the winter, moisture-laden air moving in from the ocean rises as it reaches the coast and passes inland over the Coast Ranges. The table below presents historical climate data for the Santa Rosa area:

Table 4. Climate Data for Santa Rosa, California

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high (°F)	57.5	61.7	65.1	68.7	73.1	78.8	80.8	81.5	81.5	76.4	65.3	57.6	70.67
Average low (°F)	39.4	41.5	43.3	45.0	48.7	52.2	52.8	53.0	51.9	48.7	43.2	39.3	46.58
Precipitation (inches)	5.93	6.00	4.51	1.85	1.27	0.22	0.01	0.07	0.35	1.77	4.04	6.19	32.21

Table 4. Climate Data for Santa Rosa, California													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Average Precipitation Days (≥ 0.01 in)	13.8	12.0	11.3	7.1	4.3	1.4	0.3	0.4	1.8	4.7	10.3	12.9	80.3
Source: NOAA, cited in http://en.wikipedia.org/wiki/Santa_Rosa,_California#Climate													

The wettest year was 1983 with 63.07 inches and the driest year was 1976 with 11.38 inches. The most rainfall in one month was 19.42 inches in February 1998 and the most rainfall in 24 hours was 5.23 inches on December 19, 1981. Measurable snowfall is rare. The record high temperature was 110 °F on September 13, 1971, and the record low was 15 °F on December 13, 1932. (http://en.wikipedia.org/wiki/Santa_Rosa,_California#Climate).

4.3 Topography and Soils

The topographic relief on the majority of the Project Area and Site is flat with slopes generally less than 2 percent at an elevation of approximately 120 feet mean sea level (msl). The southern portion of the Project Area (south of Pruitt Creek) generally slopes either north in the direction of Pruitt Creek or south and east towards the drainage within the Caletti Conservation Easement area and the man-made drainage ditch that passes through the southern portion of the Project Area and Site. The northern portion of the Project Area (north of Pruitt Creek) slopes to the west towards Pruitt Creek and north towards Pool Creek (north of Shiloh Road). Small areas of the Project Area have depressional microrelief. As a result, a number of seasonal wetlands (seasonal wetlands) have formed within the property.

A review of the Natural Resources Conservation Service (NRCS) *Custom Soil Resource Report for Sonoma County, California Shiloh Business Park Project* (2022) mapping shows three soil types occurring within the Project Site (Attachment 3). The entirety of the portion of the Project Site south of Pruitt Creek (the development site) is Clear Lake clay, ponded, 0 to 2 percent slopes. Most of the northern portion of the Project Site (north of Pruitt Creek) is Huichica loam, shallow, ponded, 0 to 5 percent slopes. The western edge of the north portion of the site along the alignment of Pruitt Creek is Huichica loam, ponded, 0 to 5 percent slopes. Field investigations HBG confirmed that the NRCS soils mapping is reasonably accurate throughout the site.

4.4 Hydrology

The Project Site lies within the "Mark West Creek" 10-digit HUC watershed (1801011007). (http://nhd.usgs.gov. Pruitt Creek flows through culverts under U.S. Highway 101, enters the Project Site near the middle of its Highway 101 frontage, and then flows north along the western edge of the northern portion of the Project Site. Pruitt Creek continues north under Shiloh Road where it eventually merges with Pool Creek to the north. In the southern portion of the Project Site a man-made ditch flows west from a culvert under Highway 101, through the 8.64-acre Caletti Conservation Easement area (which is between the Project Site and U.S. Highway 101 south of Pruitt Creek), and then flows in a westerly direction where it connects

with Airport Creek at the western boundary of the Project Site. A small drainage parallel to U.S. Highway 101 flows north through the 8.64-acre Caletti Conservation Easement area.

The FEMA Rate Map for the Town of Windsor 06097C0568E indicates the Study Area is in Zone X which has a 0.2% Annual Chance Flood Hazard. There is also a floodway along Pruitt Creek.

4.5 Vegetation

Vegetation communities are assemblages of plant species growing in an area of similar biological and environmental factors. Vegetation communities and habitats at the Project Site were identified based on the currently accepted List of Natural Communities List (CDFW 2010). The list is based on A Manual of California Vegetation, Second Edition (Sawyer and Keeler-Wolf 2009), which is the National Vegetation Classification applied to California. Wetland habitats on-site were further classified using the U.S. Fish and Wildlife's Service's "Classification System for Wetland and Deepwater Habitats" (Cowardin et al. 1979). The Project Site contains four habitat types according to the Natural Communities List: North Coast Riparian Scrub, Oak Woodland, Non-native Grassland, and Coastal Freshwater Marsh.

The riparian corridor of Pruitt Creek Pruitt flows through culverts under U.S. Highway 101 and then north through the northern portion of the Project Site. The riparian habitat along Pruitt Creek supports a well-developed canopy of riparian trees including arroyo willow (*Salix lasiolepis*), sandbar willow (*Salix exigua*), Fremont cottonwood (*Populus fremontii*), walnut (*Juglans* sp.), California boxthorn (*Lycium californicum*), non-native ngaio (*Myoporum laetum*), Vitex (*Vitex agnus-castus*), and eucalyptus (*Eucalyptus* sp.), among others. Understory species along the banks of the stream include California blackberry (*Rubus ursinus*), Himalaya berry (*Rubus armeniacus),* coyote brush (*Baccharis pilularis)*, poison oak (*Toxicodendron diversiloba*), poison hemlock (*Conium maculatum*), periwinkle (*Vinca major*), and other species. Species also noted within the wetter portions of the streambed include hardstem bulrush (*Schoenoplectus acutus*), curly dock (*Rumex crispus*), arrowhead (*Sagittaria* sp.), and others.

The southern portion of the Project Site (the development site, which is the portion of the site south of Pruitt Creek) is primarily non-native grassland dominated by non-native grass and herbaceous species along with a few native species. The grassland is dominated by non-native species such as soft chess (*Bromus hordaceus),* spring vetch (*Vicia sativa*), perennial ryegrass *(Festuca perennis),* redstem filaree (*Erodium cicutarium*), broad-leaf filaree (*Erodium botrys*), and blow-wives (*Achyrachaena mollis*). Other non-native species include ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), barley (*Hordeum* sp.), Harding grass (*Phalaris aquatica),* rattlesnake grass (*Briza maxima*), fescues (*Festuca* sp.), Mayweed (*Anthemis cotula*), English plantain (*Plantago lanceolata*), yellow glandweed (*Parentucellia viscosa*), cut-leaf geranium (*Geranium dissectum*), wild radish (*Raphanus sativus*), rose clover (*Trifolium hirtum*), bird's foot trefoil (*Lotus corniculatus*), field bindweed (*Convolvulus arvensis*), sweet fennel (*Foeniculum vulgare*), dandelion (*Taraxicum officinale*), sweet pea (*Lathyrus latifolia*), Italian thistle (*Carduus pycnocephalus*), milk-thistle (*Silybum marianum*), and scattered coyote brush, among others. In addition, some native species are also present in fields within the southern portion of the site including western blue-eyed grass (*Sisyrinchium californicum*), miniature lupine (*Lupinus bicolor*),

harvest brodiaea (*Brodiaea elegans*), purple owl's clover (*Castilleja exserta*), and butter 'n' eggs (*Triphysaria eriantha*).

Portions of the Project Site south of Pruitt Creek consist of a Coastal Freshwater Marsh community made up of plant species that are adapted for life in ponded or saturated soil conditions. The Coastal Freshwater Marsh community consists of seasonal wetlands formed in shallow depressional areas which are ponded or saturated during the winter wet season. Wetland species encountered in these areas (Attachment 1, Figure 5, wetlands W1 - W7)) during HBG wildlife surveys conducted April 11 and 22, 2022; surveys for sensitive plant species conducted March 24, April 7, May 19, and June 8, 2022; and an aquatic resources delineation conducted April 7 and June 8, 2022 included Baltic rush (*Juncus balticus*), California semaphore grass (*Pleuropogon californicus*), curly dock*,* meadow barley (*Hordeum brachyantherum*), Yellow rayed goldfields (*Lasthenia glabrata*), blue-eyed Marys (*Downingia bicolor*), popcornflower (*Plagiobothrys* sp.), and common spikerush (*Eleocharis macrostachya*). The seasonal wetlands within the Project Site total 0.54 acres.

Perennial ryegrass was found during these surveys to be the dominant plant species, together with patches of common spikerush, curly dock, and Baltic rush, associated with a 1,135 linear foot segment of a man-made linear drainage ditch which extends from east to west across the southern portion of the site (Attachment 1, Figure 5, R5). Given the size of the watershed to the east of U.S. Highway 101, which directs storm water flows to this drainage ditch, flows may last a month or more during the rainy season. The wetlands within the Project Site found along this man-made drainage ditch total 0.05 acre.

Other better drained man-made ditches found primarily along the west side of the Project Site are dominated by perennial ryegrass (Attachment 1, Figure 5, R1, R2, R3, R4, and R6). The drainages are designed to convey stormwater flows away from an existing industrial building and associated yard area and unpaved access road from Pruitt Avenue. Depending on location, these drainages convey stormwater runoff to Pruitt Creek to the north (R1, R2, R3, and R6) or Airport Creek to the south (R4). Stormwater flows within these drainages may occur for several days depending on the rainfall event. The wetlands in these drainages total 0.02 acre.

The area adjacent to and just east of the portion of the site south of Pruitt Creek is the 8.64-acre Caletti Conservation Easement area that contains many of the same species mentioned in the adjacent Project Site fields, but also a drainage flowing south parallel to the highway lined with tree species such as coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and California black oak (*Quercus kelloggii*).

Vegetation in the northern portion of the Project Site (north of Pruitt Creek and accessible from Shiloh Road) includes scattered trees such as valley oak and California black oak. A single manzanita (*Arctostaphylos* sp.) was noted. Below the scattered oaks is annual grassland consisting of a variety of mostly non-native herbaceous plants and grasses along with some native plants. Grasses on the site are mostly non-native and included soft chess, ripgut brome, wild oat, Harding grass*,* rattlesnake grass, and various fescues. Non-native herbaceous plants

included many observed on the southern portion of the site such redstem filaree, broad-leaf filaree, English plantain, yellow glandweed, cut-leaf geranium, spring vetch, wild radish, rose clover, field bindweed, sweet fennel, dandelion, and milk-thistle, and other species such as scarlet pimpernel (*Anagalus arvensis*) and common soaproot (*Chlorogalum pomeridianum*). In addition, small colonies of native plants can be found including California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californicus*), sky lupine (*Lupinus nanus*), sun cup (*Camissonia* sp.), and western blue-eyed grass. Small depressions included species mentioned within wet areas in the southern portion of the site such as Baltic rush, California semaphore grass, and curly dock.

4.6 Wildlife Species

The habitats on site and in the immediately surrounding area support a number of wildlife species, mostly those typically found in grassland and forested habitats in this part of Sonoma County. Trees and other vegetation on the property provide nesting and roosting sites for birds, and cover and foraging habitat for species of birds, mammals, reptiles, and amphibians. Many of the trees in the northern portion of the site north of Pruitt Creek are old enough to have significant cavities that could support cavity nesting birds or could serve as either winter or maternity roosts for various species of bat.

The riparian corridor of Pruitt Creek provides significant wildlife habitat that includes a seasonal water source that serves as a movement/migration corridor and foraging and breeding habitat for a variety of aquatic and terrestrial wildlife species. Pruitt Creek serves as a corridor for movement of wildlife across much of the property. The canopy vegetation provides shading and inputs of leaves and woody material to the stream channel that provides suitable conditions for many aquatic organisms. Amphibians will lay their eggs in such aquatic habitats and complete much of their life cycle in these habitats. Well-developed riparian canopies also provide significant habitat in support of neotropical migrant land birds during spring and fall migration.

Common to abundant year-round resident bird species likely to occur in open areas and disturbed grasslands of the site would include species such as mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia)*, killdeer (*Charadrius vociferous),* Anna's hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris)*, northern mockingbird (*Mimus polyglottos)*, black phoebe (*Sayornis nigricans),* savannah sparrow (*Passerculus sandwichensis*) California towhee (*Melozone crissalis),* western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), and house sparrow (*Passer domesticus*). Winter residents could include ruby-crowned kinglet (*Regulus calendula*), white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), and yellow-rumped warbler (*Setophaga coronata*). Turkey vulture (*Cathartes aura*) and red-tailed hawk (*Buteo jamaicensis*) are also likely common in the project vicinity. During the spring and summer, barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota),* northern rough-winged swallow (*Stelgidopteryx serripennis*), tree swallow (*Tachycineta bicolor*) and violet-green swallow (*Tachycineta thalassina*) would be expected hawking for insects over the grasslands.

The riparian corridor and scattered oaks would support common resident species such as California quail, (*Callipepla californica*), wild turkey (*Meleagris gallopavo*), great horned owl (*Bubo virginianus*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Dryobates muttallii*), northern flicker *(Calaptes auratus*), California scrub-jay (*Aphelocoma californica*), western bluebird (*Sialia mexicanus*), American robin (*Turdus migratorius*), oak titmouse (*Baeolophus inornatus*), chestnut-backed chickadee (*Poecile rufesens*), white-breasted nuthatch (*Sitta carolinensis*), Bewick's wren (*Thryomanes beweckii*), spotted towhee (*Papilo maculatus*), California towhee (*Melazone crissalis*), song sparrow (*Melospiza melodia),* purple finch (*Haemorhous purpureus*), and lesser goldfinch (*Spinus psaltria*). Neotropical migrants found during the breeding season in the riparian corridor and oaks would be expected to include species such as ash-throated flycatcher (*Myiarchus cinerascens*), Pacific-slope flycatcher (*Empidonax difficilus*), western kingbird (*Tyrannus verticalis*), warbling vireo (*Vireo gilvus*), and Bullock's oriole (*Iterus bullockii).*

All of the species of birds mentioned above are common to abundant species in the region that are expected in the woodland and grassland habitats found at the site and, with a few exceptions, are birds that could nest somewhere on the site or nearby. A number of the above species were observed during visits by HBG's wildlife biologist in the northern portion of the site on April 11 and the southern portion of the site on April 22, 2022. These included mallard, wild turkey, red-tailed hawk, turkey vulture, Anna's hummingbird, acorn woodpecker, northern flicker, Nuttall's woodpecker, black phoebe, American crow, California scrub-jay, northern mockingbird, barn swallow, cliff swallow, northern rough-winged swallow, tree swallow, violet-green swallow, oak titmouse, western bluebird, savannah sparrow, song sparrow, California towhee, house finch, purple finch, and lesser goldfinch.

Amphibians are undoubtedly present, particularly in wooded portions of the site, and would be expected to include species such as Pacific chorus frog (*Pseudacris regilla*), California slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), and western toad (*Bufo boreas*), among others. Reptiles would likely include western fence lizard (*Sceloperus occidentalis*), southern alligator lizard (*Elgaria multicarinatus*), ringneck snake (*Diadophus punctatus*), Pacific gopher snake (*Pituophis catenifer),* and common garter snake (*Thamnophis sirtalis).* Dens of Botta's pocket gopher (*Thomomys bottae*) and California vole (*Microtus californicus*) were noted during the field review throughout the grasslands. Other mammals would be expected to include Virginia opossum (*Didelphis virginiana*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), deer mouse (*Peromyscus crinitus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and mule deer (*Odocoileus hemionus).*

4.7 Special Status Species

Special status species include those species listed by the federal and state governments as endangered, threatened, or rare or candidate species for these lists. Endangered or threatened species are protected by the federal Endangered Species Act of 1973 as amended, the California Native Plant Protection Act of 1977, and the California Endangered Species Act of 1970. The California Environmental Quality Act (CEQA) provides additional protection for unlisted species

that meet the "rare" or "endangered" criteria defined in Title 14, California Code of Regulations Section 15380. Special status species also include those species listed by CDFW as Species of Concern (species that face extirpation in California if current population and habitat trends continue), those listed as Fully Protected by CDFW (a designation that provides additional protection to those animals that were rare or faced possible extinction), and bird species designated as Bird Species of Conservation Concern by the USFWS. These state and federal Species of Concern must be evaluated in the context of evaluation under CEQA. Special status species included in CEQA review also include bat species protected by the California Fish and Game Code and that have been designated with conservation priority by the Western Bat Working Group. CEQA also requires evaluation of impacts to plant species on California Native Plant Society (CNPS) Lists 1 and 2.

The Project Site is located within the Santa Rosa Plain, which encompasses much of central Sonoma County, and is characterized by vernal pools, seasonal wetlands, and associated grasslands. These habitats support a unique population of the federally listed endangered and state listed threatened California tiger salamander (CTS) (*Ambystoma californiense*), and three state and federally-listed endangered plant species that have a large proportion of their population on the Plain. The Santa Rosa Plain Conservation Strategy designates the Project Site as one where "presence of CTS is not likely but mitigation for listed plants may be required", but an adjacent property proposed to be used for construction of project access is designated as "may adversely affect listed plants and/or CTS." The three plant species are Sonoma sunshine (*Blennosperma bakeri*), Burke's goldfields (*Lasthenia burkei*), and Sebastopol meadowfoam (*Limnanthes vinculans*) and all are state and federally listed as endangered. All three species have potential to occur within suitable habitats in the vicinity of the Project site.

The Sonoma County Distinct Population Segment of CTS and three plant species are the subjects of the *Recovery Plan for the Santa Rosa Plain* ("*Recovery Plan*"; USFWS 2016).[2] The plant species are Sonoma sunshine, Burke's goldfields, and Sebastopol meadowfoam. The CTS and listed plant species are also the subject of the December 1, 2005, *Santa Rosa Plain Conservation Strategy*[3] (Conservation Strategy Team), the USFWS November 9, 2007*, Programmatic Biological Opinion (Programmatic) for US Army Corps of Engineers (Corps) Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California*[4] (the "Programmatic Biological Opinion"), and the June 2020 Programmatic Biological Opinion regarding a re-initiation of the Section 7 consultation regarding these species subsequent to designation by the USFWS of critical habitat for the CTS in August of 2011.

[2] https://www.fws.gov/sacramento/es/Recovery-Planning/Documents/06012016_Final%20Santa%20Rosa_RP_signed_1.pdf

[3] https://www.fws.gov/sacramento/es/Recovery-Planning/Santa-Rosa/santa-rosa-strategy.php

[4] US Fish and Wildlife Service. 2007. *Programmatic Biological Opinion for US Army Corps of Engineers (Corps) Permitted Projects that May Affect California Tiger Salamander and Three Endangered Plant Species on the Santa Rosa Plain, California (Corps File Number 22342N).* November 7.

Under the Programmatic Biological Opinions, seasonal wetlands such as those present on the Project Site and that are within the range of the three listed plant species are considered suitable habitat for the listed plants even if intensive surveys fail to locate their presence. This provision is necessary because seed banks are often persistent; some plant species may not produce seedlings for many years until conditions are appropriate.

4.7.1 Special Status Animal Species

HBG has consulted the CDFW California Natural Diversity Data Base (CNDDB) to ascertain the potential for special status animal species occurring within 10-mile radius of the Project Site. Attachment 4, Table A presents an evaluation of special status animal species that have been reported in the vicinity of the project, and includes those species noted in the CNDDB as occurring within 10 miles of the site and those that are known to occur in the general vicinity based on the knowledge of HBG biologists. Key species are either known to occur in the vicinity of the property or with a potential to occur at the site, or that require specific study to determine presence/absence, are discussed below.

Based on review of the CNDDB, the only special status species that could occur on the site are California tiger salamander, burrowing owl, and American badger. Further details regarding the potential presence of these species at the property can be found below. The Project Site is located in the Santa Rosa Plain but is designated in the Santa Rosa Plain Conservation Strategy as one where "presence of CTS is not likely." The proposed extension of Pruitt Avenue beyond the southern property boundary to Aviation Boulevard passes through an area designated in the Conservation Strategy as one that "may adversely affect listed plants and/or CTS." CTS is considered in greater detail below.

CNDDB notes a number of animal species as occurring in the Healdsburg 7.5-minute quadrangle map and surrounding areas, or that are known to occur in the general vicinity based on the knowledge of HBG biologists. Although the Parcel supports seasonal wetland habitats, these areas are not conducive to colonization by the federally listed threatened California red-legged frog (*Rana draytonii*) (which actually does not occur within 10 miles of the property), nor would they be of a type that could support foothill yellow-legged frog (*Rana boylii*) or western pond turtle (*Actinemys marmorata*) (the status of both considered State Species of Special Concern).

The riparian habitat of Pruitt Creek supports a fairly well-developed riparian canopy that has the potential to support a variety of nesting bird species, potentially including special status species. Yellow warbler (*Setophaga petechia*) is a federal Bird Species of Conservation Concern and state-designated Species of Special Concern as a nesting species, that nests within the well-developed riparian habitats. As the Pruitt Creek riparian corridor is in a fairly urbanized and disturbed area, nesting by yellow warbler is unlikely.

The riparian canopy is not sufficiently well-developed or pristine such that it would be attractive as a nesting location by other special status species reported in the CNDDB such as the state-listed endangered western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Loggerhead shrike (*Lanius ludovicianus*), a USFWS Bird Species of Conservation Concern and

state Species of Special Concern, may pass through the site on occasion as a transient species and may use the site during some winters, but habitat suitable for nesting by this species is not present. Lack of significant cattail marsh or willow thickets would preclude nesting by tricolored blackbird (*Agelaius tricolor*), a state listed threatened species and USFWS Bird Species of Conservation Concern, though the species may use the site as a foraging habitat, particularly in winter.

Raptor species of special concern that likely forage over the site in winter include northern harrier (*Circus hudsonius*), and white-tailed kite (*Elanus leucurus*, also a California fully protected species), in addition to Watch List species like sharp-shinned hawk (*Accipiter striatus*) and Cooper's hawk (*Accipiter cooperii*). The Project Site is in an urbanized area adjacent to a major freeway, and nesting by tree nesting raptor species such as Cooper's hawk, sharp-shinned hawk and white tailed kite is unlikely, though foraging at the site, especially in winter, is possible. Northern harrier may also forage over the site in winter, but local disturbances would make the site unattractive for nesting by northern harrier, a ground nesting species. Grassland foraging habitats in winter may be important for Watch List species like ferruginous hawk (*Buteo regalis*) and merlin (*Falco columbarius*), and though either could be found in the area during the winter, the Project Site does not have extensive areas of suitable wintering foraging habitat for these species.

Based on review of the CNDDB, the only species that could occur on the site are California tiger salamander, burrowing owl, and American badger. Further details regarding the potential presence of these species at or near the property can be found below.

California Tiger Salamander

The Sonoma County Distinct Population Segment of the California tiger salamander is listed as an endangered species under the federal Endangered Species Act. The California tiger salamander is also state-listed as threatened under the California Endangered Species Act. The following information related to the species was primarily obtained from the life cycle description contained at the USFWS website.

Distribution. Historically, the California tiger salamander inhabited low elevation grassland and oak savanna plant communities of the Central Valley, and adjacent foothills, and the inner Coast Ranges in California. The species has been recorded from near sea level to approximately 3,900 feet in the Coast Ranges and to approximately 1,600 feet in the Sierra Nevada foothills. Along the Coast Ranges, the species occurred from the Santa Rosa area of Sonoma County, and south to the vicinity of Buellton in Santa Barbara County. The historic distribution in the Central Valley and surrounding foothills included northern Yolo County southward to northwestern Kern County and northern Tulare County. The Sonoma County Distinct Population Segment of the CTS inhabits low-elevation (below 500 feet) vernal pools and seasonal ponds, associated grassland, and oak savannah plant communities.

Natural History. The CTS has an obligate biphasic life cycle. Although larvae salamanders develop in vernal pools and ponds in which they were born, they are otherwise terrestrial

salamanders and spend most of their postmetamorphic lives in widely dispersed underground retreats. Subadult and adult CTS spend the dry summer and fall months of the year in the burrows of small mammals, such as California ground squirrels and Botta's pocket gopher. California tiger salamanders may also use landscape features such as leaf litter or desiccation cracks in the soil for upland refugia. The upland burrows inhabited by CTS have often been referred to as "aestivation'' sites or as "upland habitat."

Once fall or winter rains begin, the salamanders emerge from the upland sites on rainy nights to feed and to migrate to the breeding ponds. Adult salamanders mate in the breeding ponds, after which the females lay their eggs in the water. Historically, CTS utilized vernal pools, but the animals also currently breed in livestock stock ponds. After breeding, adults leave the pool and return to the small mammal burrows, although they may continue to come out nightly for approximately the next two weeks to feed. In drought years, the seasonal pools may not form and the adults cannot breed.

The peak emergence of these larvae (metamorphs) is typically between mid-June to mid-July but in some areas as early as late February or early March. The larvae are totally aquatic. The larval stage of the CTS usually last three to six months, as most seasonal ponds and pools dry up during the summer. Amphibian larvae must grow to a critical minimum body size before they can metamorphose (change into a different physical form) to the terrestrial stage. In the late spring or early summer, before the ponds dry completely, metamorphosed juveniles leave the ponds and enter upland habitat. Once juvenile CTS leave their birth ponds for upland refugia, they typically do not return to ponds to breed for an average of 4 to 5 years. However, they remain active in the uplands, coming to the surface during rainfall events to disperse or forage.

Dispersal and migration movements made by CTS can be grouped into two main categories: (1) breeding migration; and (2) interpond dispersal. Breeding migration is the movement of salamanders to and from a pond from the surrounding upland habitat. After metamorphosis, juveniles move away from breeding ponds into the surrounding uplands, where they live continuously for several years. California tiger salamanders are known to travel large distances from breeding sites into upland habitats. Maximum distances moved are generally difficult to establish for any species, but CTS in Santa Barbara County have been recorded to disperse 1.3 miles from breeding ponds. In addition to traveling long distances during migration to or dispersal from ponds, CTS may reside in burrows that are far from ponds. Although CTS can travel far, typically they stay closer to breeding ponds, and evidence suggests that juvenile CTS disperse further into upland habitats than adults.

Threats. The California tiger salamander is imperiled throughout its range by a variety of human activities. Current factors associated with declining populations of the salamander include continued degradation and loss of habitat due to agriculture and urbanization, hybridization with non-native eastern tiger salamanders (*Ambystoma tigrinum*), and introduced predators. Other threats are predation and competition from introduced exotic species, various chemical contaminants, road-crossing mortality, and certain unrestrictive mosquito and rodent control

operations. Diseases may also pose a significant threat though the specific effects of disease on the CTS are not known.

Critical Habitat. A final rule regarding designation of critical habitat for the Sonoma County Distinct Population Segment of the CTS in Sonoma County was issued on August 31, 2011 (USFWS 2011). The critical habitat designation included lands that were determined by USFWS to be occupied at the time of listing and contained sufficient physical and biological features to support life history processes essential for the conservation of the Sonoma CTS. A single unit was designated (the Santa Rosa Plains Unit) that contains approximately 47,383 acres, including 745 acre of State lands, 744 acre of city lands, 498 acres of county lands, 9 acres of individually owned tribal trust land, and 45,387 acres of private lands. No Federal lands were included. The unit is bordered on the west by the Laguna de Santa Rosa floodplain, on the southwest by Hensley Road, on the south by Pepper Road northwest of Petaluma, on the east generally by Petaluma Hill Road and the urban centers of Santa Rosa and Rohnert Park, and on the north by the Town of Windsor. The unit is characterized by vernal pools, seasonal wetlands, and associated grassland habitat. The critical habitat unit supports vernal pool complexes and manmade ponds that contain the primary constituent elements essential to conservation of CTS, and is therefore currently known to support breeding Sonoma CTS, upland habitat with underground refugia, and upland dispersal habitat allowing movement between occupied sites.

The project site is not located within the designated critical habitat area.

Occurrence of California Tiger Salamander. HBG has consulted the CDFW California Natural Diversity Data Base (CNDDB) to ascertain the potential for special status animal species occurring within a nine 7.5-minute quadrangle map area. Based on review of the CNDDB, California tiger salamanders have been found in suitable habitats in this portion of Sonoma County. The Project Site is located in the Santa Rosa Plain but is designated in the Santa Rosa Plain Conservation Strategy as one where “presence of CTS is not likely.” The proposed extension of Pruitt Boulevard beyond the southern property boundary to Aviation Boulevard passes through an area designated in the Conservation Strategy as one that “may adversely affect listed plants and/or CTS.” As indicated above, the Project Site and adjacent areas is not within the boundaries of the Santa Rosa Plains Unit of designated critical habitat for the CTS. Further details regarding the potential presence of CTS at the property can be found below.

The area south of the Project Site located between the Project Site and Aviation Boulevard may support the species based on the designation of the property within the Santa Rosa Plain Conservation Strategy. This area south of the Project Site constitutes habitat suitable to support California tiger salamander. Although the area south of the property is at the edge of an urbanized area, it is designated as having the potential to support CTS in the Santa Rosa Plain Conservation Strategy map. The nearest reported CTS occurrence in the CNDDB is reported as about 3.5 miles south of the Project Site at the Alton Lane Mitigation Site, where CTS were introduced from Cotati to start a new breeding population. This area is generally beyond the distance that CTS would be expected to migrate between breeding ponds and summer retreat sites. The proposed Project Site is about 6.5 miles north of the nearest natural occurrence.

Although it is not likely that CTS would be found at the Project Site or nearby areas, given that the Conservation Strategy places the area south of and adjacent to the site as one where CTS may occur, CTS presence in the area cannot be ruled out. The site is within an area that is more than 1.3 miles from extant or extirpated breeding sites that, according to the Conservation Strategy, would require a mitigation ratio of 0.2:1 for site development (0.2 acres of mitigation would be necessary for every acre of the site disturbed by development). However, under CDFW's CESA Incidental Take Permit program in order for the Project impacts to CTS to be considered fully mitigated for a higher mitigation ratio will likely be required. A recent nearby project was required to provide mitigation at a 1:1 ratio.[5]

Critical Habitat. The Project Site and the general area of the site are not included in the designated critical habitat.

Burrowing Owl. The presence of ground-nesting raptor species like burrowing owl (*Athene cunicularia*) is considered unlikely but possible. The burrowing owl is a USFWS bird species of conservation concern and a California Department of Fish and Wildlife (CDFW) species of special concern (CDFW 2011). CDFW adopted survey protocol and mitigation guidelines for burrowing owls as described in a March 7, 2012, Staff Report (CDFW 2012).

Burrowing owls are small terrestrial owls commonly found in open grassland ranging from western Canada to portions of South America. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. In California, burrowing owls most commonly use burrows of California ground squirrel, but they also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers during migration. While foraging, owls will perch on raised burrow mounds or other topographic relief such as rocks, tall plants, fence posts, and debris piles to attain better visibility. Occupancy of suitable burrowing owl habitat can be verified at a site by an observation of at least one burrowing owl, or, alternatively, presence of "decoration" at or near a burrow entrance which can include molted feathers, cast pellets, prey remains, eggshell fragments, or excrement.

A small number of burrowing owls have been recorded in the CNDDB within the general project vicinity, the closest one being about 1.25 miles west of the Project Site. Burrowing owl could be present as a breeding or wintering species, especially in areas of low height vegetation where colonies of California ground squirrel *(Otospermophilus beecheyi)* can be found. Burrowing owl has not been observed on the property in field studies conducted by HBG, and no ground squirrels have been noted on the site, only burrows for California vole and Botta's pocket gopher. Burrowing owl is possible if ground squirrels occupy the site in the future.

[5] CDFW CESA Incidental Take Permit for DenBeste Transportation Warehouse Project, 2081-2019-011-03, Sonoma County

American Badger. The grassland habitat found on the property may be suitable to support American badger, a California Species of Special Concern, which occurs in similar habitats on the Santa Rosa Plain. The CNDDB indicates that suitable habitat for American badger includes the drier open stages of most shrub, forest, and herbaceous habitats. Suitable habitat for the species also requires friable soils and open, uncultivated ground. American badger has not been observed on the property by HBG. American badger can create a burrow over the course of a day, therefore, even though presence of American badger on the site remains unlikely, an American badger could occupy the site at any time.

4.7.2 Special Status Plant Species

Rare, endangered, or threatened animal and plant species are protected by the Federal Endangered Species Act of 1973 (Title 16, US Code, Sections 1531 *et seq*.), the California Native Plant Protection Act of 1977 (Fish and Game Code Sections 1900 - 1913), and the California Endangered Species Act of 1970 (Fish and Game Code, Sections 2050 *et seq*.). The California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 *et seq*.) provides additional protection for unlisted species that meet the rare or endangered criteria defined in Title 14, *California Code of Regulations*, Section 15380.

A target list of special status plants found within 10 miles of the site is shown in Attachment 4, Table B that includes all species mentioned in the CNDDB occurring within 10 miles of the Project Site. The Santa Rosa Plain Conservation Strategy defines areas potentially suitable to support any of the three federally-listed plant species covered by the Conservation Strategy document: Sonoma sunshine, Burke's goldfields, and Sebastopol meadowfoam. All three of these listed species are found in suitable habitat within less than a mile of the Project Site, and the Santa Rosa Plain Conservation Strategy designates the site as one with a potential for presence of any of the three listed species. To the extent that the Project Site supported vernal pools or seasonal wetlands, the site would have supported habitat potentially suitable to support any of the three species.

Background Information on Three State and Federally Listed Plants. Burke's goldfields (*Lasthenia burkei*) was federally listed as endangered on December 2, 1991 (USFWS 1991). No critical habitat has been designated for this species. Burke's goldfields is also state listed as endangered. *Lasthenia burkei* is a small, slender annual herb in the aster family (Asteraceae). *Lasthenia burkei* grows in vernal pools and swales below 500 meters (1,640 feet). In Sonoma County, California, the vernal pools containing *L. burkei* are on nearly level to slightly sloping loams, clay loams, and clays. *Lasthenia burkei* sometimes occurs along with *Blennosperma bakeri* and *Limnanthes vinculans*. Within Sonoma County, the core of the current range of *L. burkei* is in the Santa Rosa Plain from the community of Windsor to east of the City of Sebastopol.

Sonoma sunshine (*Blennosperma bakeri*) was federally listed as endangered on December 2, 1991 (USFWS 1991). No critical habitat has been designated for this species. Sonoma sunshine is also state listed as endangered. *Blennosperma bakeri* is a small (up to 30.5 centimeters (12.0 inches) in height), annual herb in the aster family (Asteraceae). *Blennosperma bakeri* grows in

vernal pools and wet grasslands below 100 meters (330 feet). *Blennosperma bakeri* occurs in vernal pools on nearly level to slightly sloping loams, clay loams, and clays. *Blennosperma bakeri* occurs only in Sonoma County, California, and ranges in the Santa Rosa Plain from near the community of Fulton in the north to Scenic Avenue between Santa Rosa and Cotati in the south. Additionally, the species extends from near Glen Ellen to near the junction of State Routes 116 and 121 in the Sonoma Valley. In addition, *B. bakeri* has been introduced to at least one site on Alton Lane during mitigation activities.

Sebastopol meadowfoam (*Limnanthes vinculans*) was federally listed as endangered on December 2, 1991 (USFWS 1991). No critical habitat has been designated for this species. Sebastopol meadowfoam is also state listed as endangered. *Limnanthes vinculans* is a small up to 30.48-centimeter or 12 inch tall, multi-stemmed herb of the false meadowfoam family (Limnanthaceae). The seeds of *L. vinculans* germinate after the first significant rains in fall. Repeated drying and filling of pools in the spring favors development of large plants with many branches and long stems. This species grows in Northern Basalt Flow and Northern Hardpan vernal pools (Sawyer and Keeler-Wolf 1995), wet swales and meadows, on the banks of streams, and in artificial habitats such as ditches. On the Santa Rosa Plain, a cluster of occurrences extends 5 kilometers (3 miles) from Stony Point Road to the Laguna de Santa Rosa, and is bounded by Occidental Road to the north and Cotati to the south. The central cluster stretches 1.5 miles (2.4 kilometers) on either side of Fulton Road extending northwards from Occidental Road to River Road.

Blennosperma bakeri, *Lasthenia burkei*, and *Limnanthes vinculans* are species that are endemic to California vernal pool ecosystems. Populations of *Blennosperma bakeri, Lasthenia burkei*, and *Limnanthes vinculans* can vary greatly in size from year to year. Seed banks are of particular importance to annual plant species which are subject to uncertain or variable environmental conditions. These three listed plants fit this criterion (Hickman 1993); they are annual species plants that are adapted to a variable Mediterranean climate, where precipitation varies a great deal from one year to another, and there is a pronounced dry season – they are annuals with a high degree of variation in the numbers and extent of above-ground plants from one year to the next and they form long-lived seedbanks in the soil.

The reduction and fragmentation of habitat due to urban development, agriculture-land conversion, and habitat degradation from overgrazing, agriculture, and other human-related changes to vernal pool hydrology are listed as the primary threats to these species in the 1991 listing rule (56 FR 61173). Additional threats identified in the 1991 rule include off-road vehicles and erosion. Consistent with the 1991 rule, the largest continuing threat to these species are urban development and land conversion to viticulture or other intense agriculture activities.

Occurrence of Three Listed Plant Species. The Santa Rosa Plain Conservation Strategy defines areas potentially suitable to support any of the three federally-listed plant species covered by the Conservation Strategy document: Sonoma sunshine, Burke's goldfields, and Sebastopol meadowfoam. The Santa Rosa Plain Conservation Strategy designates the site as one with a potential for presence of any of the three listed species. The mostly non-native vegetation on

the property generally does not represent optimal suitable habitat for special status plants. However, to the extent that the Project Site supports vernal pools or seasonal wetlands, the site would provide habitat potentially suitable to support any of the three species (Burke's goldfields, Sonoma sunshine or Sebastopol meadowfoam).

Burke's goldfields have been documented as having occurred on the Project Site and at several locations in close proximity to the Project Site. Occurrence No. 4769 mapped within the CNDDB shows a number of polygons mapped "from the vicinity of the Sonoma County Airport northeast to the Old Redwood Highway" over multiple years going back to the 1980s (Attachment 4). The CNDDB mapping shows one polygon mapped on the southern portion of the Project Site and another partially mapped on the northern portion of the Project Site, along with several others mapped in the immediate vicinity. The nearest location for both Sonoma sunshine and Sebastopol meadowfoam is about 0.6 miles west of the Project Site within the Airport Business Center mitigation site at the northeast corner of the Sonoma County Airport.

Additional special status plants that have been documented in the CNDDB from areas adjacent to or very close to the Project Site include Baker's navaretia (*Navarretia leucocephala ssp. baker,* CNPS list 1B.1), congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*, CNPS list 1B.2), and dwarf downingia (*Downingia pusilla,* CNPS list 2B.2).

A search for special status plant species was conducted at the Project site by HBG botanist, Dr. Terry Huffman on June 16, 2021. He conducted protocol surveys at the site during the spring of 2022 (March 24, April 7, May 19, and June 8, 2022). These surveys failed to locate any individuals of the three federally-listed plant species or any other of the special status species mentioned above. If any of the above plants have occurred within suitable habitat at the site in the past, there is the potential that a seed bank for these species may continue to be present in the soil. As Burke's goldfields has been documented as occurring on the Project site, a seed bank for this species is likely.

4.8 Wetlands and Other Waters

Jurisdictional delineations have been conducted within the Project Site by WRA and HBG following the Corps' 1987 Manual, Arid West Regional Supplement, supporting regulatory guidance, and regulations.

WRA Delineations. WRA has conducted aquatic resources delineations within the Project Site which have been verified by the Corps as part of their Preliminary Jurisdictional Process (PJD). PJDs have no expiration date. The PJDs issued by the Corps include: (1) a PJD verification letter issued on July 19, 2016 for the linear east-west drainage in the southern portion of the Project Site; (2) a PJD concurrence as part of a Nationwide Permit issued on December 12, 2017 (Attachment 5); and (3) a PJD issued August 27, 2020 for the Project Site (Attachment 5). The 2020 PJD did not include a man-made stormwater drainage ditch on the west side of the access road from Pruitt Avenue as it was not within the project limits as defined at the time of the delineation conducted by WRA.

HBG Delineation. HBG conducted an aquatic resources delineation for the purpose of: (1) reverifying the extent of wetlands and other waters of the U.S. previously delineated by WRA and determined by the Corps to be subject to Corps CWA Section 404 jurisdiction within the Project Site under their PJD process and (2) delineating the man-made drainages not delineated by WRA. The aquatic resources delineation was conducted April 7 and June 8, 2022. HBG verified that the previous Corps' PJDs remain accurate in terms of identifying and delineating seasonal wetlands (a.k.a. palustrine emergent wetland habitat [6]) and the east-west man-made drainage ditch and wetland habitat contained within the drainage (a.k.a. riverine palustrine emergent wetland habitat) (Attachment 1, Figure 5, W1, W2, W3, W4, W5, W6, W7, and R5). In addition, HBG identified and delineated several man-made drainages and wetland habitat contained within the drainages (a.k.a. riverine palustrine emergent wetlands) (Attachment 1, Figure 5, R1, R2, R3, R4, and R6) which are within the Project Site boundary.

The above described wetlands and man-made drainages are subject to North Coast Regional Water Quality Control Board Jurisdiction under their CWA Section 401 Water Quality Certification Program authority delegated to the state by the US EPA and under the Porter-Cologne Act. The man-made drainages are subject to regulation by the California Department of Fish and Wildlife under their Lake and Streambed Alteration Agreement Program authority.

[6] Follows USFWS Cowardin, et. al., wetland classification system.

5.0 BIOLOGICAL IMPACTS AND MITIGATION MEASURES

5.1 Standards of Significance

Appendix G to the CEQA Guidelines is a sample Initial Study Checklist that includes questions for determining whether impacts to biological resources are significant. These questions reflect the input of planning and environmental professionals at the Governor's Office of Planning and Research and the California Natural Resources Agency, based on input from stakeholder groups and experts in various other governmental agencies, nonprofits, and leading environmental consulting firms. They also reflect the requirements of laws other than CEQA that protect biological resources (e.g., the federal Clean Water Act, the Porter-Cologne Water Quality Control Act, the federal and state endangered species acts, and the Natural Community Conservation Planning Act). As a result, many lead agencies derive their significance criteria from the questions posed in Appendix G. The Town has chosen to do this for this project.

Additional guidance on the significance of biological resource impacts is found in CEQA Guidelines section 15065, subdivision (a)(1), which provides that a lead agency shall find that a project may have a significant effect on the environment if "[t]he project has the potential to: … substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; [or]substantially reduce the number or restrict the range of an endangered, rare or threatened species[.]" The "mandatory findings of significance" are also found in the Appendix G sample Initial Study checklist, though near the end.

In light of the foregoing, the proposed project would have a significant effect related to biological resources if the project would:

1.0 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [7]or United States Fish and Wildlife Service;

2.0 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or United States Fish and Wildlife Service;

3.0 Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

[7] Name has been formerly changed to California Department of Fish and Wildlife (CDFW).

4.0 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites;

5.0 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

6.0 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan;

7.0 Substantially reduce the habitat of a fish or wildlife species;

8.0 Cause a fish or wildlife population to drop below self-sustaining levels;

9.0 Threaten to eliminate a plant or animal community; or

10.0 Substantially reduce the number or restrict the range of an endangered, rare or threatened species.

5.2 Impacts and Mitigation Measures

1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

California Tiger Salamander

The applicant proposes to construct a multi-tenant, light industrial and manufacturing business park consisting of three buildings totaling approximately 477,093 square feet. As described in Section 2.0 the Project Area totaling 48.03 acres consists of 45.62 acres of lands owned in fee title by the Brennan Investment Group (APN) 059-271-095) and 2.41 acres of offsite adjacent lands secured by easement (Attachment 2). The Project Development Site (Project Site) where ground disturbing and other related construction activities will occur comprises 30.65 acres which includes 27.95 acres within the Project Area, a 0.29 acre area within the Caletti Conservation Easement for construction of a pedestrian trail, and 2.41 acres in two easement areas needed for Pruitt Avenue roadway construction. This construction activity includes an extension of Pruitt Avenue on the north side of the Project Site (1.42 acres) and extending Pruitt Avenue to Aviation Boulevard (0.99 acre) on the south side of the Project Site (Attachment 2). Remaining portions of the 45.62 acre parcel owned by Brennan Investment Group, totaling 17.38 acres, will be undisturbed by the Project (Attachment 2).

The *Santa Rosa Plain Conservation Strategy* designation for the majority of the Project Site is "May adversely affect listed plants, but would not likely adversely affect CTS" (Attachment 1, Figure 4). The proposed roadway extension area on the southern end of the Project Site to Aviation Boulevard (Attachment 2) is designated "May adversely affect listed plants and / or CTS" (Attachment 1, Figure 4). Neither the Project Site including the area slated for extension of

Pruitt Avenue is within the boundaries of the Santa Rosa Plains Unit of designated critical habitat for the CTS. Construction within suitable CTS habitat at the Project Site will not result in the destruction or adverse modification of designated critical habitat for the CTS.

Plans for the roadway extension to Aviation Boulevard would require an approximately 40-foot wide right-of-way for a distance of 1,040 feet. As there are no aquatic habitats providing suitable CTS breeding habitat in this area, there would be no impacts to breeding habitat, but construction of the roadway extension could result in elimination of upland habitat for the species. Grading within this right-of-way would impact 0.99 acres of suitable upland habitat for CTS. If California tiger salamander individuals were present at the time the site is prepared for construction, there is the possibility such individuals could be injured, killed, harmed, or harassed by grading or other equipment. Individuals present could be crushed by use of equipment that could also collapse underground burrows. Individual tiger salamanders disturbed by activities onsite could attempt overland movements to find alternative upland habitat. These individuals could be harassed, injured, or killed by workers or vehicles during overland movements at the Project Site, and could be subject to increased levels of predation, desiccation or competition for food and shelter. In areas where CTS are present, soil redistribution activities can cause disruption of surface movement, disruption or complete loss of reproduction, harassment from increased human activity, and/or permanent and temporary loss of shelter.

Mitigation for Project effects on CTS will be determined through a formal[8] federal Endangered Species Act Section 7 consultation between the USFWS and Corps as part of an application process to obtain a Department of the Army CWA Section 404 Permit for the Project from the Corps in order to fill areas determined to be Waters of the U.S., including wetlands. The Project will also be required to apply for and obtain a CESA Incidental Take Permit (ITP) from the CDFW.

Under the Santa Rosa Plain Conservation Strategy, CTS conservation includes mitigation at a 0.2:1 mitigation ratio as the 0.99 acres of impact would occur within CTS upland habitat that is greater than 1.3 miles from extant or extirpated breeding pools. This level of mitigation is consistent with the mitigation guidelines described in the Santa Rosa Plain Conservation Strategy which is also adopted by local jurisdictions including the Town of Windsor and Sonoma County and provides the best available guidance that will contribute to minimizing adverse effects to CTS and to the recovery of the species by conserving large contiguous blocks of occupied habitat. The conservation measures are also consistent with the conservation measures in the USFWS 2020 Programmatic consultation. However, a 0.2:1 mitigation ratio requirement under the CESA ITP Project application process may not be determined sufficient. CDFW typically requires a higher ratio in order to satisfy the CESA requirement that effects to listed species be “fully mitigated for”. This has resulted in mitigation being required at a higher ratio, typically at a mitigation ratio of 1:1.

[8] The revised 2020 Programmatic Biological Opinion does not cover projects that adversely affect CNDDB occurrences but does cover adverse effects to suitable habitat where a seed bank is likely to be present.

Impact #1: The Pruitt Avenue extension from the southern border of the Project Site to Aviation Boulevard has the potential to impact approximately 0.99 acres of suitable habitat for the federal and state listed CTS (Attachment 2).

> **Mitigation Measure #1.1**. Implement all conservation measures recommended in the Biological Opinion issued by the USFWS under the Corps' Endangered Species Act Section 7 consultation process to mitigate for impacts to 0.99 acre of California Tiger Salamander habitat.
>
> **Mitigation Measure #1.2**. Obtain authorization from the CDFW under the California Endangered Species Act Incidental Take Authorization Program for the loss of 0.99-acre of California Tiger Salamander upland aestivation habitat. Implement all permit conditions.

Federal and State Listed Plant Species

Project construction necessary for implementation of development of the Project Site will unavoidably fill wetlands. This will require that the Project receives prior to construction permit authorization under the Corps' Section 404 CWA regulatory program and the North Coast Regional Water Quality Control Board's (NCRWQCB) CWA Section 401 Water Quality Certification and Porter-Cologne Act Programs. A total of 0.35 acre of seasonal wetlands within the Project Site are suitable habitat for three federal and state listed endangered plant species (Sonoma sunshine, Sebastopol meadowfoam, and Burke's goldfields) and will be filled by the Project. Burke's goldfields is documented in the CNDDB as occurring within the Project Site and it is assumed that a seed bank for this species is likely present within the seasonal wetland soils on the site. Both Sonoma sunshine and Sebastopol meadowfoam are known to be extant in the vicinity of the Project Site (as well as Burke's goldfields). Protocol surveys conducted at the Project Site by HBG during March 24, April 7, May 19, and June 8, 2022 did not find any individuals of these three species.

Mitigation for Project effects on federal and state listed plant species will be determined through a formal[9] federal Endangered Species Act Section 7 consultation between the USFWS and Corps as part of an application process to obtain a Department of the Army CWA Section 404 Permit for the Project in order to fill areas determined to be Waters of the U.S., including wetlands. The Project will also be required to apply for and obtain a CESA Incidental Take Permit from the CDFW.

Mitigation for the proposed project will likely only require compensation for impacts to Burke's goldfields. Not only has Burke's goldfields historically occurred on the Project Site, but the Project Site is within a Core Area for Burke's goldfields as designated in the USFWS *2016 Recovery Plan for the Santa Rosa Plain*. In addition, as a further guideline, the *2020 Programmatic Biological Opinion* requires that "suitable habitat will be conserved for the

[9] The revised 2020 Programmatic Biological Opinion does not cover projects that adversely affect CNDDB occurrences but does cover adverse effects to suitable habitat where a seed bank is likely to be present.

species that occurs nearest to the Project Site based on CNDDB occurrences" (which is Burke's goldfields) and the criteria further states that "project sites near the Town of Windsor have numerous occurrences of Burke's goldfields." Therefore, Burke's goldfields would be the species chosen for conservation. Compensation for impacts to suitable habitat for Burke's goldfields for the proposed project requires a mitigation ratio of 3:1 based on *USFWS 2016 Recovery Plan for the Santa Rosa Plain and Santa Rosa Plain Conservation Strategy*.

Impact #2: The proposed site plan results in fill (permanent effects) to 0.35 acres of seasonal wetlands constituting suitable habitat for listed plants on the property.

> **Mitigation Measure #2.1**. Implement all conservation measures recommended in the Biological Opinion issued by the USFWS under the Corps' Endangered Species Act Section 7 consultation process to mitigate for impacts to 0.35 acre of seasonal wetland habitat suitable to support federally listed plant species.
>
> **Mitigation Measure #2.2**. Obtain authorization from the CDFW under the California Endangered Species Act Incidental Take Authorization Program for impacts to 0.35 acre of seasonal wetland habitat suitable to support state listed plant species. Implement all permit conditions.
>
> **Mitigation Measure #2.3:** The applicant will compensate for impacts to 0.35 acres of suitable habitat for Burke's goldfields with conservation of suitable habitat at a 3:1 ratio (1.05 acres). Compensation to mitigate for direct effects to suitable habitat for Burke's goldfields will be accomplished through the purchase of mitigation conservation bank credits and / or Permittee Responsible Mitigation, consistent with the requirements of the USFWS Biological Opinion and CDFW CESA Incidental Take Permit issued for the Project.

Other Special Status Animal Species

Two other special status animal species are discussed below. If these species were present at the time of construction, impacts from construction at the site are possible.

Burrowing Owl

Although no ground squirrel burrows or burrowing owls, a California Species of Special Concern, were observed on the Project Site during 2022 field reviews conducted by HBG, future use of the site by burrowing owl cannot be ruled out. It is possible that ground squirrels could establish colonies on the site prior to project construction, providing occupiable habitats for burrowing owl. Under this scenario Project construction activities could impact this special status species.

Impact #3: Project construction could impact burrowing owl if California ground squirrels were to occupy the site, providing occupiable sites for wintering or nesting by burrowing owl. The following mitigation measure shall ensure that no burrowing owls would be impacted by construction activities at the Project Site.

Mitigation Measure #3: Preconstruction surveys for burrowing owls shall be conducted 48 hours prior to Project ground disturbing activities to ensure that there are no impacts to burrowing owls. Surveys shall be conducted by a qualified biologist following CDFW survey methods (CDFW 2012).

- If burrowing owls are found to occupy the Project Site during the non-breeding season (September 1 to January 31), occupied burrows will be avoided by establishing a no-disturbance buffer zone around the burrow determined per the CDFW 2012 staff report. If avoidance is not possible, a passive relocation effort may be instituted to relocate the individual(s) out of harm's way pursuant to a Burrowing Owl Exclusion Plan prepared in accordance with the CDFW 2012 staff report.

- If burrowing owls are found to be present during the breeding season (February 1 to August 31), the project ground disturbing activities will follow the CDFW recommended avoidance protocol whereby occupied burrows will be avoided with a no-disturbance buffer.

American Badger

Although American badger has not been observed on the property during field reviews conducted by HBG, the grassland habitat found on the property may be suitable to support American badger, a California Species of Special Concern. If American badger were to occupy the area proposed for construction, potential impacts to this species could occur. Preconstruction surveys for American badger are warranted to ensure that construction activities do not result in impacts to individuals of this species. Preconstruction surveys should occur within 48 hours of Project ground disturbing activities. Preconstruction surveys will be conducted by a qualified biologist.

Impact #4: If American badger were to occupy the site in the future, construction could result in impacts to this species.

Mitigation Measure #4: Prior to ground disturbance for construction, a preconstruction survey for American badger and their dens shall be conducted. To determine if American badger is present, a qualified biologist shall conduct walking transects through the Project Site grassland habitat searching for dens.

2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

The project will not result in impacts to the riparian corridor of Pruitt Creek as no construction work for the project is planned within Pruitt Creek or on the bank of the creek, or within the riparian habitat bordering the creek. The proposed project includes a realignment of a drainage ditch running from east to west through the southern portion of the development site. The wetland impacts associated with the realignment of this drainage are discussed along with

impacts to other onsite man-made drainage ditches with associated wetland habitat in response to Item #3. Associated impacts to state and federally listed species of plants and animals under regulatory authority of the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife are discussed in response to Item #1.

3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Project construction necessary for implementation of development of the Project Site will unavoidably fill wetlands. This will require that the Project receives prior to construction permit authorization under the Corps' Section 404 CWA regulatory program and the North Coast Regional Water Quality Control Board's (NCRWQCB) CWA Section 401 Water Quality Certification and Porter-Cologne Act Programs. Grading activities associated with the proposed Project would result in the permanent placement of fill material (earthen material) into 0.35 acres of seasonal wetlands (Attachment 1, Figure 5, W4, W5, W6, and W7) and 0.07 acre of man-made drainages containing wetland habitat (Attachment 1, Figure 5, R1, R2, R3, R4, R5, and R6) considered to be WOUS and WOS. The location of wetland impacts associated with development of the proposed Project is also shown in Attachment 6.

Impact #5: Grading activities would result in the permanent placement of fill material (soil) into 0.35 acres of seasonal wetlands considered WOUS under the federal Clean Water Act (CWA) and WOS under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). An additional 0.07 acres of man-made drainage ditches with associated wetland habitat that has become established in these drainages would be permanently filled due to the proposed project development including the realignment of the east-west drainage ditch (Attachment 1, Figure 5, R5) which flows to Airport Creek. The drainage ditches although man-made are also considered WOUS under the CWA and WOS under the Porter-Cologne Act.

These impacts will require that the project applicant apply for and obtain a Department of the Army CWA Section 404 Permit from the Corps for discharge within 0.42 acres of wetlands under Clean Water Act Section 404 jurisdiction along with obtaining a Section 401 Water Quality Certification and Waste Discharge Requirements from the NCRWQCB. The realignment of the east-west drainage ditch and filling of other man-made drainages within the Project Site will also require that a Streambed Alteration Agreement be obtained from the CDFW.

> **Mitigation Measure #5.1**: The Project applicant will obtain all necessary authorizations from the Corps, NCRWQCB, and CDFW for discharging fill material into a total of 0.42 acres of wetlands due to the proposed project development including the realignment of Airport Creek.
>
> **Mitigation Measure #5.2**: The applicant will prepare a detailed Mitigation and Monitoring Plan (MMP) to be submitted to the Corps, NCRWQCB, and CDFW for review and approval as part of the process for obtaining permits from the agencies. The

Wetland Mitigation Plan will address the loss of 0.35 acre of seasonal wetlands impact due to the proposed project development, 0.05 acre loss of wetlands resulting from the realignment of the east-west man-made drainage ditch connecting to Airport Creek on the western edge of the Project Site, and loss of 0.02 acre wetland loss by filling other man-made drainage ditches. The MMP once implemented at a minimum shall:

- Compensation for impacts to 0.35 acre of seasonal wetlands filled within the Project Site shall be at a 2:1 mitigation ratio or 0.7 acre. This shall be accomplished through purchase of mitigation credits at a mitigation bank and / or Permittee Responsible Mitigation approved by the Corps and NCRWQCB.

- Compensation for impacts to 0.07 acre of wetlands that have formed in man-made drainage ditches filled within the Project Site shall be at a minimum 2:1 mitigation ratio or 0.14 acre. This shall be accomplished through Permittee Responsible Mitigation approved by the Corps, NCRWQCB, and CDFW consisting of widening the realigned east-west drainage ditch to a large channel that is a minimum of 8 feet wide and planting native wetland plant species in the channel and channel side slopes. Riparian trees and other native riparian species shall be planted along the upper bank and top of bank areas of the new channel to provide additional wildlife habitat. Seasonal wetlands will also be established at various locations above the top of bank along the realigned channel with the objective of establishing wetland habitat for federal and state-listed plant species. Topsoil taken from the seasonal wetlands fill by the Project will be spread over and blended into the ground surface of the newly established wetlands to allow for the potential introduction of listed plant species seed from the existing wetland soil.

4. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Although a number of wildlife species, including a variety of bird species that potentially include special status species, were observed on the property during field surveys, the development of the proposed Project would not result in significant impacts to wildlife populations on the site. Mitigation measures to address impacts to sensitive habitats, most notably seasonal wetlands, are included herein that include the preparation and implementation of a detailed Compensatory Wetland Mitigation Plan. Mitigation is also provided to address potential impacts to suitable seasonal wetland habitat to support state and federally listed plant species and marginally suitable habitat for California tiger salamander within areas located south of the Project Site proposed for construction of project access. Potential impacts to special status and other avian species will be mitigated as the applicant is required herein to conduct preconstruction surveys for nesting by bird species, roosting bat species, and for special status species, including burrowing owl and American badger. Any species of fauna that may be displaced during preparation of the site for development should find nearby available habitats.

The project will not result in substantial change in animal populations at the site, nor will it cause a fish or wildlife population to drop below self-sustaining levels.

Nesting Birds. Nesting bird species protected by the federal Migratory Bird Treaty Act or California Fish and Game Code could be impacted during project construction. If construction of the project was to occur during the nesting season, potential impacts could occur, including disturbance to nesting birds and possible mortality of adults and/or young. To ensure compliance with the MBTA and the California Fish and Game Code, bird nesting surveys are generally required if construction work requires vegetation removal during the bird nesting season. CDFW generally considers the nesting season to be from February 1 to August 31 for most bird species. Required setbacks to protect active nests from construction activity are usually in the order of about 250 feet for passerines (songbirds) and 500 feet or more for raptors (birds of prey).

Impact #6: The removal of vegetation and building demolition for construction during the February 1 to August 31 breeding season could result in mortality of nesting avian species if they are present.

> **Mitigation Measure #6**: If construction is to be conducted during the breeding season of migratory birds (February 1 to August 31), a qualified biologist should conduct a preconstruction breeding bird survey in areas of suitable habitat within 7 days prior to the onset of construction activity. Nesting bird surveys should cover the construction footprint and adjacent areas. If bird nests are found, appropriate buffer zones should be established around all active nests to protect nesting adults and their young from direct or indirect impacts related to project construction disturbance. Size of buffer zones should be determined per recommendations of the qualified biologist based on site conditions and species involved. No construction or earth-moving activity shall occur within the established buffer zone until it is determined by the qualified biologist that the young have fledged or that the nesting cycle is determined to be complete based on monitoring of the active nest.

Potential Bat Roosts. The proposed project has the potential to affect special status and common roosting bat species during either the removal of trees or demolition of the existing commercial structure. Bats have the potential to roost in existing vacant or underutilized buildings, other man-made structures, and could be present within the structure. Mature trees may show evidence of cavities and/or exfoliating bark that could serve as roost sites for populations of bats or could harbor solitary bats.

Significant impacts to bats prohibited under the Fish and Game Code could result from disruption of an occupied non-breeding bat roost or the loss of a maternity colony of bats. This may occur through direct disturbance from destruction of a roost site during removal or pruning of trees or an indirect disturbance causing behavioral alterations due to construction noise or vibration, or by increased human activity in the area. A bat habitat assessment conducted by a bat biologist prior to construction could determine if suitable habitat for bats is

found in trees to be removed or trimmed and allow development of mitigation strategies to achieve humane removal of bat populations if present.

Impact #7: Demolition of the existing commercial structure or removal of mature trees could result in destruction of maternity roosts, hibernacula, day roosts, and/or night roosts of bat species protected by the California Fish and Game Code.

Mitigation Measure #7: The applicant should conduct a Bat Habitat Assessment of all trees to be removed or trimmed and all structures scheduled for demolition. The habitat assessment of the structure would consist of a visual examination of the exterior and interior surfaces and spaces for suitable entry points, and signs of roosting bats (fecal pellet accumulations, urine or fur staining at entrances, insect prey remains, live or dead bats, characteristic odor, etc.). The habitat assessment of trees will determine the presence of suitable roosting habitat in the form of tree cavities that could harbor colonial bats or exfoliating bark or suitable foliage to support solitary bats. If no bat habitat is found during the assessment, the structure can be demolished or the tree can be removed or trimmed. If trees or structures contain suitable potential bat habitat, presence of roosting bats is presumed, and additional mitigation is necessary.

Trees: Schedule removal of trees with suitable bat habitat with a bat biologist present during seasonal periods of bat activity (March 1 to April 15 or September 1 to October 15). If trees containing suitable potential bat habitat are scheduled for removal outside of these seasonal periods of bat activity, conduct a visual survey of all suitable roost features to determine if bats are present, and remove the tree if bats are not present. If roost features cannot be completely surveyed due to access, cavity depth, etc. and uncertainty remains regarding the potential presence of roosting bats, tree removal should be delayed until the appropriate seasonal period of bat activity under the supervision of a qualified bat biologist.

Structures: If structures are found to contain suitable potential roost habitat or signs of past or present use by bats, presence of roosting bats is presumed and a detailed visual survey or night emergence survey will be conducted in an effort to verify the absence of bats. Night emergence surveys can only be conducted when bats are active. Buildings containing bats or signs of past or present use by bats will require either humane eviction (installation of blockage materials and one-way exits), or partial dismantling, and only during seasonal periods of bat activity between March 1 to April 15 or September 1 to October 15.

Water Quality and Fish and Wildlife. Implementation of a Stormwater Pollution Prevention Plan (SWPPP) will ensure that the water quality of nearby waterways is not affected by onsite construction activities. The SWPPP shall be consistent with construction and BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook. In addition, vegetation will only be cleared from the permitted construction footprint (Project Site). Areas cleared of vegetation, pavement, or other substrates shall be stabilized as quickly as possible to prevent erosion and runoff.

Proper implementation of BMPs with grading, excavation, and other ground-disturbing activities within the Project Site will prevent downstream sediment transport where such pollutants could result in potential impacts to benthic biota, fish, and wildlife resources. Indirect water quality impacts to resident animal populations and their habitat in downstream areas would not result from the proposed project due to the implementation of BMPs within the Project Site. Proper implementation of BMPs using erosion control materials that use plastic or synthetic monofilament netting shall be avoided to prevent CTS and animals from becoming entangled, trapped, or injured. This also includes products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine, or other similar fibers.

5. **Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The Project would not conflict with any local policies related to protection of natural resources.

6. **Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

The Project Site is not within an area where the provisions of a Habitat Conservation Plan or Natural Community Conservation Plan would apply.

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ATTACHMENT 1
FIGURES

Figure 1. Project Location Map
Figure 2. USGS Topographic Map Showing Project Development Location
Figure 3. Recent Aerial Photograph of the Project Development and Caletti Conservation Areas
Figure 4. Santa Rosa Plain Conservation Strategy Designations in the Project Development Area
Figure 5. Aquatic Resources Identified and Delineated Within and Adjacent to the Project Development Site

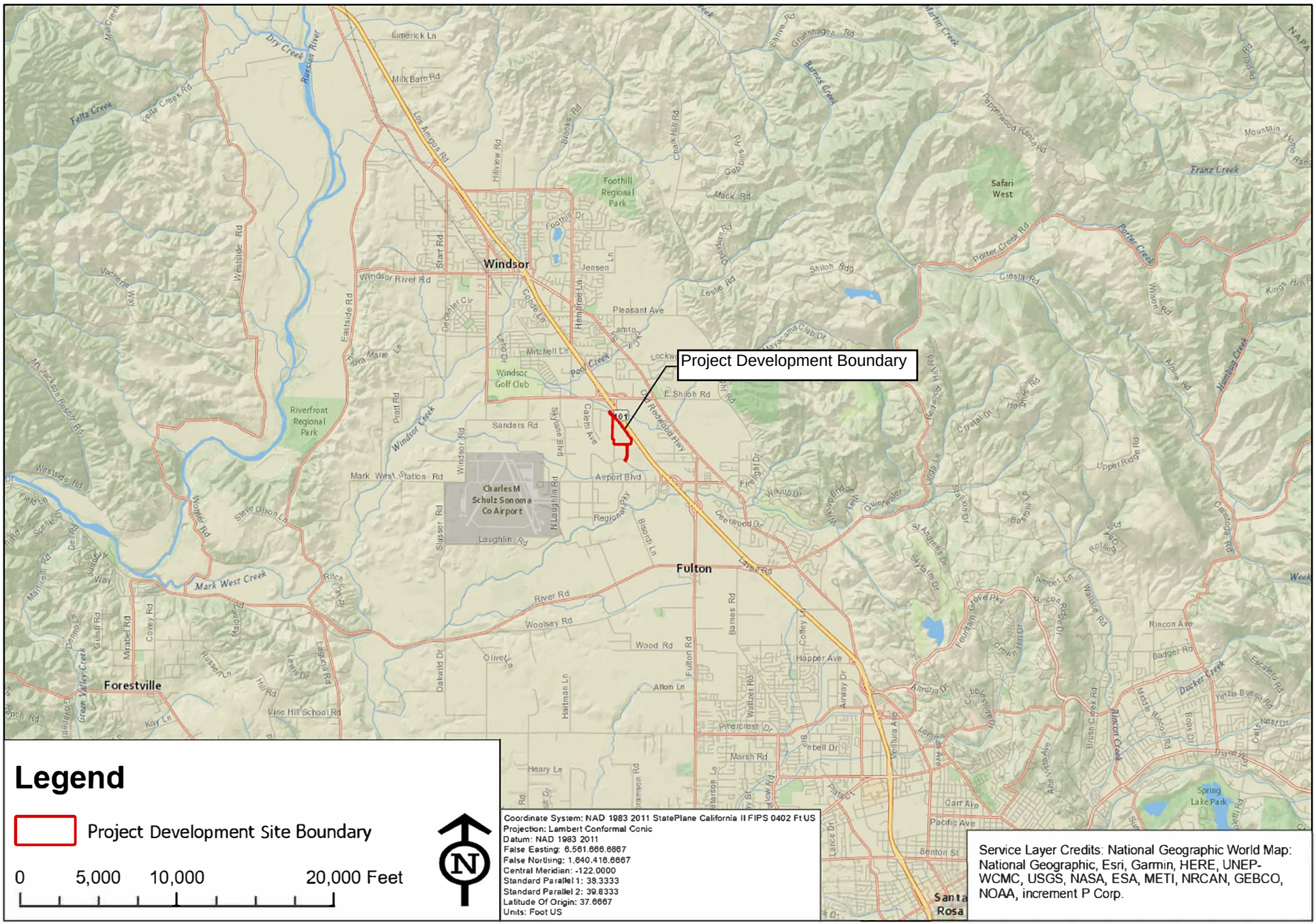


Figure 1. Project Location Map

Shiloh Business Park Project
Windsor, CA

Huffman-Broadway Group, Inc.
Environmental Regulatory Consultants
523 4th ST STE 224 San Rafael, CA 94901-3358 415.925.2000 WWW.H-BGROUP.COM

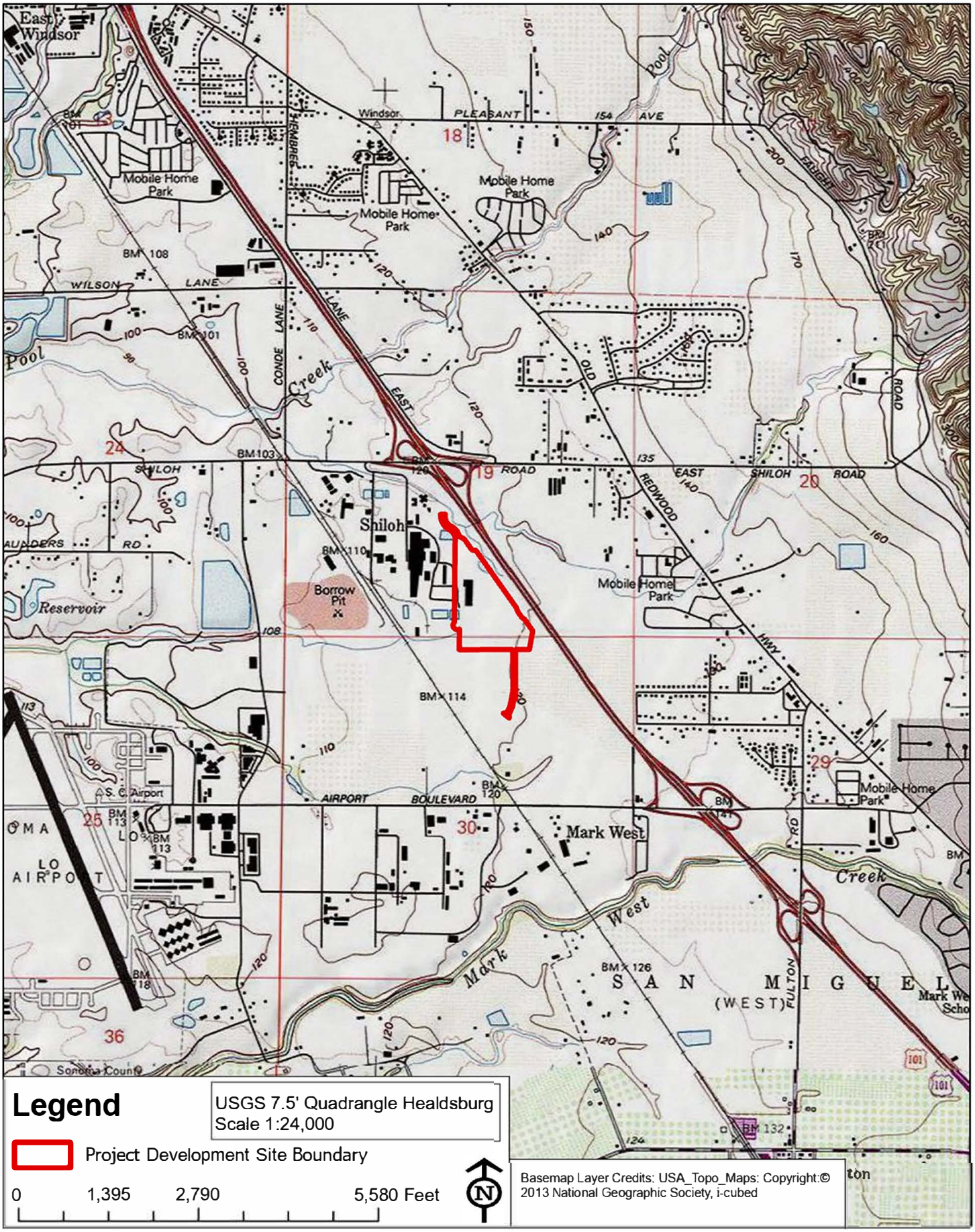


Figure 2. USGS Topographic Map Showing Project Development Site Location

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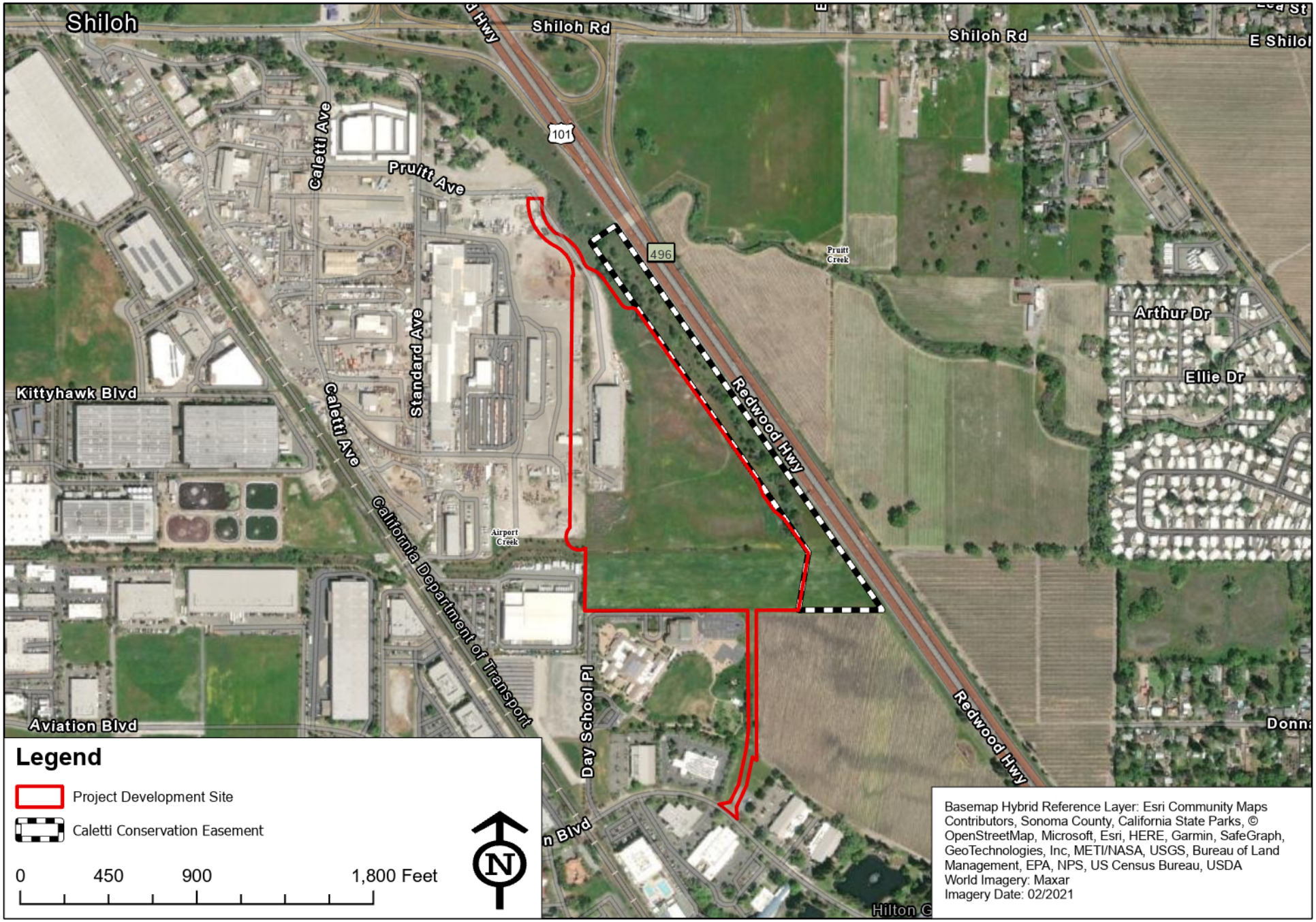
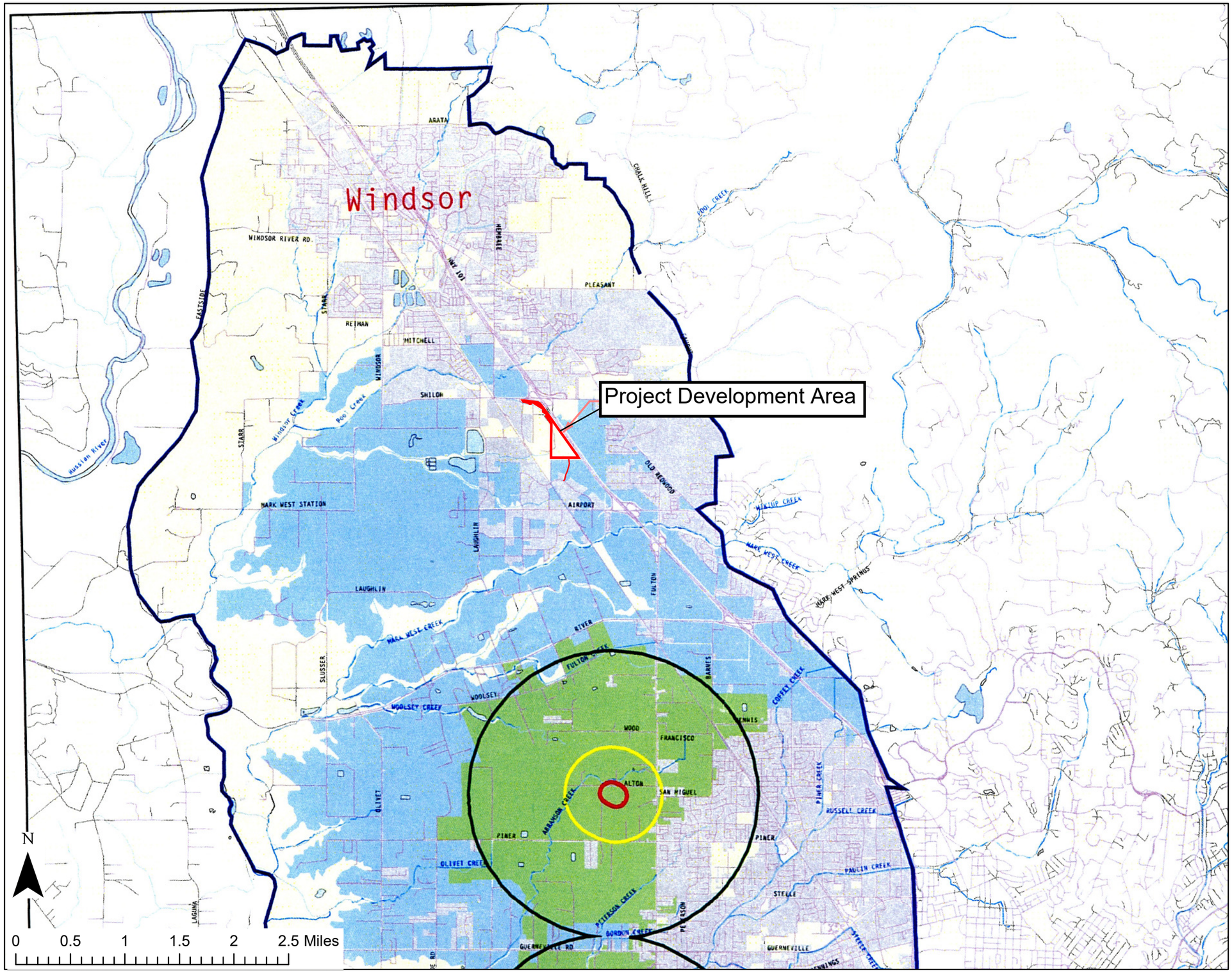


Figure 3. Recent Aerial Photograph of the Project Development Site and Caletti Conservation Area

Shiloh Business Park Project
Windsor, CA

Huffman-Broadway Group, Inc.
Environmental Regulatory Consultants
523 4th ST STE 224 San Rafael, CA 94901-3358 415.925.2000 WWW.H-BGROUP.COM



Enclosure 1

Santa Rosa Plain Conservation Strategy Study Area

Proximity to occurrences of California Tiger Salamander (CTS)

- 1.3 miles from extant or extirpated breeding pools
- 2200 feet from extant or extirpated breeding pools
- 500 feet from adult occurrences
- 500 feet from a extant or extirpated breeding pools

Designations

- No effect
- May adversely affect listed plants and would likely adversely affect CTS
- May adversely affect listed plants and/or CTS
- May adversely affect listed plants, but would not likely adversely affect CTS
- No effect to listed plants, but would likely adversely affect CTS
- May adversely affect CTS, but no effect to listed plants

Prepared on 2/05/2008
California Department of Fish and Game

Legend

Project Development Area

Figure 4. Santa Rosa Plain Conservation Strategy Designations in the Project Development Area

Shiloh Business Park Project

Windsor, CA

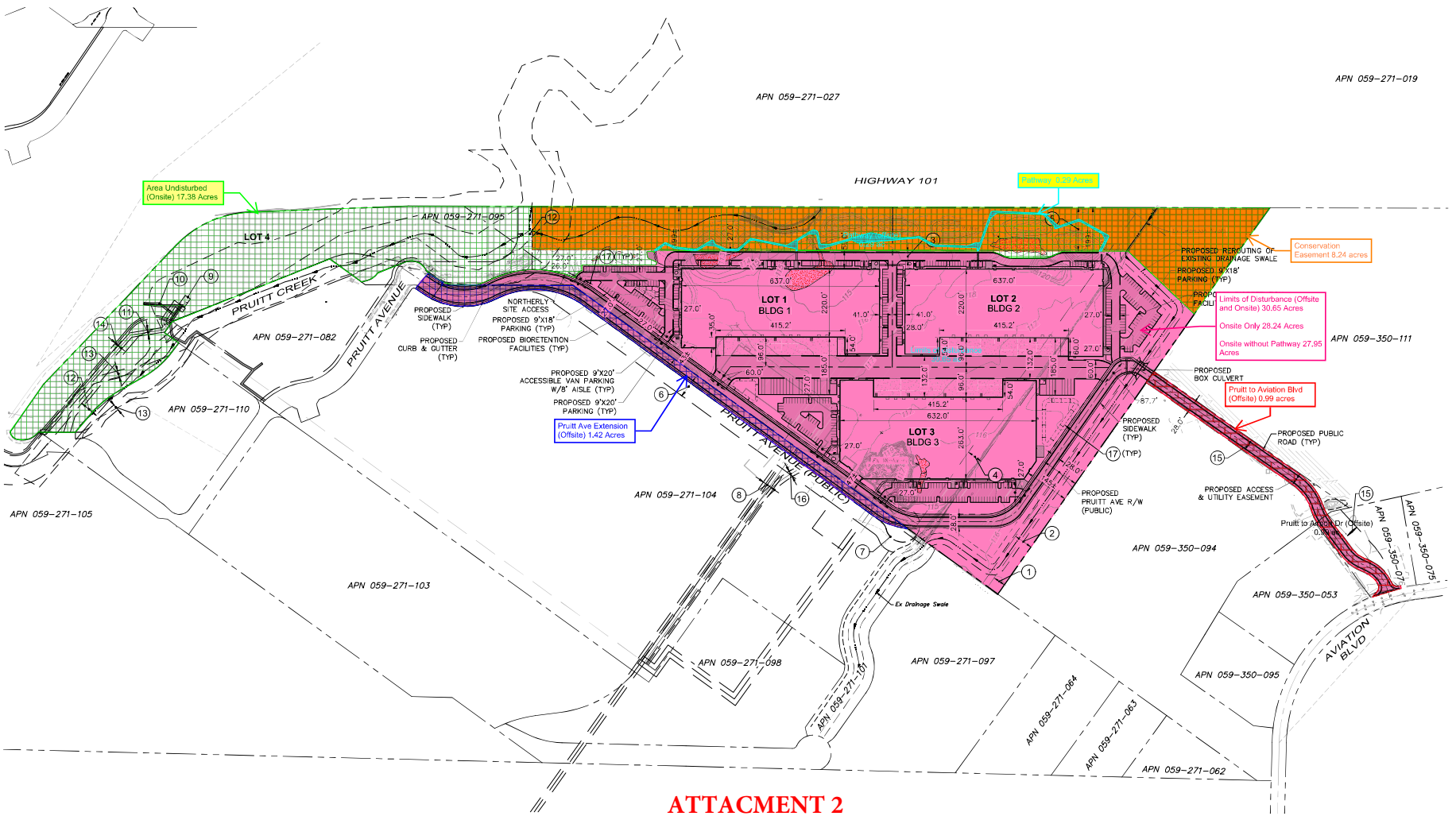


Figure 5. Aquatic Resources Identified and Delineated Within and Adjacent to the Project Development Site

Shiloh Business Park Project
Windsor, CA

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ATTACHMENT 2
PROJECT DEVELOPMENT PLAN



ATTACMENT 2

OVERALL SITE PLAN

150' 75' 0 60' 150' 3000' 450'
Graphic Scale: 1" = 150'

KEY NOTES:

1. 40' DRAINAGE FLOOD EASEMENT
2. 60' UTILITY/ACCESS EASEMENT
3. DRIVEWAY RECIPROCAL
4. 50' UTILITY/ACCESS EASEMENT
5. OPEN SPACE EASEMENT
6. EXISTING PRUITT AVE R/W TO BE MOVED
7. PUBLIC TURNAROUND EASEMENT
8. EXISTING 30' RAILROAD SPUR & UTILITY EASEMENT
9. WIRELESS TOWER EASEMENT DN 2011-098471
10. CENTER LINE OF 6' WIDE UTILITY EASEMENT DN 2018-067726
11. ACCESS EASEMENT DN 2018-067726
12. COVENANT OF LIMITING IMPROVEMENT (TO BE ABANDONED)
13. 20' WIDE ACCESS EASEMENT PARCEL DN 1993-0054910
14. 10' PG&E EASEMENT
15. ACCESS & UTILITY EASEMENT DN 1998-0099681
16. 20' RAILROAD SPUR
17. BIO-RETENTIONS TO BE INCLUDED IN MAINTANCE AGREEMENT AMONGST ALL LOTS

Revisions

No.	Date	Description	Approved

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Timothy L. Schram, RCE 61890
My license expires 6/30/2023

SHILOH BUSINESS PARK
TENTATIVE MAP
OVERALL SITE PLAN
790 Shiloh Rd
Windsor, California
APN 059-271-095

SCALE: AS SHOWN
Date: October 6, 2022
Design by: BC/RM
Drawn by: EB
Checked by: TLS

Sheet
C2.0
2 of 5 Sheets
Job 21367

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ATTACHMENT 3
NRCS CUSTOM SOIL RESOURCE REPORT FOR SONOMA COUNTY, CALIFORNIA, SHILOH BUSINESS PARK PROJECT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Sonoma County, California

Shiloh Business Park Project



June 1, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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HuB—Huichica loam, ponded, 0 to 5 percent slopes..... 11
HwB—Huichica loam, shallow, ponded, 0 to 5 percent slopes..... 12
ZaA—Zamora silty clay loam, moist, 0 to 2 percent slopes, MLRA 14..... 14
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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


122° 47' 31" W
122° 46' 54" W
38° 31' 27" N
38° 30' 50" N
518200
518300
518400
518500
518600
518700
518800
518900
519000
4264000
4263900
4263800
4263700
4263600
4263500
4263400
4263300
4263200
4263100
4263000
4262900
Standard Ave
101
HuB
HwB
CfA
ZaA
Us Hwy 101
Aviation Blvd
Soil Map may not be valid at this scale.
Map Scale: 1:2,390 if printed on C portrait (17" x 22") sheet.
N
Meters
0 35 70 140 210
Feet
0 100 200 400 600
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sonoma County, California
Survey Area Data: Version 15, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 1, 2020—Oct 30, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CfA	Clear Lake clay, ponded, 0 to 2 percent slopes	28.7	89.3%
HuB	Huichica loam, ponded, 0 to 5 percent slopes	0.1	0.2%
HwB	Huichica loam, shallow, ponded, 0 to 5 percent slopes	2.6	8.1%
ZaA	Zamora silty clay loam, moist, 0 to 2 percent slopes, MLRA 14	0.8	2.3%
Totals for Area of Interest		**32.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Sonoma County, California

CfA—Clear Lake clay, ponded, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2y8vg
Elevation: 50 to 210 feet
Mean annual precipitation: 27 to 40 inches
Mean annual air temperature: 57 to 58 degrees F
Frost-free period: 265 to 315 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Clear lake and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Clear Lake

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium derived from volcanic and sedimentary rock

Typical profile

Apg - 0 to 8 inches: clay
Assg - 8 to 25 inches: clay
Bssg - 25 to 46 inches: clay
Bkssg - 46 to 52 inches: clay
2Bkg - 52 to 60 inches: clay loam
2Btg - 60 to 72 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 7 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C/D
Ecological site: R014XG907CA - Loamy Bottom

Hydric soil rating: Yes

Minor Components

Huichica

Percent of map unit: 6 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Wright

Percent of map unit: 6 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Zamora

Percent of map unit: 3 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

HuB—Huichica loam, ponded, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hffn
Elevation: 100 to 300 feet
Mean annual precipitation: 30 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 260 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Huichica and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Huichica

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

H1 - 0 to 14 inches: loam
H2 - 14 to 23 inches: sandy clay loam
H3 - 23 to 38 inches: clay
H4 - 38 to 57 inches: cemented

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches; 20 to 40 inches to duripan
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: R014XG912CA - Loamy Terrace
Hydric soil rating: Yes

Minor Components

Clear lake

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Zamora

Percent of map unit: 5 percent
Hydric soil rating: No

Wright

Percent of map unit: 5 percent
Hydric soil rating: No

HwB—Huichica loam, shallow, ponded, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hffq
Elevation: 100 to 300 feet
Mean annual precipitation: 30 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Huichica and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Huichica

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 30 inches: clay
H3 - 30 to 57 inches: cemented

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches; 20 to 40 inches to duripan
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: R014XG912CA - Loamy Terrace
Hydric soil rating: Yes

Minor Components

Wright

Percent of map unit: 7 percent
Hydric soil rating: No

Zamora

Percent of map unit: 6 percent
Hydric soil rating: No

Clear lake

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

ZaA—Zamora silty clay loam, moist, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2xcbw
Elevation: 20 to 260 feet
Mean annual precipitation: 27 to 43 inches
Mean annual air temperature: 58 to 59 degrees F
Frost-free period: 288 to 325 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Zamora and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zamora

Setting

Landform: Stream terraces, alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from volcanic and sedimentary rock

Typical profile

A1 - 0 to 5 inches: silty clay loam
A2 - 5 to 17 inches: clay loam
A3 - 17 to 29 inches: clay loam
Bt1 - 29 to 41 inches: clay loam
Bt2 - 41 to 55 inches: sandy clay loam
Bt3 - 55 to 60 inches: gravelly clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Maximum salinity: Nonsaline (0.2 to 0.5 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Cole

Percent of map unit: 4 percent
Hydric soil rating: No

Yolo

Percent of map unit: 4 percent
Hydric soil rating: No

Cortina

Percent of map unit: 3 percent
Hydric soil rating: No

Pajaro

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

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ATTACHMENT 4
SPECIAL STATUS PLANT AND ANIMAL SPECIES THAT HAVE BEEN REPORTED IN THE VICINITY OF THE SHILOH BUSINESS PARK SITE, WINDSOR, SONOMA COUNTY, CALIFORNIA

Table A. Special Status Plants with Potential to Occur in the Vicinity of the Shiloh Oaks Site, Windsor, Sonoma County, California

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
PLANTS			
Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*)	FE/-/1B.1	Occurs in wet areas, marshes, and riparian banks with other wetland species in freshwater marshes and swamps, and riparian scrub. 5-360 meters (m).	Not present. Suitable habitat is not found at the site.
Napa false indigo (*Amorpha californica* var. *napensis*)	--/-/1B.2	Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 150-2000 m.	Not present. Suitable habitat is not found at the site.
Bent-flowered fiddleneck (*Amsinckia lunaris*)	--/--/1B.2	Cismontane woodland, valley and foothill grassland. 5-500 m	Not present. Suitable habitat is not found at the site.
Slender silver moss *(Anomobryum julaceum)*	--/--/4.2	This moss grows on damp rocks and soil on acidic substrates in broadleafed upland forest and coniferous forests. Often at roadcuts. 100-1000 m.	Not present. Suitable habitat is not found at the site.
Baker's Manzanita (Arctostaphylos bakeri spp. bakeri)	--/Rare/1B.1	Found in broadleafed upland forest and chaparral, often on serpentine.75-245 m.	Not present. Suitable habitat is not found at the site.
Vine Hill manzanita *(Arctostaphylos densiflora)*	--/CE/1B.1	Chaparral. 50-100 m.	Not present. Suitable habitat is not found at the site.
Rincon Ridge manzanita *(Arctostaphylos stanfordiana ssp. decumbens)*	--/--/1B.1	Chaparral. Highly restricted to endemic rhyolites in Sonoma County. 75-310 m.	Not present. Suitable habitat is not found at the site.
Clara Hunt's milk-vetch *(Astragalus claranus)*	FE/CT/1B.1	Found in cismontane woodland, valley and foothill grassland and chaparral. On open	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
		grassy hillsides, especially on exposed shoulders in thin volcanic clay soil when moist in spring. 75-275 m.	
Sonoma sunshine *(Blennosperma bakeri)*	FE/CE/1B.1	Vernal pools and swales in valley and foothill grassland. 10-100 m.	**Possible**. Has been documented approximately 0.6 miles from the Project Site at the northeast corner of the Sonoma County Airport. Not found during 2022 protocol surveys of the Project Site.
Narrow-anthered California brodiaea (*Brodiaea californica var. leptandra*)	--/--/1B.2	Broadleafed upland forest, chaparral, lower montane coniferous forest. 110-915 m.	Not present. Suitable habitat is not found at the site.
Thurber's Reed Grass *(Calamagrostis crassiglumis)*	--/--/2B.1	Usually found in marshy swales surrounded by grassland or coastal scrub. 10-45 m.	Not present. Suitable habitat is not found at the site.
Mt. St. Helena morning glory *(Calystegia collina ssp. oxyphylla)*	--/--/4.2	Found on serpentine barrens, slopes and hillsides in chaparral, lower montane coniferous forest and valley and foothill grassland. 280-1010 m.	Not present. Suitable habitat is not found at the site.
Swamp harebell (*Campanula californica*)	--/--/1B.2	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows, freshwater marsh, N. coast coniferous forest. Bogs and marshes in a variety of habitats; uncommon where it occurs. 1-405 m.	Not present. Suitable habitat is not found at the site.
Pitkin Marsh Paintbrush (*Castilleja uliginosa*)	--/CE/1A	Freshwater marsh. 60 m.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Rincon Ridge ceanothus (*Ceanothus confuses)*	--/--/1B.1	Known from volcanic or serpentine soils on dry shrubby slopes in closed-cone coniferous forest, chaparral, and cismontane woodland. 75-1065 m.	Not present. Suitable habitat is not found at the site.
Calistoga ceanothus (*Ceanothus divergens)*	--/--/1B.2	Rocky, serpentine, or volcanic sites in chaparral. 170-950 m.	Not present. Suitable habitat is not found at the site.
Holly-leaved ceanothus (*Ceanothus purpureus)*	--/--/1B.2	Rocky volcanic slopes in chaparral. 120-640 m.	Not present. Suitable habitat is not found at the site.
Vine Hill ceanothus (*Ceanothus foliosus var. vineatus)*	--/--/1B.1	Sandy, acidic soils in chaparral. 45-85 m.	Not present. Suitable habitat is not found at the site.
Pappose tarplant (*Centromadia parryi ssp. parryi*)	--/--/1B.2	Found in mesic and often alkaline sites in coastal prairie, meadows and seeps, coastal salt marsh and valley and foothill grasslands. 2-420 m	Not present. Suitable habitat is not found at the site.
Sonoma spineflower (*Chorizanthe valida)*	FE/CE/1B.1	On sandy soil in Coastal prairie. 10-50 m.	Not present. Suitable habitat is not found at the site.
Pennell's bird's beak *(Cordylanthus tenuis ssp. capillaris)*	FE/Rare/1B.2	Found in open or disturbed areas on serpentine within closed-cone coniferous forest and chaparral. 90-215 m.	Not present. Suitable habitat is not found at the site.
Peruvian dodder *(Cuscuta obtusiflora var. glandulosa)*	--/--/2B.2	Freshwater marshes and swamps. 15-280 m.	Not present. Suitable habitat is not found at the site.
Golden larkspur *(Delphinium luteum)*	FE/Rare/1B.1	On north-facing rocky slopes in chaparral, Coastal prairie, and Coastal scrub. 0-100 m.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Dwarf downingia (*Downingia pusilla*)	--/--/2B.2	Inhabits vernal pools and vernal lake margins. 1-445 m.	Unlikely. Has occurred near the Project Site and suitable habitat may be present at the site. Not found during 2022 protocol surveys of the Project Site.
Greene's narrow-leaved daisy (*Erigeron greenei*)	--/--/1B.2	Serpentine and volcanic substrates in chaparral. 75-1060 m.	Not present. Suitable habitat is not found at the site.
Serpentine daisy (*Erigeron serpentinus)*	--/--/1B.3	Serpentine seeps in chaparral. 120-400 m.	Not present. Suitable habitat is not found at the site.
Fragrant fritillary (*Fritillaria liliacea*)	--/--/1B.2	Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported, though usually clay, in grassland. 3-410 m.	Not present. Suitable habitat is not found at the site.
Woolly-headed Gilia (*Gilia capitata ssp. tomentosa*)	-/-/1B.1	Coastal bluff scrub. Rocky outcrops on the coast. 15–155 m.	Not present. Suitable habitat is not found at the site.
Bogg's Lake hedge hyssop (*Gratiola heterosepala*)	--/CE/1B.2	Inhabits vernal pools and margins of vernal lakes. 10-2375 m.	Not present. Suitable habitat is not found at the site.
Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)	--/--/1B.2	Found in valley and foothill grassland, grassy valleys and hills, often in fallow fields and sometime along roadsides. 20-560 m.	Unlikely. Has occurred near the Project Site and suitable habitat may be present at the site. Not found during 2022 protocol surveys of the Project Site.
Thin-lobed horkelia (*Horkelia tenuiloba*)	--/--/1B.2	Coastal scrub, chaparral. Sandy soils, mesic openings. 45–500 m.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Burke's goldfields (*Lasthenia burkei*)	FE/CE/1B.1	Found in vernal pools, meadows and seeps, most often in vernal pools and swales. 15-600 m.	**Possible**. Has historically occurred on the Project Site and the immediate vicinity. Not found during 2022 protocol surveys of the Project Site. Seed bank likely present. Mitigation is recommended for impacts to suitable habitat for the species.
Baker's goldfields *(Lasthenia californica* ssp. *bakeri)*	--/--/1B.2	Openings in closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps.	Not present. Suitable habitat is not found at the site.
Colusa layia *(Layia septentrionalis)*	--/--/1B.2	Found in scattered colonies in fields and grassy slopes in sandy or serpentine soils in chaparral, cismontane woodland and valley and foothill grassland. 15-1100 m.	Not present. Suitable habitat is not found at the site.
Legenere (*Legenere limosa*)	--/--/1B.1	Inhabits the beds of vernal pools. 1-880 m.	Not present. Suitable habitat is not found at the site.
Jepson's leptosiphon (*Leptosiphon jepsonii*)	--/--/1B.2	Found on volcanics or the periphery of serpentine substrates in chaparral, cismontane woodland, and open to partially shaded grassy slopes. 55-855 m.	Not present. Suitable habitat is not found at the site.
Pitkin Marsh Lily *(Lilium pardalinum ssp. pitkinense)*	FE/CE/1B.1	Saturated, sandy soils with grasses and shrubs in Cismontane woodland, meadows and seeps, and freshwater marsh. 35-65 m.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Sebastopol meadowfoam (*Limnanthes vinculans*)	FE/CE/1B.1	Grows in poorly drained clay and sandy loam soils in swales, wet meadows, and marshy areas. Occurs in mesic meadows and vernal pools in valley and foothill grasslands. 15-305 m.	**Possible**. Has been documented approximately 0.6 miles from the Project Site at the northeast corner of the Sonoma County Airport. Not found during 2022 protocol surveys of the Project Site.
Cobb mountain lupine (*Lupinus sericatus*)	--/--/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest; in stands of knob cone pine-oak woodland; on open woodland slopes in gravelly soils; sometimes on serpentine (180-1500 m).	Not present. Suitable habitat is not found at the site.
Marsh microseris (*Microseris paludosa*)	-/-/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5-300 m.	Not present. Suitable habitat is not found at the site.
Baker's navarretia (*Navarretia leucocephala ssp. bakeri*)	--/--/1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils at 5-1740 m.	Unlikely. Has occurred near the Project Site and suitable habitat may be present at the site. Not found during 2022 protocol surveys of the Project Site.
Many-flowered navarretia *(Navarretia leucocephala ssp. plieantha)*	FE/CE/1B.2	Volcanic ash flow vernal pools. 30-915 m.	Not present. Suitable habitat is not found at the site.
Calistoga popcornflower *(Plagiobothrys strictus)*	FE/CT/1B.1	Meadows and seeps, valley and foothill grassland and vernal pools. Found in alkaline sites near thermal springs and on margins of vernal pools in heavy, dark, adobe-like clay soils. 90-125 m.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
White beaked-rush (*Rhynchospora alba*)	--/--/2B.2	Found in bogs and fens, meadows and seeps, marshes and swamps. Particularly freshwater marshes and sphagnum bogs. 80-1875 m.	Not present. Suitable habitat is not found at the site.
California beaked-rush (*Rhynchospora californica*)	-/-/1B.1	Freshwater seeps and open marshy areas in bogs, fens, marshes and swamps and lower montane coniferous forest. 45-1000 m.	Not present. Suitable habitat is not found at the site.
Brownish beaked-rush (*Rhynchospora capitellata)*	--/--/2B.2	Mesic sites in lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest. 45-2000 m.	Not present. Suitable habitat is not found at the site.
Round-headed beaked-rush (*Rhynchospora globularis)*	--/--/2B.1	Freshwater marshes and swamps. 45-60 m.	Not present. Suitable habitat is not found at the site.
Kenwood Marsh checkerbloom (*Sidalcea oregana* ssp. *valida*)	FE/CE/1B.1	Edges of freshwater marshes and swamps. 115-125 m.	Not present. Suitable habitat is not found at the site.
Slender-leaved pondweed (*Stuckenia filiformis* ssp. *alpina*)	--/--/2B.2	Found in marshes and swamps, in shallow, clear water of lakes and drainage channels. 300-2150 m.	Not present. Suitable habitat is not found at the site.
Two-fork clover (*Trifolium amoenum*)	FE/-/1B.1	Valley and foothill grassland, coastal bluff scrub, sometimes on serpentine soil. 5-560 m.	Not present. Suitable habitat is not found at the site.
Santa Cruz clover (*Trifolium buckwestiorum*)	--/-/1B.1	Found in moist grassland and gravelly margins in Coastal Prairie, broadleafed upland forest, and cismontane woodland. 30-805 m.	Not present. Suitable habitat is not found at the site.
Saline clover (*Trifolium depauperatum* var. *hydrophilum*)	--/--/1B.2	Marshes and swamps, mesic alkaline sites, vernal pools in valley and foothill grassland. 0-300 m.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED & STATE[2]/CNPS[3]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Coastal triquetrella (*Triquetrella californica*)	-/-/1B.2	Coastal bluff scrub and coastal scrub. 10-100m.	Not present. Suitable habitat is not found at the site.
Methuselah's beard lichen *(Usnea longissima)*	-/-/4.3	North Coast coniferous forest, broadleaved upland forest. Grows in the "redwood zone" on a variety of trees including big leaf maple, oaks, ash, Douglas fir and bay. 0-700 m in California.	Not present. Suitable habitat not found on site.
Oval-leaved viburnum (*Viburnum ellipticum*)	--/--/2B.3	Chaparral, cismontane woodland and lower montane coniferous forest. 215-1400 m.	Not present. Suitable habitat is not found at the site.

1Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the Healdsburg 7.5 Minute Quadrangle Map and surrounding areas, April 2022.

2Federal / State Status Codes:

FE Federally listed Endangered
FT Federally listed Threatened
FPE Federally Proposed Endangered
FPT Federally Proposed Threatened
BCC USFWS Bird Species of Conservation Concern

CE California State-listed Endangered
CT California State-listed Threatened
CR California Rare
FP California Fully Protected
CSC CDFW Species of Special Concern
WL CDFW Watch List Species

3CNPS Ranking Codes:

Rare Plant Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
California Rare Plant Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.
California Rare Plant Rank 2A: Plants presumed extirpated in California, but more common elsewhere.
California Rare Plant Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere.
California Rare Plant Rank 3: Plants about which more information is needed – a review list.
California Rare Plant Rank 4: Plants of limited distribution – a watch list.

Table B. Special Status Animal Species that Have Been Reported in the Vicinity of the Shiloh Oaks Site, Windsor, Sonoma County, California

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
ANIMALS			
Invertebrates			
Barr's amphipod (*Stygobromus cherylae*)	--/--	Known only from a spring box along Highway 128 nearly 20 miles east of Geyserville.	Not present. Suitable habitat is not found at the site.
Obscure bumble bee *(Bombus caliginosus)*	--/--	Found in Coastal areas from Santa Barbara County north to Washington State. Food plant genera include *Baccharis, Cirsium, Lupinus, Lotus, Grindelia* and *Phacelia*.	This uncommon species could occur almost anywhere in the general area of the site and is included in the CNDDB due to a general decline in bee populations in recent years.
Western bumble bee *(Bombus occidentalis)*	--/--	This species was once common and widespread, but the species has declined precipitously from Central California to Southern British Columbia, perhaps from disease.	This widespread and once common species could occur almost anywhere in the general area of the site and is included in the CNDDB due to a general decline in bee populations in recent years.
Blennosperma Vernal Pool Andrenid bee (*Andrena blennospermatis)*	--/--	Oligolectic on vernal pool flowers, especially Blennosperma.	Not present. Suitable habitat is not found at the site.
Guiliani's dubiraphian riffle beetle (*Dubiriaphia guiliani*)	--/--	An aquatic species that inhabits rocks and vegetation in slow portions of the Russian River.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Western ridged mussel (*Gonidea angulata*)	--/--	Found in creeks and rivers and sometimes lakes. Former range was statewide and now extirpated from Central and Southern California.	Not present. Suitable habitat is not found at the site.
California linderiella (*Linderiella occidentalis*)	--/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	Not present. Suitable habitat is not found at the site.
California freshwater shrimp *(Syncaris pacifica)*	FE/CE	Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Prefers shallow pools removed from the main flow. In winter, prefers undercut banks with exposed roots; in summer low flows, clings to submerged portions of overhanging tree shrub branches.	Not present. Suitable habitat is not found at the site.
Fish			
Russian River tule perch (*Hysterocarpus traskii pomo*)	--/--	Found in low elevation streams of the Russian River system in areas of clear, flowing water with abundant cover and deep pools (greater than 1 m).	Not present. Suitable habitat is not found at the site.
Northern Coastal roach (*Hesperoleucus venustus navarroensis*)	-/-	Found in the Navarro River and Russian River basins in areas with sufficient cover (e.g., fallen trees) and absent alien predators. Usually in clear, well oxygenated water with dominant substrates of cobble and boulder and shallow depths.	Not present. Suitable habitat is not found at the site.
Coho salmon – central California ESU (*Oncorhynchus kisutch*)	FE/CE	Requires beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Steelhead – Central CA Coast ESU (*Oncorhynchus mykiss*)	FT/CSC	Well-oxygenated streams with riffles; loose, silt-free gravel substrate.	Not present. Suitable habitat is not found at the site.
Amphibians			
Red-bellied newt *(Taricha rivularis)*	--/CSC	Found in coastal drainages from Humboldt County south to Sonoma County and inland to Lake County. Lives in terrestrial habitats. Juveniles are generally found underground; adults are active at the surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	Not present. Suitable habitat is not found at the site.
California giant salamander *(Dicamptodon ensatus)*	--/CSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County. Aquatic larvae are found in cold, clear streams, occasionally in lakes and ponds. Adults are found in wet forests under rocks and logs near streams and lakes.	Not present. Suitable habitat is not found at the site.
California tiger salamander (*Ambystoma californiense*)	FE/CT, CSC	Found in annual grasslands and grassy understory of valley-foothill hardwood habitats in central and northern California. Needs underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water source for breeding. Can migrate up to 1.3 miles from aestivation sites to breeding ponds.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Foothill Yellow-legged frog (*Rana boylii*)	--/CSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying; larvae need at least 15 weeks to attain metamorphosis.	Not present. Suitable habitat is not found at the site.
Reptiles			
Western pond turtle (*Emys marmorata*)	--/CSC	Aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat for egg-laying (sandy banks or grassy open fields).	Not present. Suitable habitat is not found at the site.
Birds			
Great Blue Heron (*Ardea herodias*) (Rookery)	--/--	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Not present. Suitable habitat for a rookery is not found at the site.
Osprey (*Pandion haliaetus*) [Nesting]	--/WL	Breeds in northern California from the Cascade Ranges south to Lake Tahoe, and along the coast south to Marin County. Associated strictly with large, fish-bearing waters, primarily in Ponderosa pine through mixed conifer habitats.	Not present. Suitable habitat is not found at the site.
Golden eagle (*Aquila chrysaetos*) [nesting and wintering]	BCC/FP, WL	Typically frequents rolling foothills, mountain areas, sage-juniper flats, and desert.	Not present. Suitable habitat is not found at the site.
Northern harrier (*Circus hudsonius*) [Nesting]	-/CSC	Coastal salt marsh and freshwater marsh; nests and forages in grasslands; nests on ground in shrubby vegetation, usually at marsh edge.	Not present. Suitable nesting habitat is not found at the site. Species likely forages on or near the site, especially in winter.

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
White-tailed kite (*Elanus caeruleus*) [nesting]	-/CFP	Open grassland and agricultural areas throughout Central California.	Not present. Suitable nesting habitat is not found at the site. Species likely forages on or near the site, especially in winter.
Cooper's hawk (*Accipiter cooperii*) [nesting]	-/WL	Nests primarily in deciduous riparian forests; forages in open woodlands.	Not present. Suitable nesting habitat is not found at the site. Species likely forages on or near the site, especially in winter.
Sharp-shinned hawk (*Accipiter striatus*) [nesting]	--/WL	Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers, but not restricted to, riparian habitats. North facing slopes, with plucking perches are critical requirements. All habitats except alpine, open prairie, and bare desert used in winter.	Not present. Suitable nesting habitat is not found at the site. May forage at the site during the winter.
Ferruginous hawk (*Buteo regalis*) [wintering]	BCC/WL	Inhabits open country. Winters in small number along California coast and inland valleys.	Not present. Extensive areas of suitable winter foraging habitat are not present.
American Peregrine falcon (*Falco peregrinus*)	BCC/FP	Nests in woodland, forest and coastal habitats, on cliffs or banks, and usually near wetlands, lakes, rivers, sometimes on human-made structure. In non-breeding seasons found in riparian areas and coastal and inland wetlands.	Not present. May occur in the area but suitable nesting habitat is not found at the site.
Merlin (*Falco columbarius*) [wintering]	-/WL	Breeds in Canada, winters in a variety of California habitats, including grasslands, savannahs, wetlands, etc.	Not present. Extensive areas of suitable winter foraging habitat are not present.

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Yellow rail (*Coturnicops noveboracensis*)	BCC/CSC	Found in freshwater marshes. Summer resident in the eastern Sierra and Modoc County.	Not present. Suitable habitat is not found at the site.
Burrowing owl (*Athene cunicularia*)	BCC/CSC	Found in open dry annual or perennial grasslands, deserts and scrublands characterized by low growing vegetation. This species is a subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	**Possible**. Suitable habitat is not currently present at the site due to lack of ground squirrels and ground squirrel burrows. Could possibly inhabit the site in the future. Preconstruction surveys prior to construction are required to ensure no impact to nesting or wintering birds.
Loggerhead shrike (*Lanius ludovicianus*)	BCC/CSC	Habitat includes open areas such as desert, grasslands and savannah. Nests in thickly foliaged trees or tall shrubs. Forages in open habitats, which contain trees, fence posts, utility poles, and other perches.	Not present. Suitable habitat is not found at the site.
Grasshopper sparrow *(Ammodramus savannarum)*	BCC/CSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs.	Not present. Suitable habitat is not found at the site.
Tri-colored blackbird (*Agelaius tricolor*) [Nesting colony]	BCC/CT,CSC	Breeds near freshwater, usually in tall emergent vegetation. Requires open water with protected nesting substrate. Colonies prefer heavy growth of cattails and tules. Uses grasslands and agricultural lands for foraging.	Not present. Suitable habitat for a nesting colony is not found at the site. May forage on the site in winter.
Mammals			

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
North American porcupine (*Erethizon dorsatum*)	--/--	Forested habitats in the Sierra Nevada, Cascade, and Coast Ranges, with scattered observations from forested areas in the Tranverse Ranges. Uses a wide variety of coniferous and mixed woodland habitat.	Not present. Suitable habitat is not found at the site.
American badger (*Taxidea taxus*)	-/CSC	Drier open stages of most shrub, forest, and herbaceous habitats; needs sufficient food, friable soils and open, uncultivated ground.	**Possible**. Preconstruction surveys prior to construction will allow for implementation of mitigation for this species if found in construction areas.
Fringed Myotis bat *(Myotis thysanodes)*	--/--	Occurs in a wide variety of habitats. Optimal habitats are pinyon-juniper, valley foothill hardwood, and hardwood conifer generally at 1300-2200m. Roosts in caves, mines, buildings and crevices. Maternity colonies of up to 200 individuals are located in caves, mines, buildings, or crevices.	Not present. Suitable habitat is not present at the site.
Pallid bat *Antrozous pallidus*	-/CSC	Roosts primarily in oak woodland and ponderosa pine habitats; forages in open areas.	Not present. Suitable habitat is not found at the site.
Western red bat *(Lasiurus blossevillii)*	--/CSC	Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands.	Not present. Suitable habitat is not found at the site.

SPECIES	STATUS[1] FED/STATE/CNPS[2]	HABITAT	OCCURRENCE ON THE PROJECT SITE
Hoary bat (*Lasuirus cinereus*)	-/-	Prefers open habitats with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.	Not present. Suitable habitat is not found at the site.
Townsend's Big-eared bat *(Corynorhinus townsendii)*	--/CCT,CSC	Found in desert scrub and coniferous forests. Roost in caves or abandoned mines and occasionally are found to roost in buildings.	Not present. Suitable habitat is not found at the site.

1 Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the Healdsburg 7.5 Minute Quadrangle Map and surrounding areas, April 2022.

2 Federal / State Status Codes:

FE Federally listed Endangered
FT Federally listed Threatened
FPE Federally Proposed Endangered
FPT Federally Proposed Threatened
BCC USFWS Bird Species of Conservation Concern

CE California State-listed Endangered
CT California State-listed Threatened
CR California Rare
FP California Fully Protected
CSC CDFW Species of Special Concern
WL CDFW Watch List Species

ATTACHMENT 5
CORPS OF ENGINEERS CLEAN WATER ACT SECTION 404 JURISDICTION DETERMINATIONS

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

DECEMBER 12, 2017

Regulatory Division

Subject: File Number 2016-00047

Douglas Spicher
WRA, Incorporated
2169 East Francisco Boulevard, Suite G
San Rafael, California 94901

Dear Mr. Spicher:

This correspondence is in reference to your submittal of May 2, 2016, on behalf of Standard Industrial East, LLC, concerning Department of the Army (DA) authorization to construct the Standard Industrial East, LLC Storm Water Management Project located at 5910 Pruitt Avenue in the Town of Windsor, Sonoma County, California (38.52°N and 122.80°W; APN: 009-023-095).

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction will include realigning and widening an existing 1,195-foot long and 2-foot wide drainage channel to manage storm water, increase flood capacity, and create riparian habitat. The realigned channel will run on the south side of the project site and will be approximately 1,850-feet long by 12-feet wide. Work will require placement of 177 cubic yards of clean fill into 1,195 linear feet (0.05 acre) of intermittent drainage channel tributary to Redwood Creek. All work shall be completed in accordance with the plans and drawings titled "USACE File #2016-00047, Standard Industrial East, LLC Storm Water Management Project, Windsor, Sonoma County," in 2 sheets, dated November 6, 2017, provided as enclosure 1.

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. Section 10 of the Rivers and Harbors Act generally regulates construction of structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce. A Preliminary Jurisdictional Determination (JD) has been completed for your site. Preliminary JDs are written indications that there may be waters of the U.S. on a parcel or indications of the approximate location(s) of waters of the U.S. on a parcel. Preliminary JDs are advisory in nature and may not be appealed. While this

preliminary jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 16-01, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The basis for this preliminary jurisdictional determination is fully explained in the *Preliminary Jurisdictional Determination Form*, which has been signed and dated by you and this office.

Based on a review of the information in your submittal and the current condition of the site, as verified during a field investigation on July 13, 2016, the project qualifies for authorization under Department of the Army Nationwide Permit (NWP) 43 for Stormwater Management Facilities, 82 Fed. Reg. 1860, January 6, 2017, pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 *et seq.*). The project must be in compliance with the terms of the NWP cited on our website: www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_43.pdf, the general conditions of the Nationwide Permit Program (www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_GC.pdf), and the San Francisco District regional conditions (www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_RC.pdf). You must also be in compliance with any special conditions specified in this letter for the NWP authorization to remain valid. Non-compliance with any term or condition could result in the revocation of the NWP authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This NWP authorization does not obviate the need to obtain other State or local approvals required by law.

This verification will remain valid until March 18, 2022, unless the NWP authorization is modified, suspended, or revoked. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon a NWP will remain authorized provided the activity is completed within 12 months of the date of a NWP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 C.F.R. § 330.4(e) and 33 C.F.R. § 330.5 (c) or (d). This verification will remain valid if, during the time period between now and March 18, 2022, the activity complies with any subsequent modification of the NWP authorization. The Chief of Engineers will periodically review NWPs and their conditions and will decide to modify, reissue, or revoke the permits. If a NWP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. It is incumbent upon you to remain informed of any changes to the NWPs. Changes to the NWPs would be announced by Public Notice posted on our website (www.spn.usace.army.mil/Missions/Regulatory/Public-Notices.aspx). Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, enclosure 2, verifying that you have complied with the terms and conditions of the permit.

This authorization will not be effective until you have obtained a Section 401 water quality certification from the North Coast Regional Water Quality Control Board (RWQCB). If the RWQCB fails to act on a valid request for certification within 60 days after receipt of a complete application, the Corps will presume a waiver of water quality certification has been obtained. You shall submit a copy of the certification to the Corps prior to the commencement of work.

General Condition 18 stipulates that project authorization under a NWP does not allow for the incidental take of any federally-listed species in the absence of a biological opinion with incidental take provisions. As the principal federal lead agency for this project, the Corps initiated consultation with the United States Fish and Wildlife Service (USFWS) to address project related impacts to listed species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq*). By email of June 16, 2017, USFWS concurred with the determination that the project was not likely to adversely affect California tiger salamander (*Ambystoma californiense*) and designated critical habitat for this species.

In order to ensure compliance with this NWP authorization, the following special conditions shall be implemented:

1. All standard Best Management Practices shall be implemented to prevent the movement of sediment downstream. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the waterways.

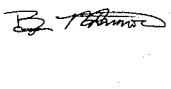
2. A post construction report shall be submitted 45 days after the conclusion of construction activities. The report shall document construction activities and contain as-built drawings (if different from drawings submitted with application) and include before and after photos.

You may refer any questions on this matter to Bryan Matsumoto of my Regulatory staff by telephone at 415-503-6786 or by e-mail at Bryan.T.Matsumoto@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer

Service Survey Form available on our website: http://www.spn.usace.army.mil/Missions/Regulatory.aspx

Sincerely,



Rick M. Bottoms, Ph.D.
Chief, Regulatory Division

Enclosures

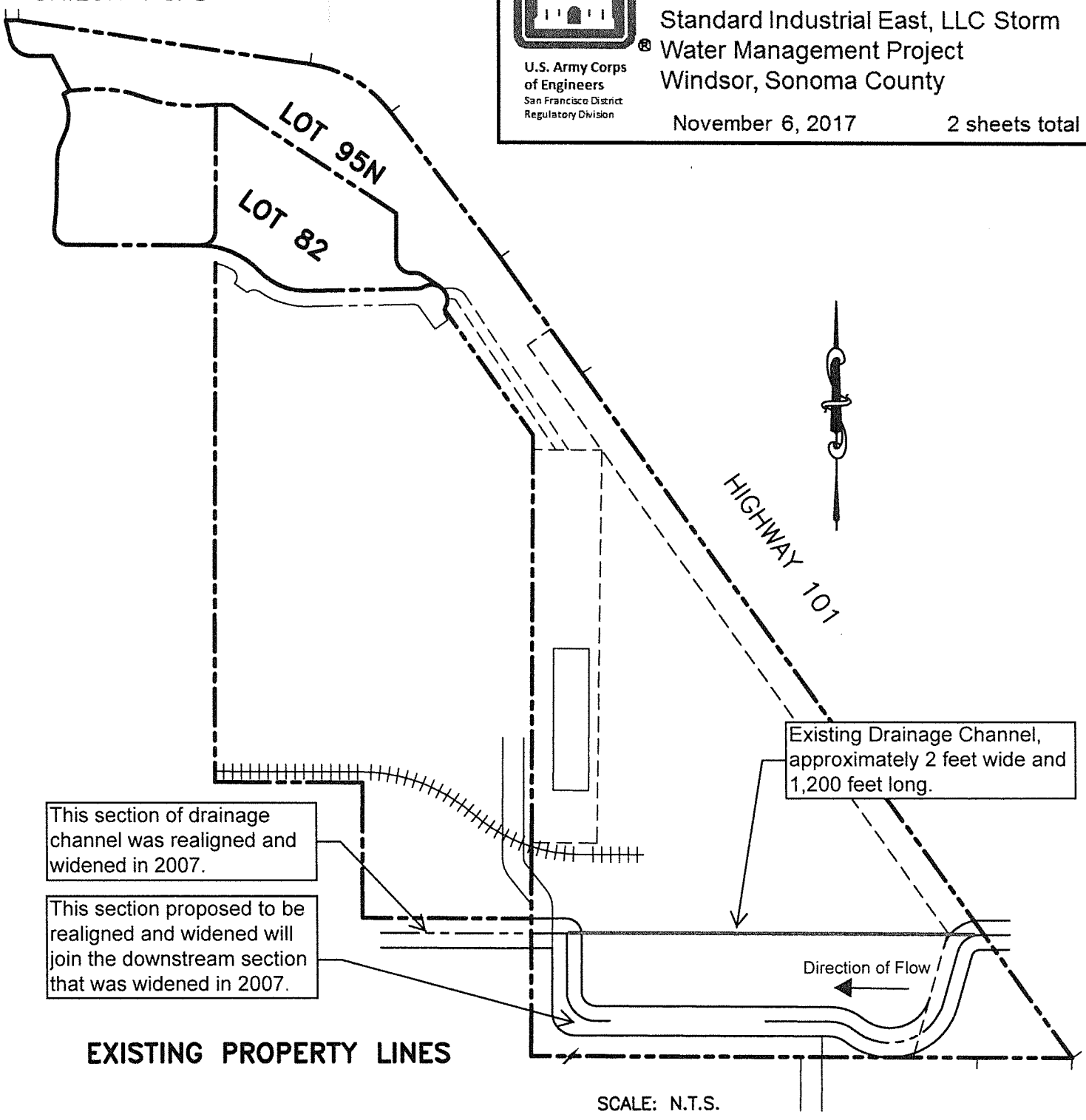
Copies Furnished (w/o encls):

USFWS, Sacramento, CA (Attn: Vincent Griego)
RWQCB, Santa Rosa, CA (Attn: Stephen Bargsten)
Standard Industrial East, LLC, Windsor, CA (Attn: Richard Caletti)

Enclosure 1

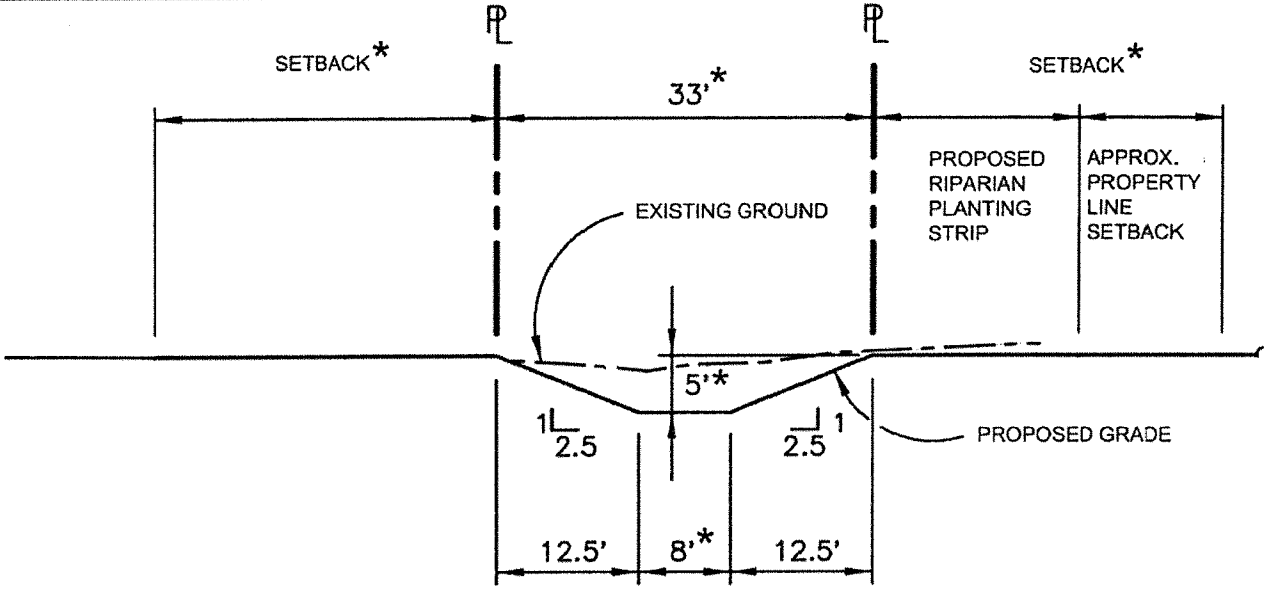
U.S. Army Corps of Engineers
San Francisco District
Regulatory Division

USACE File #2016-00047
Standard Industrial East, LLC Storm Water Management Project
Windsor, Sonoma County
November 6, 2017 2 sheets total



UNIT NO.	STANDARD INDUSTRIAL EAST	DRAWN BY: AFK	Figure 3. Map showing the location of existing drainage ditch, proposed realignment of channel, and connection to channel widened in 2007.
SHEET NO. 1 OF 1	EXISTING PROPERTY LINES WINDSOR, CALIFORNIA	DATE: 12/16//15	
		CHECKER:	STANDARD INDUSTRIAL EAST 5910 PRUITT AVENUE WINDSOR, CA 95492 (707) 837-1970

Standard Industrial East, LLC
Storm Water Management Project



* - Subject to confirmation during final grade design

PUBLIC DRAINAGE CHANNEL SECTION A

NOT TO SCALE

Enclosure 2

Permittee: Standard Industrial East, LLC

File Number: 2016-00047

Certification of Compliance
for
Nationwide Permit

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of this Nationwide Permit authorization."

_____ _____

(Permittee) (Date)

Return to:

Bryan Matsumoto
U.S. Army, Corps of Engineers
San Francisco District
Regulatory Division, CESPN-R-N
1455 Market Street
San Francisco, CA 94103-1398

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

August 27, 2020

Regulatory Division

Subject: File No. SPN-2016-00047

Mr. Doug Spicher
WRA, Inc.
5341 Old Redwood Highway, Suite 310
Petaluma, CA 94954
spicher@wra-ca.com

Dear Mr. Spicher:

This correspondence is in reference to your submittal of August 3, 2019, on behalf of Standard Industrial East, LLC, requesting a preliminary jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring on an approximately 22-acre project site located at 5910 Pruitt Avenue in the Town of Windsor, Sonoma County, California (Lat: 38.519°, Long: -122.786°).

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended, 33 U.S.C. § 1344 *et seq*. Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary; and certain ephemeral streams in the arid West.

The enclosed delineation map titled “Preliminary Jurisdictional Determination for the Standard Industrial East Site, Pursuant to Section 404 Clean Water Act,” in one sheet, date certified August 26, 2020, depicts the extent and location of wetlands within the boundary area of the site that **may be** subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This preliminary jurisdictional determination is based on the current conditions of the site, as verified during a review of available digital photographic imagery, and a review of other data included in your submittal. While this preliminary

jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 16-01, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form*, which has been signed and dated by this office. You are requested to sign and date this form and return it to this office within two weeks of receipt.

You are advised that the preliminary jurisdictional determination may **not** be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. pt. 331 (65 Fed. Reg. 16,486; Mar. 28, 2000). Under the provisions of 33 C.F.R Section 331.5(b)(9), non-appealable actions include preliminary jurisdictional determinations since they are considered to be only advisory in nature and make no definitive conclusions on the jurisdictional status of the water bodies in question. However, you may request this office to provide an approved jurisdictional determination that precisely identifies the scope of jurisdictional waters on the site; an approved jurisdictional determination may be appealed through the *Administrative Appeal Process*. If you anticipate requesting an approved jurisdictional determination at some future date, you are advised not to engage in any on-site grading or other construction activity in the interim to avoid potential violations and penalties under Section 404 of the Clean Water Act. Finally, you may provide this office new information for further consideration and request a reevaluation of this preliminary jurisdictional determination.

You may refer any questions on this matter to Bryan Matsumoto by telephone at 415-503-6786 or by e-mail at Bryan.T.Matsumoto@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide

comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: http://www.spn.usace.army.mil/Missions/Regulatory.aspx.

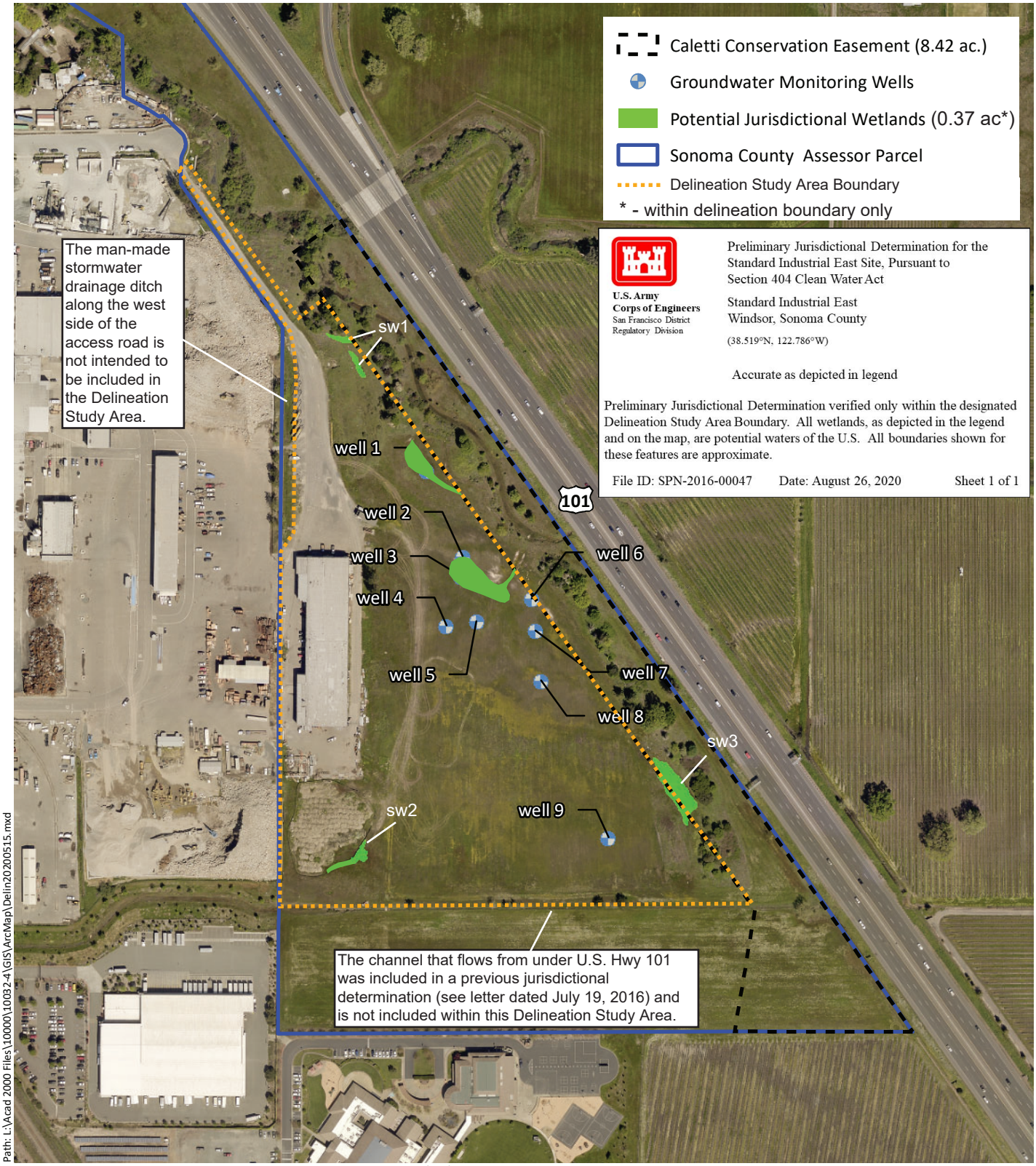
Sincerely,



Bryan Matsumoto
Senior Project Manager
Regulatory Division

Enclosures

cc:
RWQCB, Kaete King, Kaete.King@waterboards.ca.gov



Path: L:\Acad 2000 Files\10000\10032-4\GIS\ArcMap\Delin20200515.mxd

Sources: Sonoma Veg 2018 Aerial, WRA | Prepared By: njander, 5/15/2020

Figure 1. Delineation of Potential Wetlands, Standard Industrial Project Site

Standard Industrial
Wetland Delineation
Windson, Sonoma County, CA

0 200 400 Feet N

wra ENVIRONMENTAL CONSULTANTS

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: San Francisco District | File/ORM #: SPN-2016-00047 | PJD Date: Aug 26, 2020

State: CA | City/County: Windsor/Sonoma County

Nearest Waterbody: Pool Creek

Location: TRS, LatLong or UTM: Lat: 38.519°, Long: -122.786°

Name/ Address of Person Requesting PJD:
Doug Spicher
WRA, Inc.
5341 Old Redwood Highway, Suite 310
Petaluma, CA 94954

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: ____ linear ft ____ width ____ acres | Stream Flow:

Wetlands: 0.37 acre(s) | Cowardin Class: Palustrine, emergent

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☑ Office (Desk) Determination
☐ Field Determination: | Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: WRA, Inc.
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☑ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Healdsburg
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): Regulatory SRP CIR 2000 and 2010
  ☑ Other (Name & Date): Google Earth Satellite Imagery
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): EcoAtlas CARI

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Digitally signed by MATSUMOTO.BRYAN.T.1258523683
Date: 2020.08.26 10:38:22 -07'00'

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

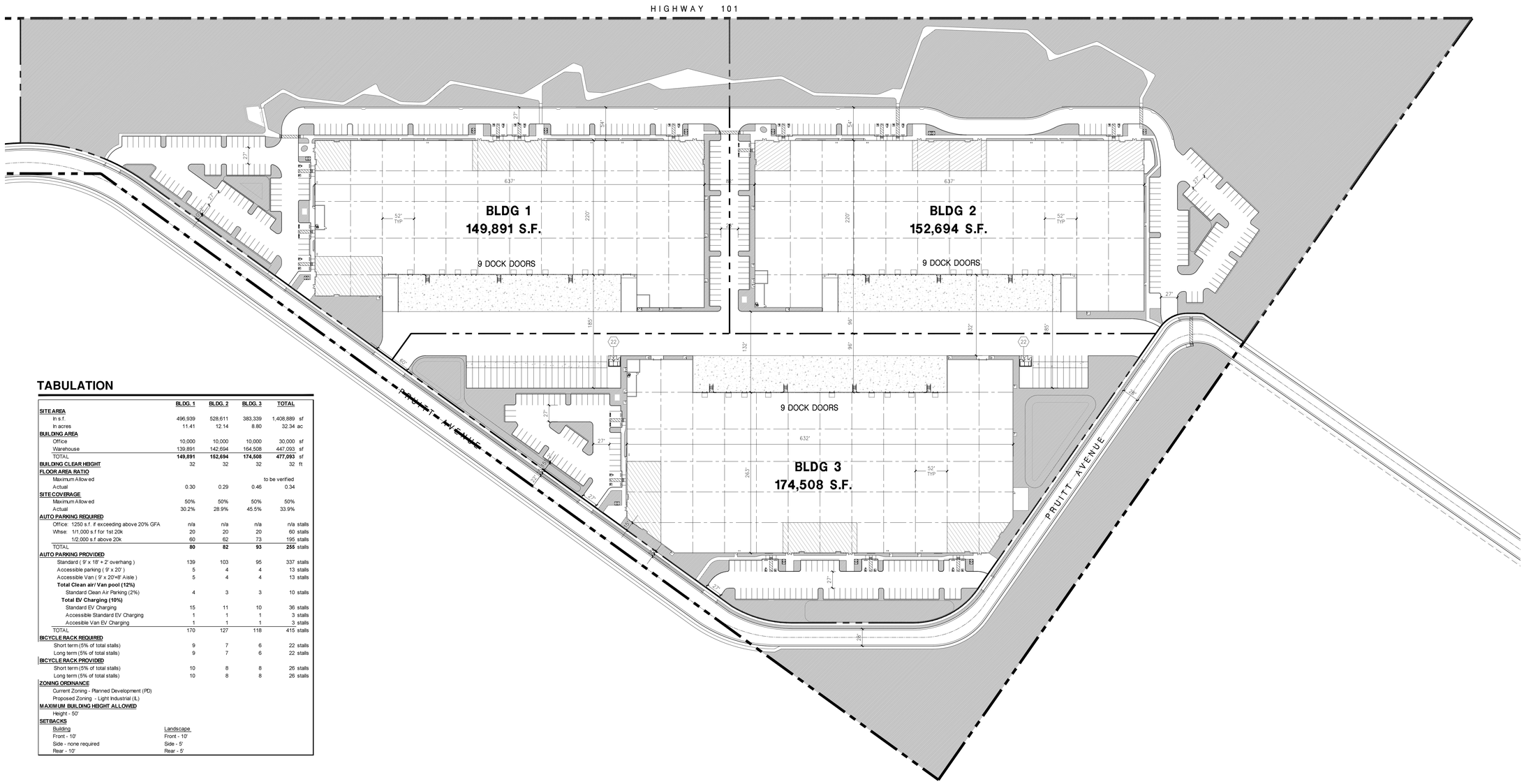
Appendix A - Sites

District Office	San Francisco District	File/ORM #	SPN-2016-00047	PJD Date:	Aug 26, 2020
State	CA	City/County	Windsor/Sonoma County	Person Requestinq PJD	Doug Spicher

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
1	38.519°	-122.786°	Palustrine, emergent	0.37	Non-Section 10 non-wetlanc

Notes:

ATTACHMENT 6
Detailed Project Development Plan Showing Aquatic Resources Impacted Within the Project Development Site



TABULATION

	BLDG. 1	BLDG. 2	BLDG. 3	TOTAL	
SITE AREA					
In s.f.	496,939	528,611	383,339	1,408,889	sf
In acres	11.41	12.14	8.80	32.34	ac
BUILDING AREA					
Office	10,000	10,000	10,000	30,000	sf
Warehouse	139,891	142,694	164,508	447,093	sf
TOTAL	**149,891**	**152,694**	**174,508**	**477,093**	sf
BUILDING CLEAR HEIGHT	32	32	32	32	ft
FLOOR AREA RATIO					
Maximum Allowed				to be verified	
Actual	0.30	0.29	0.46	0.34	
SITE COVERAGE					
Maximum Allowed	50%	50%	50%	50%	
Actual	30.2%	28.9%	45.5%	33.9%	
AUTO PARKING REQUIRED					
Office: 1250 s.f. if exceeding above 20% GFA	n/a	n/a	n/a	n/a	stalls
Whse: 1/1,000 s.f for 1st 20k	20	20	20	60	stalls
1/2,000 s.f above 20k	60	62	73	195	stalls
TOTAL	**80**	**82**	**93**	**255**	stalls
AUTO PARKING PROVIDED					
Standard (9' x 18' + 2' overhang)	139	103	95	337	stalls
Accessible parking (9' x 20')	5	4	4	13	stalls
Accessible Van (9' x 20'+8' Aisle)	5	4	4	13	stalls
Total Clean air/ Van pool (12%)					
Standard Clean Air Parking (2%)	4	3	3	10	stalls
Total EV Charging (10%)					
Standard EV Charging	15	11	10	36	stalls
Accessible Standard EV Charging	1	1	1	3	stalls
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TOTAL	170	127	118	415	stalls
BICYCLE RACK REQUIRED					
Short term (5% of total stalls)	9	7	6	22	stalls
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BICYCLE RACK PROVIDED					
Short term (5% of total stalls)	10	8	8	26	stalls
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ZONING ORDINANCE					
Current Zoning - Planned Development (PD)					
Proposed Zoning - Light Industrial (IL)					
MAXIMUM BUILDING HEIGHT ALLOWED					
Height - 50'					
SETBACKS					
Building	Landscape				
Front - 10'	Front - 10'				
Side - none required	Side - 5'				
Rear - 10'	Rear - 5'				

OVERALL SITE PLAN

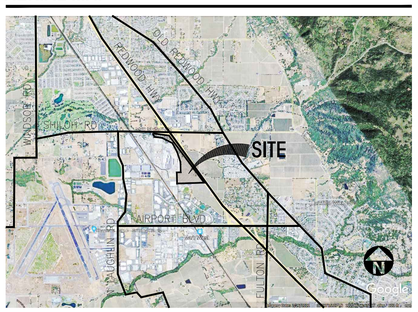
A — scale: 1" = 70'-0"

SCALE: 1" = 70'-0"

0 70' 140' 210'

TRUE NORTH

AERIAL MAP



SITE PLAN KEYNOTES

1. HEAVY BROOM FINISH CONCRETE PAVEMENT.
2. ASPHALT CONCRETE (AC) PAVING
3. ACCESSIBLE PATH OF TRAVEL
4. DRIVEWAY APRONS
5. 5'-6"X5'-6"X4" THICK CONCRETE EXTERIOR LANDING PAD TYP. AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREAS. FINISH TO BE MEDIUM BROOM FINISH SLOPE TO BE 1/4" : 12" MAX.
6. APPROXIMATE LOCATION OF TRANSFORMER.
7. NOT USED.
8. CONCRETE WALKWAY, MEDIUM BROOM FINISH. SEE "L" DRAWINGS.
9. CONCRETE RAMP WITH CONCRETE GUARD WALL. SEE "C" DRAWINGS.
10. BIKE RACK.
11. FUTURE ELECTRIC VEHICLE CHARGER.
12. EXTERIOR METAL STEEL STAIR.
13. 12' x 14' DRIVE-IN DOOR
14. LANDSCAPE.
15. CONC. FILLED GUARD POST 6" DIA. U.N.O. 48" H.
16. PRE-CAST CONC. WHEEL STOP.
17. TRUNCATED DOMES.
19. HARDSCAPE AT ENTRANCE. SEE "L" DRAWINGS.
20. ACCESSIBLE ENTRY SIGN.
21. PUMP ROOM.
22. TRASH ENCLOSURE.
23. ELECTRICAL ROOM.
24. CONCRETE DOLLY PAD. SEE SITE PLAN FOR WIDTH AND "C" DRAWINGS.
25. TRELLIS.
26. AMENITY AREA. SEE LANDSCAPE.

SITE PLAN GENERAL NOTES

1. THE SITE PLAN BASED ON THE SOILS REPORT PREPARED BY REESE, 12/21/21, PROJECT NUMBER # 2494.1.1
2. IF SOILS ARE EXPANSIVE IN NATURE, USE STEEL REINFORCING FOR ALL SITE CONCRETE
3. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINE U.N.O.
4. SEE "C" PLANS FOR ALL CONCRETE CURBS, GUTTERS AND SWALES
5. PROVIDE STRUCTURAL CALCULATION AND CONSTRUCTION ANCHORAGE DETAIL FOR TRANSFORMER PRIOR TO INSTALLATION.
6. SEE "C" DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM BLDG. SEE "C" DRAWINGS.
8. CONTRACTOR TO REFER TO "C" DRAWINGS FOR ALL HORIZONTAL CONTROL DIMENSIONS. SITE PLANS ARE FOR GUIDANCE AND STARTING LAYOUT POINTS.
9. SEE "C" DRAWINGS FOR FINISH GRADE ELEVATIONS.
10. CONCRETE SIDEWALKS TO BE A MINIMUM OF 4" THICK W/ TOOLED JOINTS AT 6' O.C. EXPANSION/CONSTRUCTION JOINTS SHALL BE A MAXIMUM 12' EA. WAY W/ 1:20 MAX. SLOPE. EXPANSION JOINTS TO HAVE COMPRESSIVE EXPANSION FILLER MATERIAL OF 1/4". FINISH TO BE A MEDIUM BROOM FINISH
11. U.N.O. PROVIDE KNOX BOXES AT ALL OFFICE ENTRANCES.
12. PAINT CURBS AND PROVIDE SIGNS TO INFORM OF FIRE LANES AS REQUIRED BY FIRE DEPARTMENT.
13. ON-SITE FIRE MAIN, FIRE SPRINKLER, AND SPRINKLER MONITORING SYSTEM SHALL BE SUBMITTED SEPARATELY TO THE FIRE DEPARTMENT FOR REVIEW AND PERMITTING.
14. ALL VERTICAL MOUNTING POLES OF FENCING SHALL BE CAPPED.
15. LANDSCAPED AREAS SHALL BE DELINEATED WITH A MINIMUM SIX INCHES (6") HIGH CURB
16. ALL INTERIOR AND EXTERIOR WALK SURFACES TO BE NON-SLIP TYPE

SITE PLAN GENERAL NOTES

- CONCRETE PAVING. SEE "C" DRWGS. FOR THICKNESS
- PARKING STALL 9' X 18' WITH 2' OVERHANG
- CLEAN AIR/VANPOOL/EV CONDUIT STUB FOR FUTURE EV
- CLEAN AIR/ VANPOOL/EV WITHOUT CONDUIT STUB FOR FUTURE EV
- TRAILER PARKING (10' X 53')
- LANDSCAPED AREA
- NON-ACCESSIBLE PATH
- ACCESSIBLE PARKING STALL (9' X 20') + 5' W/ ACCESSIBLE AISLE SEE DETAIL 11/A0.1
- ACCESSIBLE PARKING (VAN) STALL (12' X 20') + 5' W/ ACCESSIBLE AISLE
- PATH OF TRAVEL. MINIMUM WIDTH TO BE 4', SLOPE NOT TO EXCEED 5% IN THE DIRECTION OF TRAVEL AND CROSS SLOPE NOT TO EXCEED 2%, SEE CIVIL FOR GRADING PLAN

HPA architecture
HPA, Inc.
600 Grand Ave, Suite 302
Oakland, CA
94610
tel: 949-862-2113
email: hpa@hparchs.com

Owner:

DEVCON

1480 CADER LANE, SUITE C
PETALUMA, CA 94954

Project:

790 SHILOH ROAD

WINDSOR, CA

Consultants:

Civil:	ADOBE INC.
Structural:	-
Mechanical:	-
Plumbing:	-
Electrical:	-
Landscape:	TGP INC.
Fire Protection:	
Soils Engineer:	

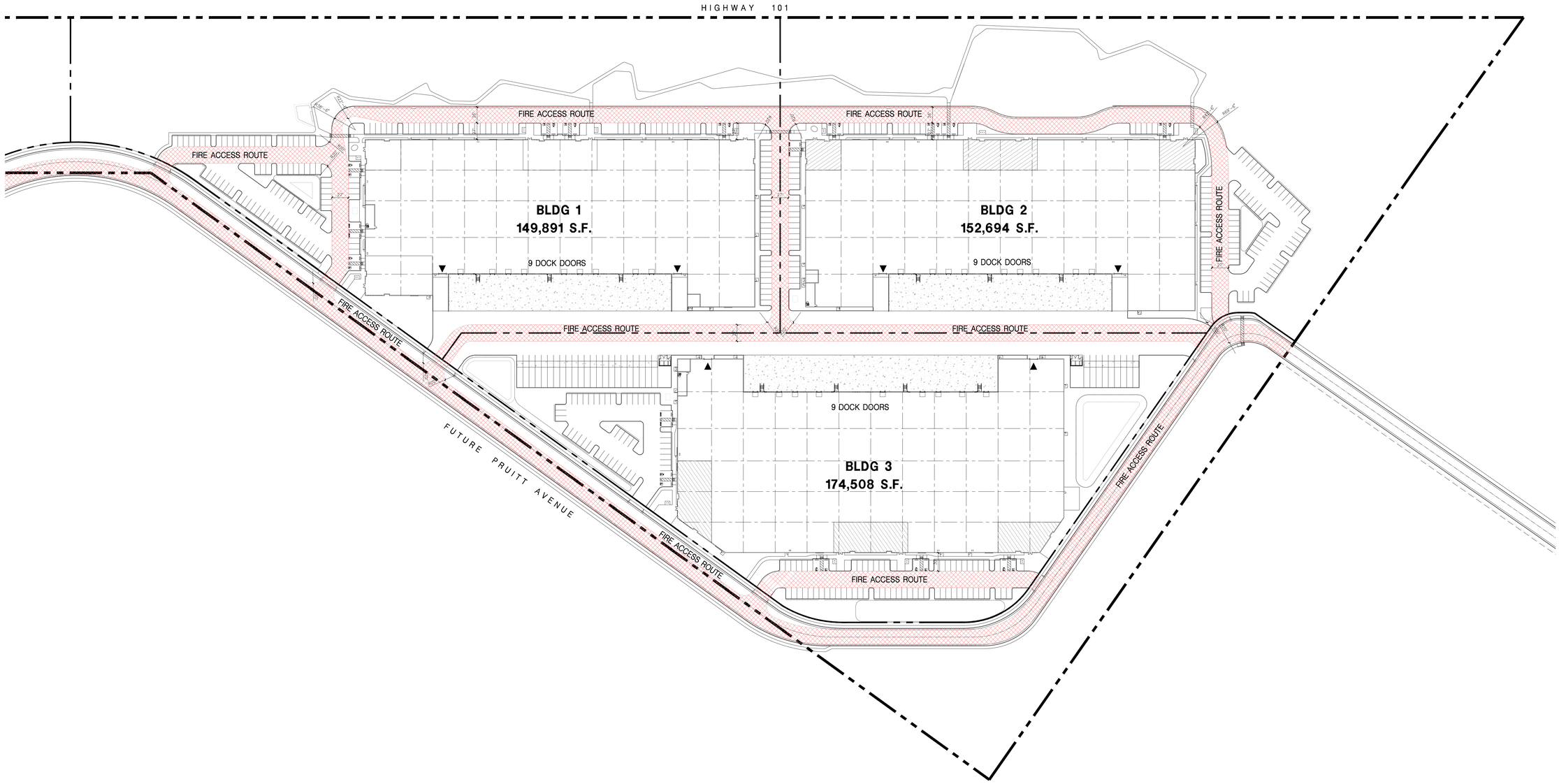
Title: OVERALL SITE PLAN

Project Number:	22313
Drawn by:	TSP
Date:	10/06/2022
Revision:	

Sheet:

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CAUTION : IF THIS SHEET IS NOT A 30" X 42" IT IS A REDUCED PRINT



OVERALL SITE PLAN FIRE ACCESS ROUTE A
scale: 1" = 70'-0"

SCALE: 1" = 70'-0"
0 70' 140' 210'
TRUE NORTH

FIRE DEPARTMENT NOTES:

1. FIRE DEPARTMENT ACCESS ROAD SHALL MEET FIRE DEPARTMENT STANDARDS FOR SURFACE TYPE; ALL WEATHER, DISTANCE, WEIGHT LOADS; 75000 LB. MINIMUM, TURN RADIUS; RADII OF 22.5 INSIDE AND 37.5 OUTSIDE MEASURED FROM THE SAME POINT, GRADES; NOT TO EXCEED 15 PERCENT, CROSS GRADE, INTERSECTIONS AND TURNAROUNDS SHALL BE LEVEL (MAXIMUM 5%) WITH THE EXCEPTION OF CROWNING FOR WATER RUN-OFF AND VERTICAL CLEARANCE; 13.5 FEET MINIMUM. DEMONSTRATE THE 75,00LB WEIGH LOADS IN A DETAIL.

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Oakland, CA
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tel: 949-862-2113
email: hpa@hparchs.com

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Title: FIRE ACCESS SITE PLAN

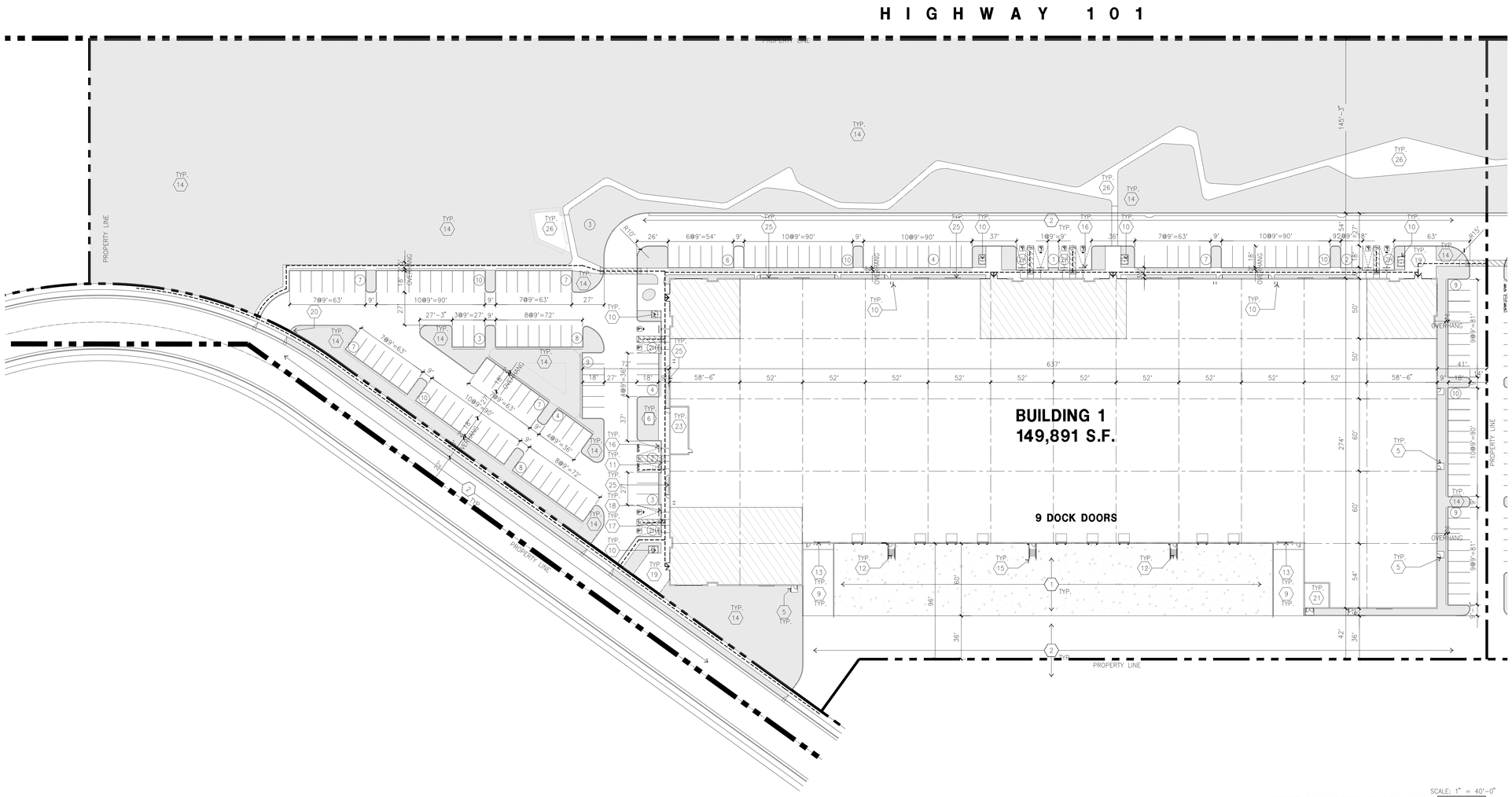
Project Number:	22313
Drawn by:	TSP
Date:	10/06/2022

Revision:

Sheet:

DAB-A1.1F

CAUTION : IF THIS SHEET IS NOT A 36" X 42" IT IS A REDUCED PRINT



OVERALL SITE PLAN

scale: 1" = 40'-0"

SCALE: 1" = 40'-0"

0 40' 80' 120'

TRUE NORTH

SITE PLAN KEYNOTES

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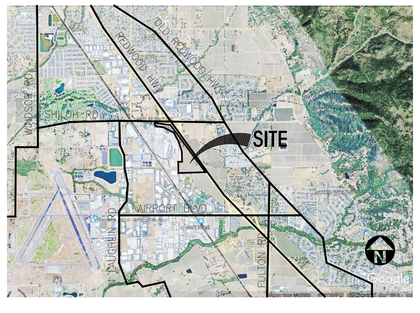
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AERIAL MAP



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ZONING ORDINANCE
Current Zoning - Planned Development (PD)
Proposed Zoning - Light Industrial (IL)

MAXIMUM BUILDING HEIGHT ALLOWED
Height - 50'

SETBACKS

Building	Landscape
Front - 10'	Front - 10'
Side - none required	Side - 5'
Rear - 10'	Rear - 5'

HPA architecture
HPA, Inc.
600 Grand Ave, Suite 302
Oakland, CA
94610
tel: 949-862-2113
email: hpa@hparchs.com

Owner:

DEVCON DEVCON DEVCON DEVCO

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PETALUMA, CA 94954

Project:

790 SHILOH ROAD

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Plumbing:	-
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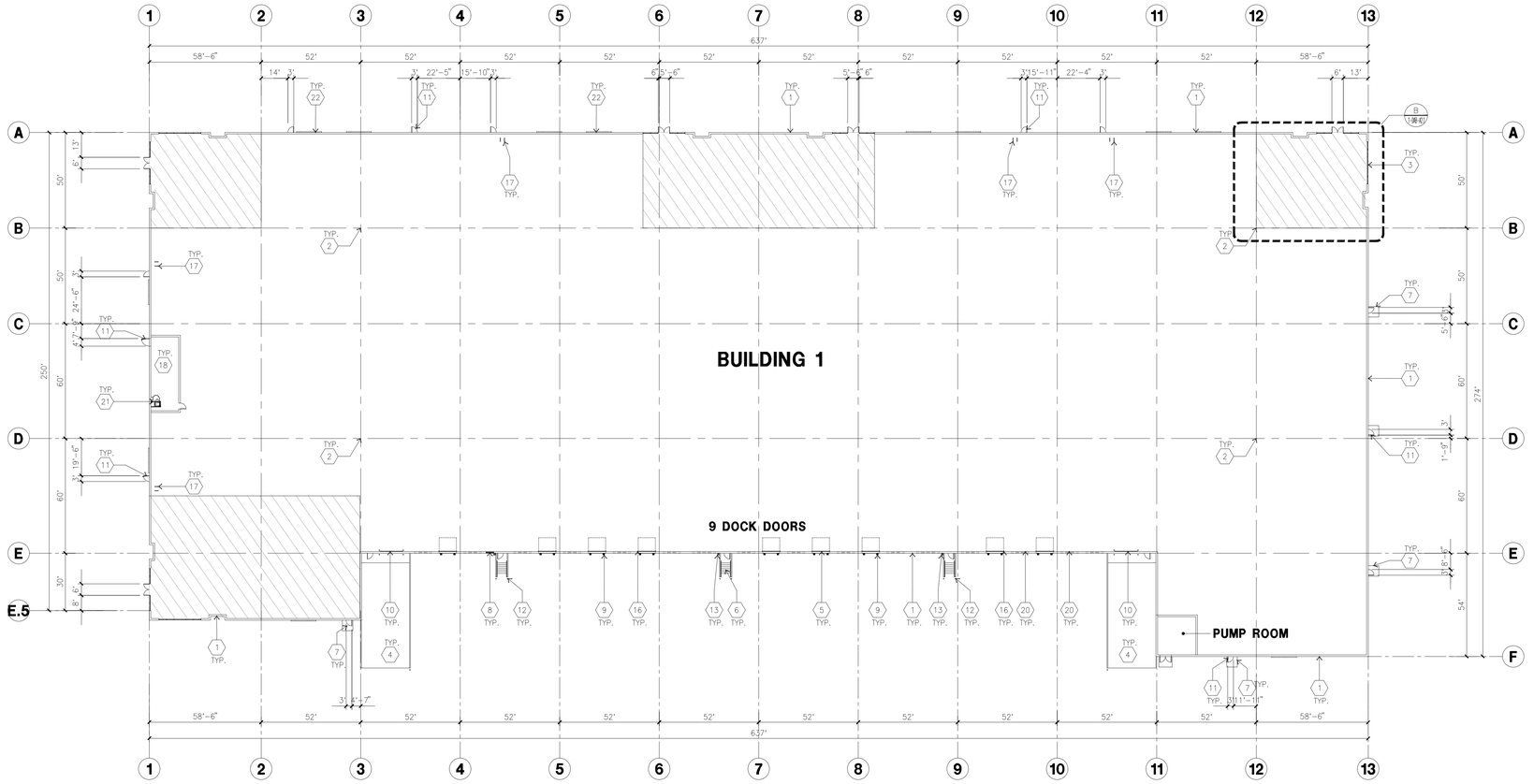
Title: OVERALL SITE PLAN

Project Number: 22313
Drawn by: TSP
Date: 10/06/2022
Revision:

Sheet: 1-DAB-A1.1

OFFICIAL USE ONLY

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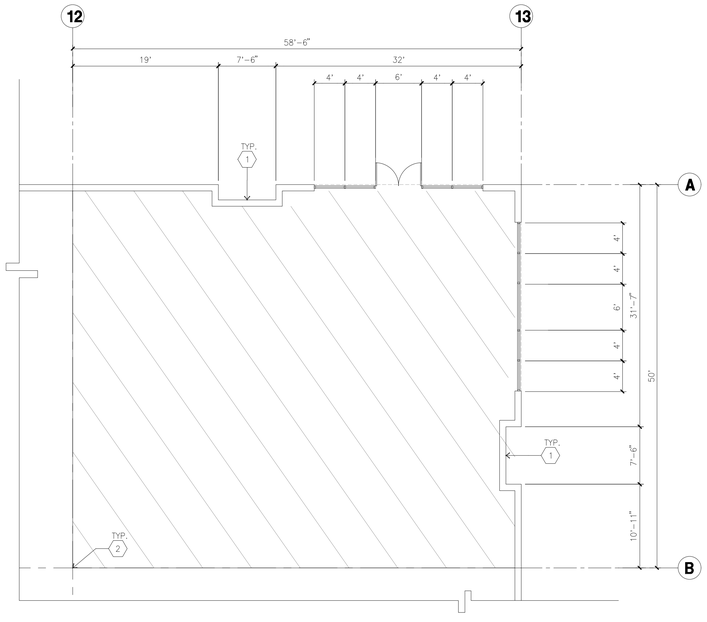
OVERALL FLOOR PLAN A

scale: 1" = 30'-0"

SCALE: 1" = 30'-0"

0 30' 60' 90'

TRUE NORTH



ENLARGED FLOOR PLAN B

scale: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

0 8' 16' 24'

TRUE NORTH

KEYNOTES - FLOOR PLAN

1. CONCRETE TILT-UP PANEL.
2. STRUCTURAL STEEL COLUMN.
3. TYPICAL STOREFRONT SYSTEM WITH GLAZING. SEE ENLARGED PLANS AND ELEVATIONS FOR SIZE, COLOR AND LOCATIONS.
4. CONCRETE RAMP W/ 42" HIGH CONC TILT-UP GUARD WALL OR BUILDING WALL ON BOTH SIDES OF RAMP.
5. 9' X 10' DOCK DOOR, SECTIONAL O.H., STANDARD GRADE. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
6. EXTERIOR METAL STEEL STAIR.
7. 5'-6"X5'-6"X4" THICK CONCRETE EXTERIOR LANDING PAD TYPICAL AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREA, FINISH TO BE MEDIUM BROOM FINISH. SLOPE TO BE 1/4" : 12" MAX.
8. 4'X8' METAL LOUVER.
9. DOCK DOOR BUMPER.
10. 12' X 14' DRIVE THRU, SECTIONAL O.H., STANDARD GRADE. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
11. 3' X 7' HOLLOW METAL EXTERIOR MAN DOOR. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
12. CONC. FILLED GUARD POST. 6" DIA. U.N.O., 48"H.
13. EXTERIOR DOWNSPOUT WITH OVERFLOW SCUPPER.
14. INTERIOR ROOF DRAIN & OVERFLOW SCUPPERS.
15. INTERIOR ROOF DRAIN WITH PIPED OVERFLOW.
16. Z GUARD.
17. INTERIOR BIKE RACK.
18. ELECTRICAL ROOM.
19. METAL CANOPY ABOVE.
20. KNOCK OUT PANEL.
21. ROOF ACCESS LADDER.
22. TRELLIS.

GENERAL NOTES - FLOOR PLAN

1. THIS BUILDING IS DESIGNED FOR HIGH PILE STORAGE WITH FIRE ACCESS MAN DOORS AT 125' +/-. A SEPARATE PERMIT WILL BE REQUIRED FOR ANY RACKING/CONVEYER SYSTEMS. INSURE HEAT AND SMOKE VENTS AS REQ'D COMPLY WITH TABLE 910.3 CBC.
2. FIRE HOSE LOCATIONS SHALL BE APPROVED PER FIRE DEPARTMENT.
3. SEE "C" DRAWINGS FOR FINISH SURFACE ELEVATIONS.
4. WAREHOUSE INTERIOR CONCRETE WALLS ARE PAINTED WHITE. COLUMNS ARE TO RECEIVE PRIMER ONLY. ALL CYP. BD. WALLS IN WAREHOUSE TO RECEIVE 1 COAT OF WHITE TO COVER.
5. THE BUILDING FLOOR SLAB IS FLAT/SLOPED, SEE CIVIL.
6. SLOPE POUR STRIP 1/2" TO EXTERIOR AT ALL MANDOOR EXITS. SEE "S" DRAWINGS FOR POUR STRIP LOCATION.
7. PROVIDE 6" DIA. CONCRETE BOLLARD AT ALL FIRE RISER AND UNPROTECTED INTERIOR ROOF DRAIN.
8. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE PANEL WALL, GRIDLINE, OR FACE OF STUD U.N.O.
9. SEE CIVIL DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR TO VERIFY ACTUAL UTILITY LOCATIONS. PLUMBING/ELECTRICAL COORDINATION.
10. FOR DOOR TYPES AND SIZES, SEE DETAIL SHEET A5.1. NOTE: ALL DOORS PER DOOR SCHEDULE ARE FINISH OPENINGS.
11. CONTRACTOR TO PROTECT AND KEEP THE FLOOR SLAB CLEAN. ALL EQUIPMENT TO BE DIAPERED INCLUDING CARS AND TRUCKS.
12. ALL EXIT MAN DOORS IN WAREHOUSE TO HAVE ILLUMINATED EXIT SIGN HARDWARE.
13. HIGHLY FLAMMABLE AND COMBUSTIBLE MATERIAL SHALL NOT BE USED OR STORED IN THIS BUILDING.
14. PROVIDE FIRE EXTINGUISHERS AT LOCATIONS DETERMINED BY FIRE DEPARTMENT.
15. EACH EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS "EXIT". THE MOUNTING HEIGHT FOR SUCH SIGNAGE SHALL BE 60" FROM FINISH FLOOR LEVEL TO THE CENTER OF THE SIGN.
16. AFFIX AN INTERNATIONAL ACCESSIBILITY SYMBOL ON ALL ACCESSIBLE ENTRANCES PER CBC 11B-216.6
17. ALL INTERIOR AND EXTERIOR WALKING SURFACES TO BE NON-SLIP TYPE

FLOOR SLAB AND POUR STRIPS REQ.

THESE NOTES ARE VERY MIN. REQUIREMENT. SEE "S" DWGS FOR ADDITIONAL REQUIREMENTS

1. FLOOR COMPACTION = 95%
2. TRENCH COMPACTION = 90%
3. BUILDING FLOOR SLAB: SEE STRUCTURAL DRAWINGS FOR DETAILS.
4. CONTRACTOR TO BUILD FOR CLASS V FLOOR PER A.C.I. 302-R-96
5. CONCRETE SLAB TO HAVE STEEL FLOAT HARD TROWEL BURNISHED FINISH.
6. CONTRACTOR TO CURE SLAB TO BE WET CURING USING BURLINE FOR 7 DAYS MIN.
7. ALL EQUIPMENT & MOVING VEHICLES SHALL BE DIAPERED.
8. NO CRANES, CONCRETE TRUCKS, OR ANYTHING HEAVIER WILL BE PLACED ON THE SLAB.
9. SLAB TO BE FF50 FL35 MEASURED WITHIN 24 HOURS.
10. NO FLY ASH IN THE CONCRETE
11. WHERE [▨] INDICATED, PROVIDE VAPOR BARRIER (15 MIL STEGO OR EQUAL) CONFORMING TO ASTM E 1745 UNDER THE CONCRETE SLAB. PROVIDE SAND PER SOILS ENGINEER OR MANUFACTURER'S RECOMMENDATION. CONCRETE SLAB IN OFFICE AREAS, WHERE SAND OVER VISQUEEN ARE REQUIRED, SHALL BE NATURALLY HYDRATED WITHOUT USE OF BURLENE, CURING COMPOUND, OR RELEASE AGENTS.
12. SEAL CONCRETE SLAB W/ "LAPIDOLITH" SEALER
13. SHURESEAL,LAPIDOLITH OR APPROVED EQUAL FLOOR SEALER APPLIED ONE COAT AT END OF JOB IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
14. NO PERMANENT GREASE PEN PANEL MARKS ON FLOOR SLAB. NO RED CAULK MARKS. ALL CONSTRUCTION MARKS TO BE REMOVED BEFORE SEALING.
15. 10' POUR STRIP AT TRUCK DOOR. 4FT. MAX. ELSEWHERE.
16. ALL FLOOR SLAB NAIL OR BRACE FRAME HOLES FILLED WITH APPROVED 2 PART EPOXY COMPOUND TO MATCH CONCRETE COLOR. PEGA BOND LV 2000,BURKE EPOXY INJECTION RESIN OR EQUAL.
17. PROVIDE FIRE EXTINGUISHERS PER FIRE DEPARTMENT REQUIREMENT.
18. MM-80 AT SPEED BAY ONLY, PRICE AS ADDITIONAL ALTERNATE

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Consultants:

Civil:	ADOBE INC.
Structural:	-
Mechanical:	-
Plumbing:	-
Electrical:	-
Landscape:	TGP INC.
Fire Protection:	
Soils Engineer:	

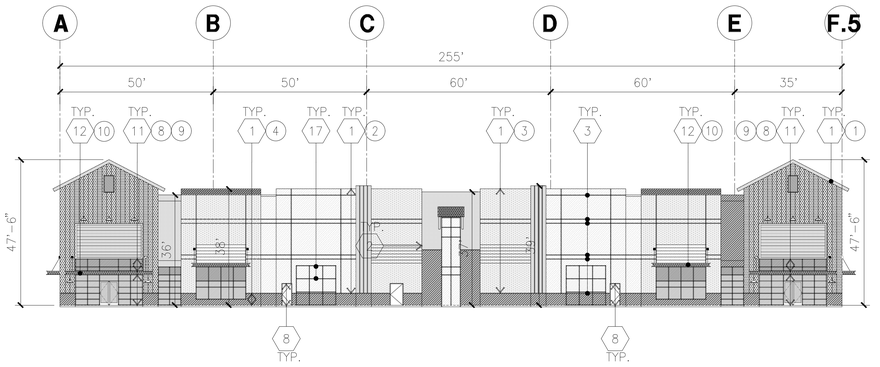
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Project Number:	22313
Drawn by:	TSP
Date:	10/06/2022
Revision:	

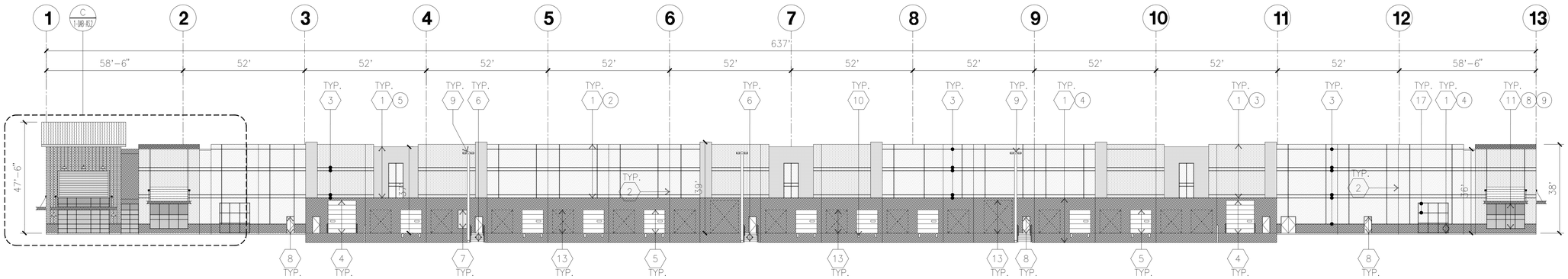
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NORTH ELEVATION (A)
scale: 1" = 20'-0"



WEST ELEVATION (B)
scale: 1" = 20'-0"

KEYNOTES - ELEVATIONS

1. CONCRETE TILT-UP PANEL(PAINTED). FINISH GRADE VARIES. SEE "C" DRAWINGS. WATERPROOF ALL WALLS WHERE EXTERIOR GRADE IS HIGHER THAN FINISH FLOOR AND EXPOSED TO THE WEATHER. WATERPROOFING TO BE PROTECTED WITH PROTECTION BOARD AND A MIN. OF 6" OF GRAVEL. PROVIDE TRENCH DRAIN AT BOTTOM AND DAYLIGHT TO CURB OR TAKE TO STORM DRAIN.
2. PANEL JOINT.
3. PANEL REVEAL. ALL REVEALS TO HAVE A MAX. OF 3/8" CHAMFER. REVEAL COLOR TO MATCH ADJACENT BUILDING FIELD COLOR. U.N.O.
4. OVERHEAD DOOR @ DRIVE THRU. PROVIDE COMPLETE WEATHER-STRIPPING PROTECTION ALL AROUND.
5. OVERHEAD DOOR @ DOCK HIGH. PROVIDE COMPLETE WEATHER-STRIPPING PROTECTION ALL AROUND.
6. EXTERIOR METAL STEEL STAIR.
7. METAL LOUVER. PAINT TO MATCH BUILDING COLOR.
8. HOLLOW METAL DOORS. PROVIDE COMPLETE WEATHER STRIPING ALL AROUND DOOR. PROVIDE FOR RAIN DIVERTER ABOVE DOOR.
9. EXTERIOR DOWNSPOUT WITH OVERFLOW SCUPPERS.
10. DOCK BUMPER.
11. ALUMINUM STOREFRONT FRAMING WITH TEMPERED GLAZING.
12. METAL CANOPY
13. KNOCK OUT PANEL
14. ROOF LINE BEYOND
15. AEP SPAN WIDE BATTEN 13.25" WIDE, 22GA WALL PANEL.
16. STANDING SEAM METAL ROOF
17. TRELLIS.

GENERAL NOTES - ELEVATIONS

A. ALL PAINT COLOR CHANGES TO OCCUR AT INSIDE CORNERS UNLESS NOTED OTHERWISE.
B. ALL PAINT FINISHES ARE TO BE FLAT UNLESS NOTED OTHERWISE.
C. T.O.P. EL.= TOP OF PARAPET ELEVATION.
D. F.F. = FINISH FLOOR ELEVATION.
E. STOREFRONT CONSTRUCTION: GLASS, METAL ATTACHMENTS AND LINTELS SHALL BE DESIGNED TO RESIST CITY REQUIRED WIND SPEED, EXPOSURE "C" WINDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO INSTALLATION.
F. CONTRACTOR SHALL FULLY PAINT SEVERAL CONCRETE PANEL W/ SELECTED COLORS, LOCATION TO BE SELECTED BY ARCHITECT. ARCHITECT AND OWNER SHALL APPROVE PRIOR TO PAINTING REMAINDER OF BUILDING.
G. BACK SIDE OF PARAPETS TO HAVE SMOOTH FINISH AND BE PAINTED WITH ELASTOMERIC PAINT.
H. FOR SPANDREL GLAZING, ALLOW SPACE BEHIND SPANDREL TO BREATH.
J. USE ADHESIVE BACK WOOD STRIPS FOR ALL REVEAL FORMS.
K. THE FIRST COAT OF PAINT TO BE ROLLED-ON AND THE SECOND COAT TO BE SPRAYED-ON
L. EXTERIOR STAIRS AND RAMPS TO MATCH BUILDING COLOR. RAILINGS TO MATCH BUILDING COLOR.
M. ALL DOORS TO BE PAINTED THE SAME COLOR AS THE ADJACENT WALL.

ELEVATION COLOR LEGEND/SCHED.

1. CONCRETE TILT-UP PANEL. COLOR : SW 7104 CUTTON WHITE 265-C1
2. CONCRETE TILT-UP PANEL. COLOR : SW 7010 WHITE DUCK 254-C5
3. CONCRETE TILT-UP PANEL. COLOR : SW 7030 ANEW GRAY 243-C2
4. CONCRETE TILT-UP PANEL. COLOR : DET620 BARNWOOD GRAY
5. CONCRETE TILT-UP PANEL. COLOR : SW 7026 GRIFFIN 241-C6
6. METAL PANEL. COLOR : OLD ZINC GRAY
7. METAL PANEL/STANDING SEAM METAL ROOF. COLOR : TERRA COTTA
8. MULLIONS COLOR : BLACK MULLION
9. GLAZING COLOR : GREEN GLAZING
10. CANOPY MATERIAL : SHERWIN-WILLIAMS PRO-INDUSTRIAL WATERBASED B53-1150 SEMI GLOSS SW 7069 IRON ORE @ METAL TRELLIS AND METAL CANOPY

GLAZING LEGEND

NOTE: ALL EXTERIOR AND INTERIOR GLAZING SHALL BE TEMPERED.

IV — INSULATED VISION GLASS
SPANDREL GLASS WITH CONCRETE BEHIND
V — SINGLE LITE VISION GLASS

IV : INSULATED VISION GLASS
1/4" ATLANTICA + 1/4" SUNGATE 400 CLEAR
1" INSULATED GLASS UNIT WITH 1/2" AIRSPACE AND 1/4" LITES
U: 0.27 SHGC: 0.35 VLT: 58%
MINIMUM VT TO BE 0.42 PER 2016 CEC TABLE 140.3-B

SC : SPANDREL WITH CONCRETE BEHIND
1/4" CLEAR WITH ATLANTIC WATERS OPACICOAT PAINTED ON REFLECTIVE, INSTALLED ON CONCRETE.

V : VISION GLASS
1/4" ATLANTICA

S : SPANDREL
1/4" CLEAR WITH ATLANTIC WATERS OPACICOAT PAINTED ON REFLECTIVE, INSTALLED ON OPENINGS.

MULLIONS : BLACK MULLION

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790 SHILOH ROAD

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Soils Engineer:	

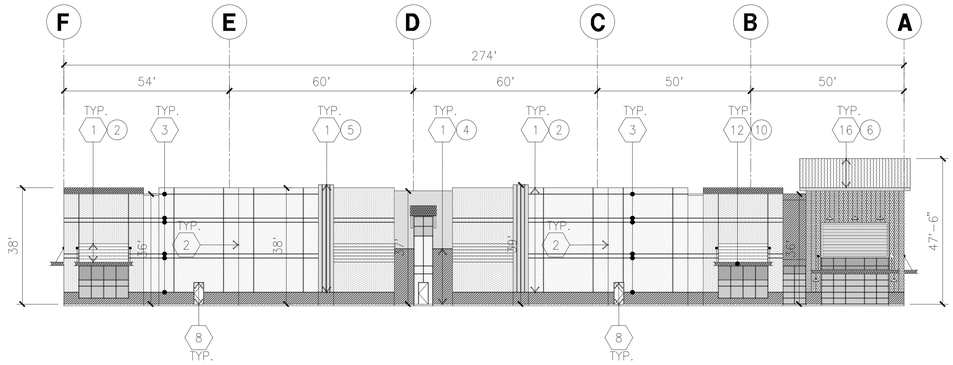
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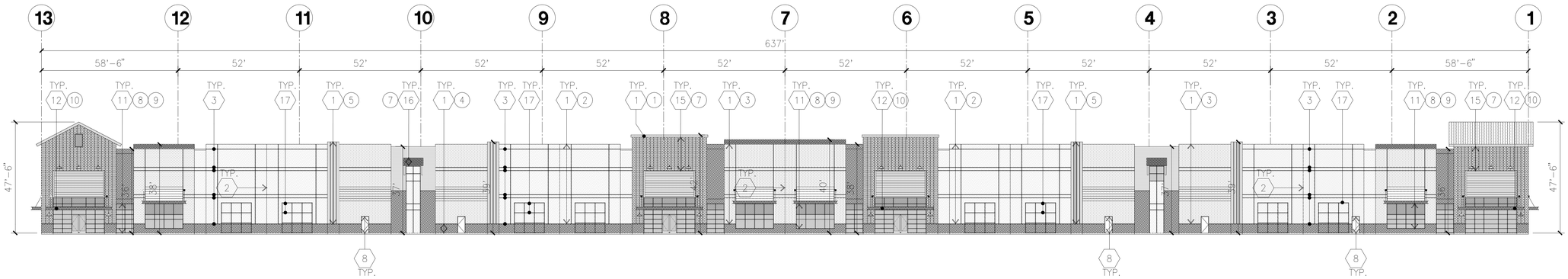
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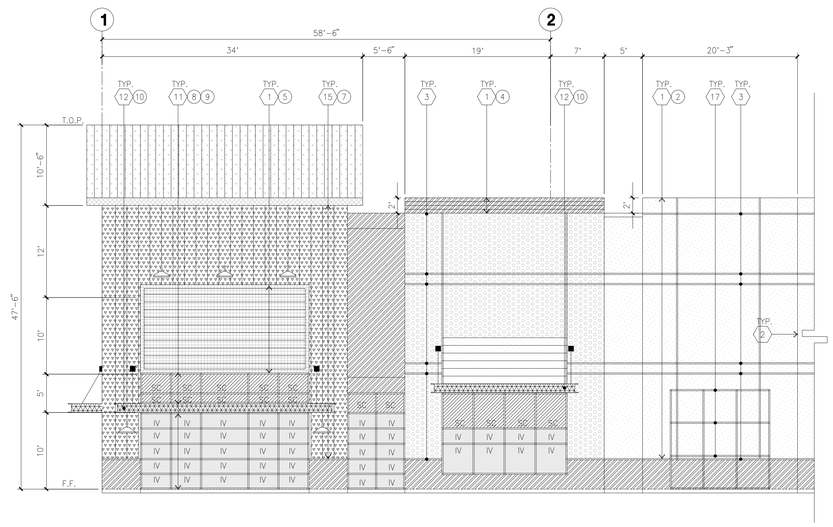
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SOUTH ELEVATION **A**
scale: 1" = 20'-0"



EAST ELEVATION **B**
scale: 1" = 20'-0"



ENLARGED WEST ELEVATION **C**
scale: 1/8" = 1'-0"

KEYNOTES - ELEVATIONS

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16. STANDING SEAM METAL ROOF
17. TRELLIS.

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GLAZING LEGEND

NOTE: ALL EXTERIOR AND INTERIOR GLAZING SHALL BE TEMPERED.

IV — INSULATED VISION GLASS

SC — SPANDREL GLASS WITH CONCRETE BEHIND

V — SINGLE LITE VISION GLASS

IV : INSULATED VISION GLASS
1/4" ATLANTICA + 1/4" SUNGATE 400 CLEAR
1" INSULATED GLASS UNIT WITH 1/2" AIRSPACE AND 1/4" LITES
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MULLIONS : BLACK MULLION

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Electrical:	-
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Fire Protection:	
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Title: ELEVATION

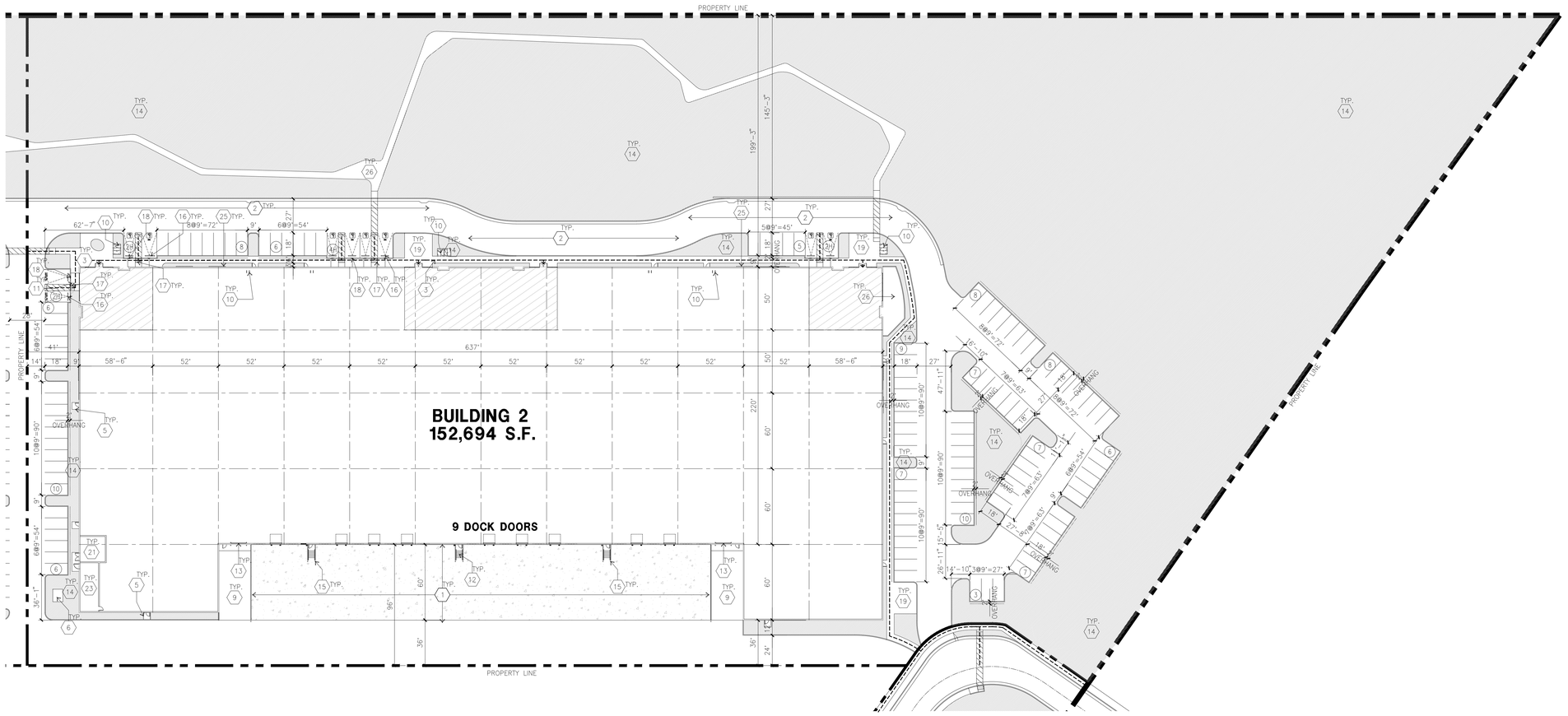
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Date:	10/06/2022
Revision:	

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HIGHWAY 101



OVERALL SITE PLAN A
scale: 1" = 40'-0"

SCALE: 1" = 40'-0"
0 40' 80' 120'
TRUE NORTH

SITE PLAN KEYNOTES

1. HEAVY BROOM FINISH CONCRETE PAVEMENT.
2. ASPHALT CONCRETE (AC) PAVING
3. ACCESSIBLE PATH OF TRAVEL
4. DRIVEWAY APRONS
5. 5'-6"X5'-6"X4" THICK CONCRETE EXTERIOR LANDING PAD TYP. AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREAS. FINISH TO BE MEDIUM BROOM FINISH SLOPE TO BE 1/4" : 12" MAX.
6. APPROXIMATE LOCATION OF TRANSFORMER.
7. NOT USED.
8. CONCRETE WALKWAY, MEDIUM BROOM FINISH. SEE "L" DRAWINGS.
9. CONCRETE RAMP WITH CONCRETE GUARD WALL. SEE "C" DRAWINGS.
10. BIKE RACK.
11. FUTURE ELECTRIC VEHICLE CHARGER.
12. EXTERIOR METAL STEEL STAIR.
13. 12' x 14' DRIVE-IN DOOR
14. LANDSCAPE.
15. CONC. FILLED GUARD POST 6" DIA. U.N.O. 48" H.
16. PRE-CAST CONC. WHEEL STOP.
17. TRUNCATED DOMES.
18. ACCESSIBLE PARKING STALL SIGN.
19. HARDSCAPE AT ENTRANCE. SEE "L" DRAWINGS.
20. ACCESSIBLE ENTRY SIGN.
21. PUMP ROOM.
22. TRASH ENCLOSURE.
23. ELECTRICAL ROOM.
24. CONCRETE DOLLY PAD. SEE SITE PLAN FOR WIDTH AND "C" DRAWINGS.
25. TRELLIS.
26. AMENITY AREA. SEE LANDSCAPE.

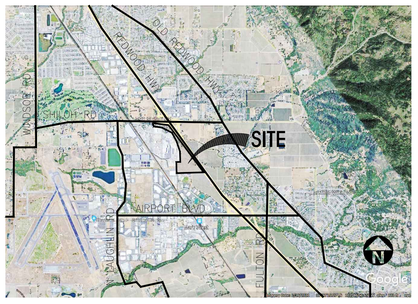
SITE PLAN GENERAL NOTES

1. THE SITE PLAN BASED ON THE SOILS REPORT PREPARED BY REESE, 12/21/21, PROJECT NUMBER # 2494.1.1
2. IF SOILS ARE EXPANSIVE IN NATURE, USE STEEL REINFORCING FOR ALL SITE CONCRETE
3. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINE U.N.O.
4. SEE "C" PLANS FOR ALL CONCRETE CURBS, GUTTERS AND SWALES
5. PROVIDE STRUCTURAL CALCULATION AND CONSTRUCTION ANCHORAGE DETAIL FOR TRANSFORMER PRIOR TO INSTALLATION.
6. SEE "C" DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM BLDG. SEE "C" DRAWINGS.
8. CONTRACTOR TO REFER TO "C" DRAWINGS FOR ALL HORIZONTAL CONTROL DIMENSIONS. SITE PLANS ARE FOR GUIDANCE AND STARTING LAYOUT POINTS.
9. SEE "C"DRAWINGS FOR FINISH GRADE ELEVATIONS.
10. CONCRETE SIDEWALKS TO BE A MINIMUM OF 4" THICK W/ TOOLED JOINTS AT 6' O.C. EXPANSION/CONSTRUCTION JOINTS SHALL BE A MAXIMUM 12' EA. WAY W/ 1:20 MAX. SLOPE. EXPANSION JOINTS TO HAVE COMPRESSIVE EXPANSION FILLER MATERIAL OF 1/4". FINISH TO BE A MEDIUM BROOM FINISH
11. U.N.O. PROVIDE KNOX BOXES AT ALL OFFICE ENTRANCES.
12. PAINT CURBS AND PROVIDE SIGNS TO INFORM OF FIRE LANES AS REQUIRED BY FIRE DEPARTMENT.
13. ON-SITE FIRE MAIN, FIRE SPRINKLER, AND SPRINKLER MONITORING SYSTEM SHALL BE SUBMITTED SEPARATELY TO THE FIRE DEPARTMENT FOR REVIEW AND PERMITTING.
14. ALL VERTICAL MOUNTING POLES OF FENCING SHALL BE CAPPED.
15. LANDSCAPED AREAS SHALL BE DELINEATED WITH A MINIMUM SIX INCHES (6") HIGH CURB
16. ALL INTERIOR AND EXTERIOR WALK SURFACES TO BE NON-SLIP TYPE

SITE PLAN GENERAL NOTES

- CONCRETE PAVING. SEE "C" DRWGS. FOR THICKNESS
- PARKING STALL 9' X 18' WITH 2' OVERHANG
- CLEAN AIR/VANPOOL/EV CONDUIT STUB FOR FUTURE EV
- CLEAN AIR/ VANPOOL/EV WITHOUT CONDUIT STUB FOR FUTURE EV
- TRAILER PARKING (10' X 53')
- LANDSCAPED AREA
- NON-ACCESSIBLE PATH
- ACCESSIBLE PARKING STALL (9' X 20') + 5' W/ ACCESSIBLE AISLE SEE DETAIL 11/AD.1
- ACCESSIBLE PARKING (VAN) STALL (12' X 20') + 5' W/ ACCESSIBLE AISLE
- PATH OF TRAVEL. MINIMUM WIDTH TO BE 4'. SLOPE NOT TO EXCEED 5% IN THE DIRECTION OF TRAVEL AND CROSS SLOPE NOT TO EXCEED 2%. SEE CIVIL FOR GRADING PLAN

AERIAL MAP



TABULATION

	BLDG. 1	BLDG. 2	BLDG. 3	TOTAL
SITE AREA				
In s.f.	496,939	528,611	383,339	1,408,889 sf
In acres	11.41	12.14	8.80	32.34 ac
BUILDING AREA				
Office	10,000	10,000	10,000	30,000 sf
Warehouse	139,891	142,694	164,508	447,093 sf
TOTAL	**149,891**	**152,694**	**174,508**	**477,093** sf
BUILDING CLEAR HEIGHT	32	32	32	32 ft
FLOOR AREA RATIO				
Maximum Allowed				to be verified
Actual	0.30	0.29	0.46	0.34
SITE COVERAGE				
Maximum Allowed	50%	50%	50%	50%
Actual	30.2%	28.9%	45.5%	33.9%
AUTO PARKING REQUIRED				
Office: 1250 s.f. if exceeding above 20% GFA	n/a	n/a	n/a	n/a stalls
Whse: 1/1,000 s.f for 1st 20k	20	20	20	60 stalls
1/2,000 s.f above 20k	60	62	73	195 stalls
TOTAL	**80**	**82**	**93**	**255** stalls
AUTO PARKING PROVIDED				
Standard (9' x 18' + 2' overhang)	139	103	95	337 stalls
Accessible parking (9' x 20')	5	4	4	13 stalls
Accessible Van (9' x 20'+8' Aisle)	5	4	4	13 stalls
Total Clean air/ Van pool (12%)				
Standard Clean Air Parking (2%)	4	3	3	10 stalls
Total EV Charging (10%)				
Standard EV Charging	15	11	10	36 stalls
Accessible Standard EV Charging	1	1	1	3 stalls
Accesible Van EV Charging	1	1	1	3 stalls
TOTAL	170	127	118	415 stalls
BICYCLE RACK REQUIRED				
Short term (5% of total stalls)	9	7	6	22 stalls
Long term (5% of total stalls)	9	7	6	22 stalls
BICYCLE RACK PROVIDED				
Short term (5% of total stalls)	10	8	8	26 stalls
Long term (5% of total stalls)	10	8	8	26 stalls
ZONING ORDINANCE				
Current Zoning - Planned Development (PD)				
Proposed Zoning - Light Industrial (IL)				
MAXIMUM BUILDING HEIGHT ALLOWED				
Height - 50'				
SETBACKS				
Building	Landscape			
Front - 10'	Front - 10'			
Side - none required	Side - 5'			
Rear - 10'	Rear - 5'			

OFFICIAL USE ONLY

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Owner:

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Project:

790 SHILOH ROAD

WINDSOR, CA

Consultants:

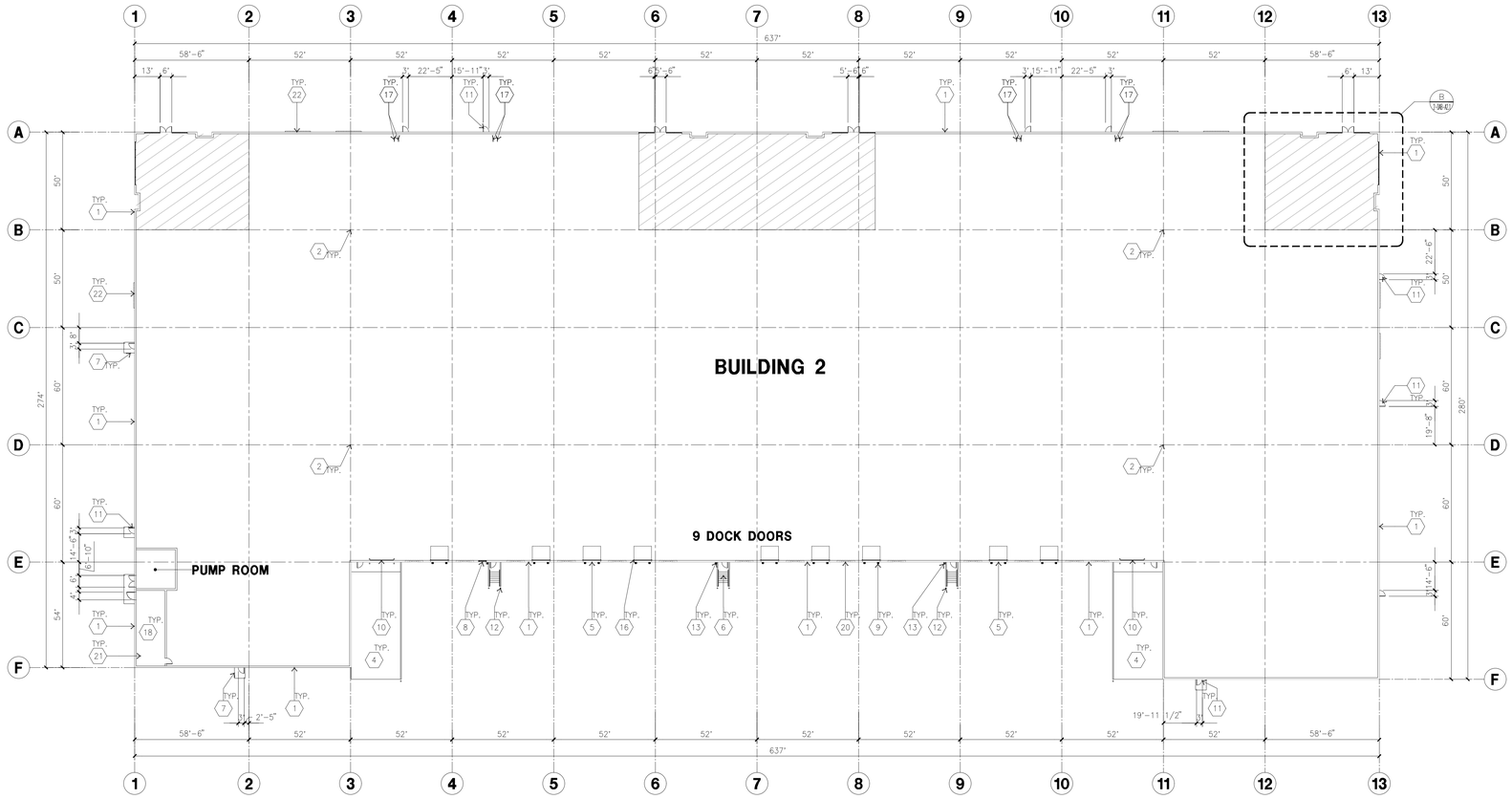
Civil:	ADOBE INC.
Structural:	-
Mechanical:	-
Plumbing:	-
Electrical:	-
Landscape:	TGP INC.
Fire Protection:	
Soils Engineer:	

Title: OVERALL SITE PLAN

Project Number:	22313
Drawn by:	TSP
Date:	10/06/2022
Revision:	

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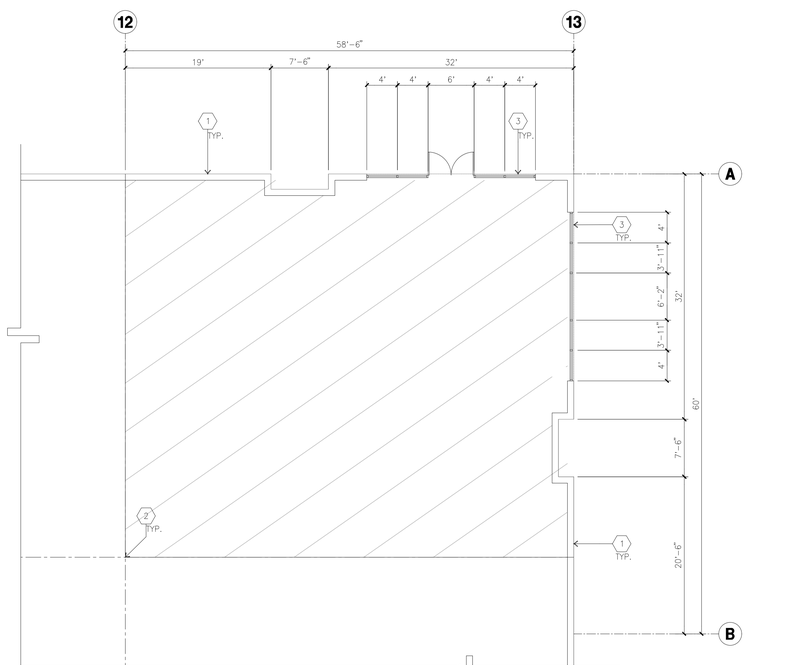
OVERALL FLOOR PLAN

scale: 1" = 30'-0"

SCALE: 1" = 30'-0"

0 30' 60' 90'

TRUE NORTH



ENLARGED FLOOR PLAN

scale: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

0 8' 16' 24'

TRUE NORTH

KEYNOTES - FLOOR PLAN

1. CONCRETE TILT-UP PANEL.
2. STRUCTURAL STEEL COLUMN.
3. TYPICAL STOREFRONT SYSTEM WITH GLAZING. SEE ENLARGED PLANS AND ELEVATIONS FOR SIZE, COLOR AND LOCATIONS.
4. CONCRETE RAMP W/ 42" HIGH CONC TILT-UP GUARD WALL OR BUILDING WALL ON BOTH SIDES OF RAMP.
5. 9' X 10' DOCK DOOR, SECTIONAL O.H., STANDARD GRADE. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
6. EXTERIOR METAL STEEL STAIR.
7. 5'-6"X5'-6"X4" THICK CONCRETE EXTERIOR LANDING PAD TYPICAL AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREA. FINISH TO BE MEDIUM BLOOM FINISH. SLOPE TO BE 1/4" : 12" MAX.
8. 4'X8' METAL LOUVER.
9. DOCK DOOR BUMPER.
10. 12' X 14' DRIVE THRU, SECTIONAL O.H., STANDARD GRADE. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
11. 3' X 7' HOLLOW METAL EXTERIOR MAN DOOR. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
12. CONC. FILLED GUARD POST. 6" DIA. U.N.O., 48"H.
13. EXTERIOR DOWNSPOUT WITH OVERFLOW SCUPPER.
14. INTERIOR ROOF DRAIN & OVERFLOW SCUPPERS.
15. INTERIOR ROOF DRAIN WITH PIPED OVERFLOW.
16. Z GUARD.
17. INTERIOR BIKE RACK.
18. ELECTRICAL ROOM.
19. METAL CANOPY ABOVE.
20. KNOCK OUT PANEL.
21. ROOF ACCESS LADDER.
22. TRELLIS.

GENERAL NOTES - FLOOR PLAN

1. THIS BUILDING IS DESIGNED FOR HIGH PILE STORAGE WITH FIRE ACCESS MAN DOORS AT 125' +/-. A SEPARATE PERMIT WILL BE REQUIRED FOR ANY RACKING/CONVEYER SYSTEMS. INSURE HEAT AND SMOKE VENTS AS REQ'D COMPLY WITH TABLE 910.3 CBC
2. FIRE HOSE LOCATIONS SHALL BE APPROVED PER FIRE DEPARTMENT.
3. SEE "C" DRAWINGS FOR FINISH SURFACE ELEVATIONS.
4. WAREHOUSE INTERIOR CONCRETE WALLS ARE PAINTED WHITE. COLUMNS ARE TO RECEIVE PRIMER ONLY. ALL GYP. BD. WALLS IN WAREHOUSE TO RECEIVE 1 COAT OF WHITE TO COVER.
5. THE BUILDING FLOOR SLAB IS FLAT/SLOPED, SEE CIVIL.
6. SLOPE POUR STRIP 1/2" TO EXTERIOR AT ALL MANDOOR EXITS. SEE "S" DRAWINGS FOR POUR STRIP LOCATION.
7. PROVIDE 6" DIA. CONCRETE BOLLARD AT ALL FIRE RISER AND UNPROTECTED INTERIOR ROOF DRAIN.
8. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE PANEL WALL, GRIDLINE, OR FACE OF STUD U.N.O.
9. SEE CIVIL DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR TO VERIFY ACTUAL UTILITY LOCATIONS. PLUMBING/ELECTRICAL COORDINATION.
10. FOR DOOR TYPES AND SIZES, SEE DETAIL SHEET A5.1. NOTE: ALL DOORS PER DOOR SCHEDULE ARE FINISH OPENINGS.
11. CONTRACTOR TO PROTECT AND KEEP THE FLOOR SLAB CLEAN. ALL EQUIPMENT TO BE DIAPERED INCLUDING CARS AND TRUCKS.
12. ALL EXIT MAN DOORS IN WAREHOUSE TO HAVE ILLUMINATED EXIT SIGN HARDWARE.
13. HIGHLY FLAMMABLE AND COMBUSTIBLE MATERIAL SHALL NOT BE USED OR STORED IN THIS BUILDING.
14. PROVIDE FIRE EXTINGUISHERS AT LOCATIONS DETERMINED BY FIRE DEPARTMENT.
15. EACH EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS "EXIT". THE MOUNTING HEIGHT FOR SUCH SIGNAGE SHALL BE 60" FROM FINISH FLOOR LEVEL TO THE CENTER OF THE SIGN.
16. AFFIX AN INTERNATIONAL ACCESSIBILITY SYMBOL ON ALL ACCESSIBLE ENTRANCES PER CBC 11B-216.6
17. ALL INTERIOR AND EXTERIOR WALKING SURFACES TO BE NON-SLIP TYPE

FLOOR SLAB AND POUR STRIPS REQ.

THESE NOTES ARE VERY MIN. REQUIREMENT. SEE "S" DWGS FOR ADDITIONAL REQUIREMENTS

1. FLOOR COMPACTION - 95%
2. TRENCH COMPACTION - 90%
3. BUILDING FLOOR SLAB: SEE STRUCTURAL DRAWINGS FOR DETAILS.
4. CONTRACTOR TO BUILD FOR CLASS V FLOOR PER A.C.I. 302-1R-96
5. CONCRETE SLAB TO HAVE STEEL FLOAT HARD TROWEL BURNISHED FINISH.
6. CONTRACTOR TO CURE SLAB TO BE WET CURING USING BURLINE FOR 7 DAYS MIN.
7. ALL EQUIPMENT & MOVING VEHICLES SHALL BE DIAPERED.
8. NO CRANES, CONCRETE TRUCKS, OR ANYTHING HEAVIER WILL BE PLACED ON THE SLAB.
9. SLAB TO BE FF50 FL35 MEASURED WITHIN 24 HOURS.
10. NO FLY ASH IN THE CONCRETE
11. WHERE [▨] INDICATED, PROVIDE VAPOR BARRIER (15 MIL STEGO OR EQUAL) CONFORMING TO ASTM E 1745 UNDER THE CONCRETE SLAB. PROVIDE SAND PER SOILS ENGINEER OR MANUFACTURER'S RECOMMENDATION. CONCRETE SLAB IN OFFICE AREAS, WHERE SAND OVER VISQUEEN ARE REQUIRED, SHALL BE NATURALLY HYDRATED WITHOUT USE OF BURLENE, CURING COMPOUND, OR RELEASE AGENTS.
12. SEAL CONCRETE SLAB W/ "LAPIDOLITH" SEALER
13. SHURESEAL,LAPIDOLITH OR APPROVED EQUAL FLOOR SEALER APPLIED ONE COAT AT END OF JOB IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
14. NO PERMANENT GREASE PEN PANEL MARKS ON FLOOR SLAB. NO RED CAULK MARKS. ALL CONSTRUCTION MARKS TO BE REMOVED BEFORE SEALING.
15. 10' POUR STRIP AT TRUCK DOOR. 4FT. MAX., ELSEWHERE.
16. ALL FLOOR SLAB NAIL OR BRACE FRAME HOLES FILLED WITH APPROVED 2 PART EPOXY COMPOUND TO MATCH CONCRETE COLOR. PEGA BOND LV 2000,BURKE EPOXY INJECTION RESIN OR EQUAL.
17. PROVIDE FIRE EXTINGUISHERS PER FIRE DEPARTMENT REQUIREMENT.
18. MM-80 AT SPEED BAY ONLY, PRICE AS ADDITIONAL ALTERNATE

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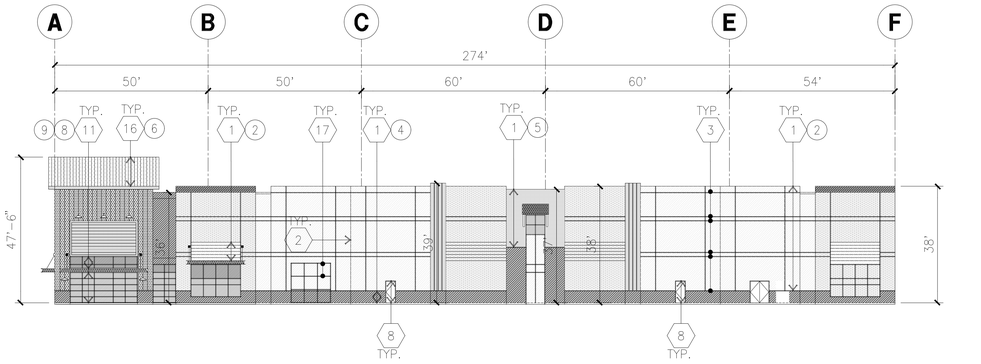
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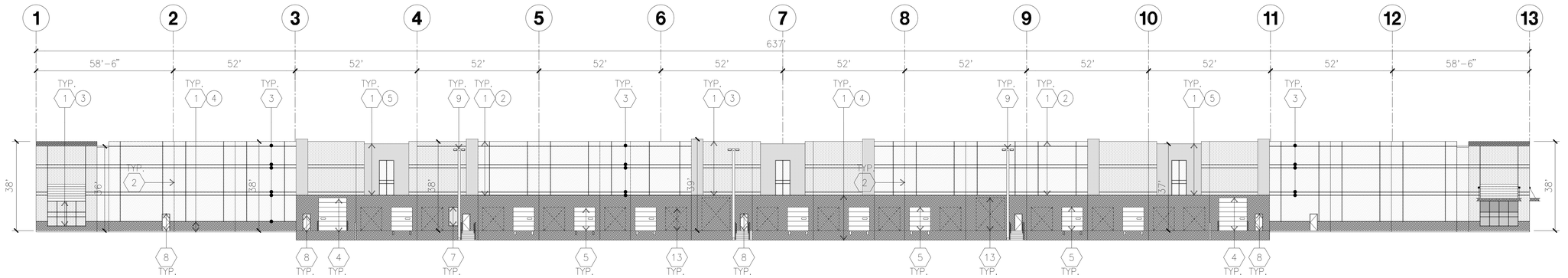
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NORTH ELEVATION A
scale: 1" = 20'-0"



WEST ELEVATION B
scale: 1" = 20'-0"

KEYNOTES - ELEVATIONS

1. CONCRETE TILT-UP PANEL(PAINTED). FINISH GRADE VARIES. SEE "C" DRAWINGS. WATERPROOF ALL WALLS WHERE EXTERIOR GRADE IS HIGHER THAN FINISH FLOOR AND EXPOSED TO THE WEATHER. WATERPROOFING TO BE PROTECTED WITH PROTECTION BOARD AND A MIN. OF 6" OF GRAVEL. PROVIDE TRENCH DRAIN AT BOTTOM AND DAYLIGHT TO CURB OR TAKE TO STORM DRAIN.
2. PANEL JOINT.
3. PANEL REVEAL. ALL REVEALS TO HAVE A MAX. OF 3/8" CHAMFER. REVEAL COLOR TO MATCH ADJACENT BUILDING FIELD COLOR. U.N.O.
4. OVERHEAD DOOR @ DRIVE THRU. PROVIDE COMPLETE WEATHER-STRIPPING PROTECTION ALL AROUND.
5. OVERHEAD DOOR @ DOCK HIGH. PROVIDE COMPLETE WEATHER-STRIPPING PROTECTION ALL AROUND.
6. EXTERIOR METAL STEEL STAIR.
7. METAL LOUVER. PAINT TO MATCH BUILDING COLOR.
8. HOLLOW METAL DOORS. PROVIDE COMPLETE WEATHER STRIPING ALL AROUND DOOR. PROVIDE FOR RAIN DIVERTER ABOVE DOOR.
9. EXTERIOR DOWNSPOUT WITH OVERFLOW SCUPPERS.
10. DOCK BUMPER.
11. ALUMINUM STOREFRONT FRAMING WITH TEMPERED GLAZING.
12. METAL CANOPY
13. KNOCK OUT PANEL
14. ROOF LINE BEYOND
15. AEP SPAN WIDE BATTEN 13.25" WIDE, 22GA WALL PANEL.
16. STANDING SEAM METAL ROOF
17. TRELLIS.

GENERAL NOTES - ELEVATIONS

A. ALL PAINT COLOR CHANGES TO OCCUR AT INSIDE CORNERS UNLESS NOTED OTHERWISE.
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C. T.O.P. EL.= TOP OF PARAPET ELEVATION.
D. F.F. = FINISH FLOOR ELEVATION.
E. STOREFRONT CONSTRUCTION, GLASS, METAL ATTACHMENTS AND LINTELS SHALL BE DESIGNED TO RESIST CITY REQUIRED WIND SPEED, EXPOSURE "B" WIND. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO INSTALLATION.
F. CONTRACTOR SHALL FULLY PAINT SEVERAL CONCRETE PANEL W/ SELECTED COLORS. LOCATION TO BE SELECTED BY ARCHITECT, ARCHITECT AND OWNER SHALL APPROVE PRIOR TO PAINTING REMAINDER OF BUILDING.
G. BACK SIDE OF PARAPETS TO HAVE SMOOTH FINISH AND BE PAINTED WITH ELASTOMERIC PAINT.
H. FOR SPANDREL GLAZING, ALLOW SPACE BEHIND SPANDREL TO BREATH.
J. USE ADHESIVE BACK WOOD STRIPS FOR ALL REVEAL FORMS.
K. THE FIRST COAT OF PAINT TO BE ROLLED-ON AND THE SECOND COAT TO BE SPRAYED-ON
L. EXTERIOR STAIRS AND RAMPS TO MATCH BUILDING COLOR. RAILINGS TO MATCH BUILDING COLOR.
M. ALL DOORS TO BE PAINTED THE SAME COLOR AS THE ADJACENT WALL.

ELEVATION COLOR LEGEND/SCHED.

1. CONCRETE TILT-UP PANEL. COLOR : SW 7104 CUTTON WHITE 265-C1
2. CONCRETE TILT-UP PANEL. COLOR : SW 7010 WHITE DUCK 254-C5
3. CONCRETE TILT-UP PANEL. COLOR : SW 7030 ANEW GRAY 243-C2
4. CONCRETE TILT-UP PANEL. COLOR : DET620 BARNWOOD GRAY
5. CONCRETE TILT-UP PANEL. COLOR : SW 7026 GRIFFIN 241-C6
6. METAL PANEL. COLOR : OLD ZINC GRAY
7. METAL PANEL/STANDING SEAM METAL ROOF. COLOR : TERRA COTTA
8. MULLIONS COLOR : BLACK MULLION
9. GLAZING COLOR : GREEN GLAZING
10. CANOPY MATERIAL : SHERWIN-WILLIAMS PRO-INDUSTRIAL WATERBASED B53-1150 SEMI GLOSS SW 7069 IRON ORE @ METAL TRELLIS AND METAL CANOPY

GLAZING LEGEND

NOTE: ALL EXTERIOR AND INTERIOR GLAZING SHALL BE TEMPERED.

IV INSULATED VISION GLASS

SC SPANDREL GLASS WITH CONCRETE BEHIND

V SINGLE LITE VISION GLASS

IV : INSULATED VISION GLASS
1/4" ATLANTICA + 1/4" SUNGATE 400 CLEAR
1" INSULATED GLASS UNIT WITH 1/2" AIRSPACE AND 1/4" LITES
U: 0.27 SHGC: 0.35 VLT: 58%
MINIMUM VT TO BE 0.42 PER 2016 CEC TABLE 140.3-B

SC : SPANDREL WITH CONCRETE BEHIND
1/4" CLEAR WITH ATLANTIC WATERS OPACICOAT PAINTED ON REFLECTIVE. INSTALLED ON CONCRETE.

V : VISION GLASS
1/4" ATLANTICA

S : SPANDREL
1/4" CLEAR WITH ATLANTIC WATERS OPACICOAT PAINTED ON REFLECTIVE. INSTALLED ON OPENINGS.

MULLIONS : BLACK MULLION

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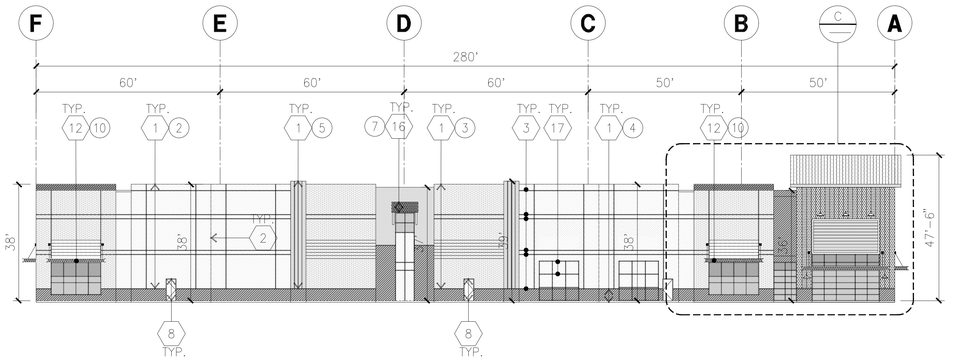
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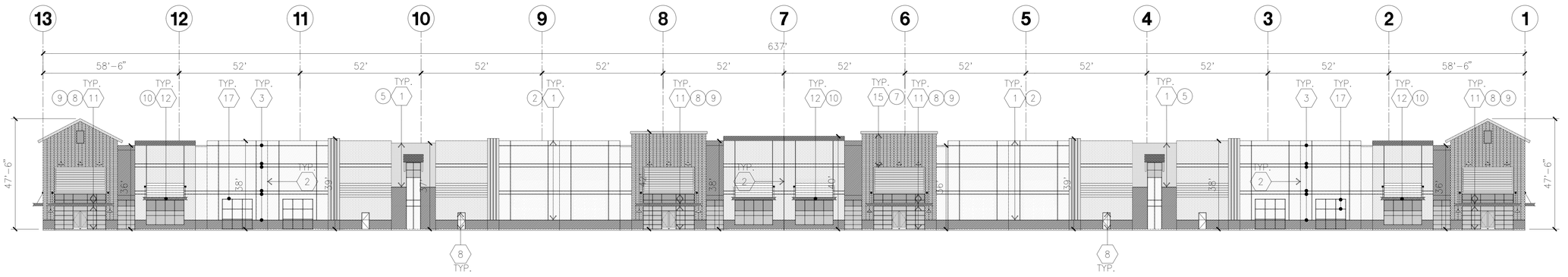
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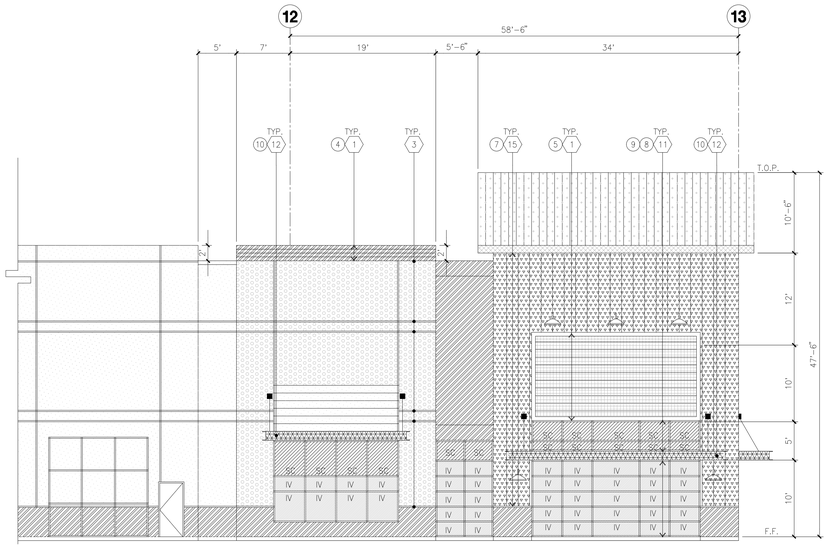
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SOUTH ELEVATION (A)
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EAST ELEVATION (B)
scale: 1" = 20'-0"



ENLARGED WEST ELEVATION (C)
scale: 1/8" = 1'-0"

KEYNOTES - ELEVATIONS

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SPANDREL GLASS WITH CONCRETE BEHIND

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1/4" CLEAR WITH ATLANTIC WATERS OPACICOAT PAINTED ON REFLECTIVE, INSTALLED ON OPENINGS.

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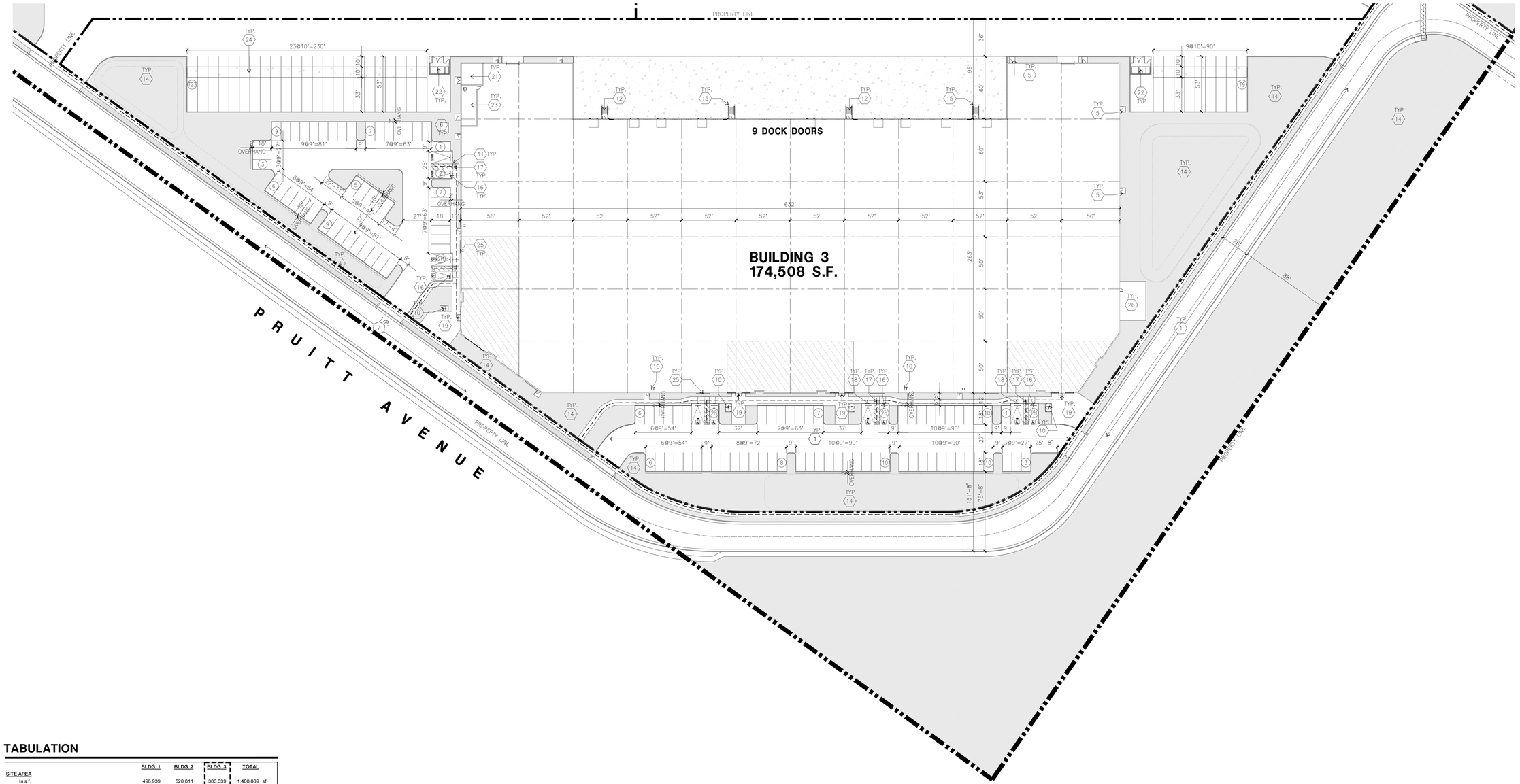
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TABULATION

	BLDG. 1	BLDG. 2	BLDG. 3	TOTAL
SITE AREA				
In s.f.	496,939	528,611	383,339	1,408,889 sf
In acres	11.41	12.14	8.80	32.34 ac
BUILDING AREA				
Office	10,000	10,000	10,000	30,000 sf
Warehouse	139,891	142,694	164,508	447,093 sf
TOTAL	**149,891**	**152,694**	**174,508**	**477,093** sf
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Maximum Allowed			to be verified	
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SITE COVERAGE				
Maximum Allowed	50%	50%	50%	50%
Actual	30.2%	28.9%	45.5%	33.9%
AUTO PARKING REQUIRED				
Office: 1250 s.f. if exceeding above 20% GFA	n/a	n/a	n/a	n/a stalls
Whse: 1/1,000 s.f for 1st 20k	20	20	20	60 stalls
1/2,000 s.f above 20k	60	62	73	195 stalls
TOTAL	**80**	**82**	**93**	**255** stalls
AUTO PARKING PROVIDED				
Standard (9' x 18' + 2' overhang)	139	103	95	337 stalls
Accessible parking (9' x 20')	5	4	4	13 stalls
Accessible Van (9' x 20'+8' Aisle)	5	4	4	13 stalls
Total Clean air/ Van pool (12%)				
Standard Clean Air Parking (2%)	4	3	3	10 stalls
Total EV Charging (10%)				
Standard EV Charging	15	11	10	36 stalls
Accessible Standard EV Charging	1	1	1	3 stalls
Accessible Van EV Charging	1	1	1	3 stalls
TOTAL	170	127	118	415 stalls
BICYCLE RACK REQUIRED				
Short term (5% of total stalls)	9	7	6	22 stalls
Long term (5% of total stalls)	9	7	6	22 stalls
BICYCLE RACK PROVIDED				
Short term (5% of total stalls)	10	8	8	26 stalls
Long term (5% of total stalls)	10	8	8	26 stalls

ZONING ORDINANCE
Current Zoning - Planned Development (PD)
Proposed Zoning - Light Industrial (IL)

MAXIMUM BUILDING HEIGHT ALLOWED
Height - 50'

SETBACKS

Building	Landscape
Front - 10'	Front - 10'
Side - none required	Side - 5'
Rear - 10'	Rear - 5'

SITE PLAN KEYNOTES

1. HEAVY BROOM FINISH CONCRETE PAVEMENT.
2. ASPHALT CONCRETE (AC) PAVING
3. ACCESSIBLE PATH OF TRAVEL
4. DRIVEWAY APRONS
5. 5'-6"X5'-6"X4" THICK CONCRETE EXTERIOR LANDING PAD TYP. AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREAS. FINISH TO BE MEDIUM BROOM FINISH SLOPE TO BE 1/4" : 12" MAX.
6. APPROXIMATE LOCATION OF TRANSFORMER.
7. NOT USED.
8. CONCRETE WALKWAY, MEDIUM BROOM FINISH. SEE "L" DRAWINGS.
9. CONCRETE RAMP WITH CONCRETE GUARD WALL. SEE "C" DRAWINGS.
10. BIKE RACK.
11. FUTURE ELECTRIC VEHICLE CHARGER.
12. EXTERIOR METAL STEEL STAIR.
13. 12' x 14' DRIVE-IN DOOR
14. LANDSCAPE.
15. CONC. FILLED GUARD POST 6" DIA. U.N.O. 48" H.
16. PRE-CAST CONC. WHEEL STOP.
17. TRUNCATED DOMES.
18. ACCESSIBLE PARKING STALL SIGN.
19. HARDSCAPE AT ENTRANCE. SEE "L" DRAWINGS.
20. ACCESSIBLE ENTRY SIGN.
21. PUMP ROOM.
22. TRASH ENCLOSURE.
23. ELECTRICAL ROOM.
24. CONCRETE DOLLY PAD. SEE SITE PLAN FOR WIDTH AND "C" DRAWINGS.
25. TRELLIS.
26. AMENITY AREA. SEE LANDSCAPE.

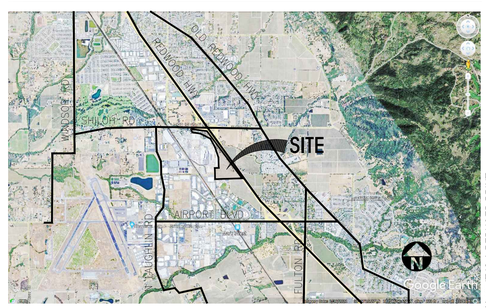
SITE PLAN GENERAL NOTES

1. THE SITE PLAN BASED ON THE SOILS REPORT PREPARED BY RESE, 12/21/21, PROJECT NUMBER # 2494.1.1
2. IF SOILS ARE EXPANSIVE IN NATURE, USE STEEL REINFORCING FOR ALL SITE CONCRETE
3. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINE U.N.O.
4. SEE "C" PLANS FOR ALL CONCRETE CURBS, GUTTERS AND SWALES
5. PROVIDE STRUCTURAL CALCULATION AND CONSTRUCTION ANCHORAGE DETAIL FOR TRANSFORMER PRIOR TO INSTALLATION.
6. SEE "C" DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM BLDG. SEE "C" DRAWINGS.
8. CONTRACTOR TO REFER TO "C" DRAWINGS FOR ALL HORIZONTAL CONTROL DIMENSIONS. SITE PLANS ARE FOR GUIDANCE AND STARTING LAYOUT POINTS.
9. SEE "C"DRAWINGS FOR FINISH GRADE ELEVATIONS.
10. CONCRETE SIDEWALKS TO BE A MINIMUM OF 4" THICK W/ TOOLED JOINTS AT 6' O.C. EXPANSION/CONSTRUCTION JOINTS SHALL BE A MAXIMUM 12' EA. WAY W/ 1:20 MAX. SLOPE. EXPANSION JOINTS TO HAVE COMPRESSIVE EXPANSION FILLER MATERIAL OF 1/4". FINISH TO BE A MEDIUM BROOM FINISH
11. U.N.O. PROVIDE KNOX BOXES AT ALL OFFICE ENTRANCES.
12. PAINT CURBS AND PROVIDE SIGNS TO INFORM OF FIRE LANES AS REQUIRED BY FIRE DEPARTMENT.
13. ON-SITE FIRE MAIN, FIRE SPRINKLER, AND SPRINKLER MONITORING SYSTEM SHALL BE SUBMITTED SEPARATELY TO THE FIRE DEPARTMENT FOR REVIEW AND PERMITTING.
14. ALL VERTICAL MOUNTING POLES OF FENCING SHALL BE CAPPED.
15. LANDSCAPED AREAS SHALL BE DELINEATED WITH A MINIMUM SIX INCHES (6") HIGH CURB
16. ALL INTERIOR AND EXTERIOR WALK SURFACES TO BE NON-SLIP TYPE

SITE PLAN GENERAL NOTES

- CONCRETE PAVING. SEE "C" DRWGS. FOR THICKNESS
- PARKING STALL 9' X 18' WITH 2' OVERHANG
- CLEAN AIR/VANPOOL/EV CONDUIT STUB FOR FUTURE EV
- CLEAN AIR/ VANPOOL/EV WITHOUT CONDUIT STUB FOR FUTURE EV
- TRAILER PARKING (10' X 53')
- LANDSCAPED AREA
- NON-ACCESSIBLE PATH
- ACCESSIBLE PARKING STALL (9' X 20') + 5' W/ ACCESSIBLE AISLE SEE DETAIL 11/AD.1
- ACCESSIBLE PARKING (VAN) STALL (12' X 20') + 5' W/ ACCESSIBLE AISLE
- PATH OF TRAVEL. MINIMUM WIDTH TO BE 4'. SLOPE NOT TO EXCEED 5% IN THE DIRECTION OF TRAVEL AND CROSS SLOPE NOT TO EXCEED 2%, SEE CIVIL FOR GRADING PLAN

AERIAL MAP



OVERALL SITE PLAN

A

scale: 1" = 40'-0"

SCALE: 1" = 40'-0"
0 40' 80' 120'
N TRUE NORTH

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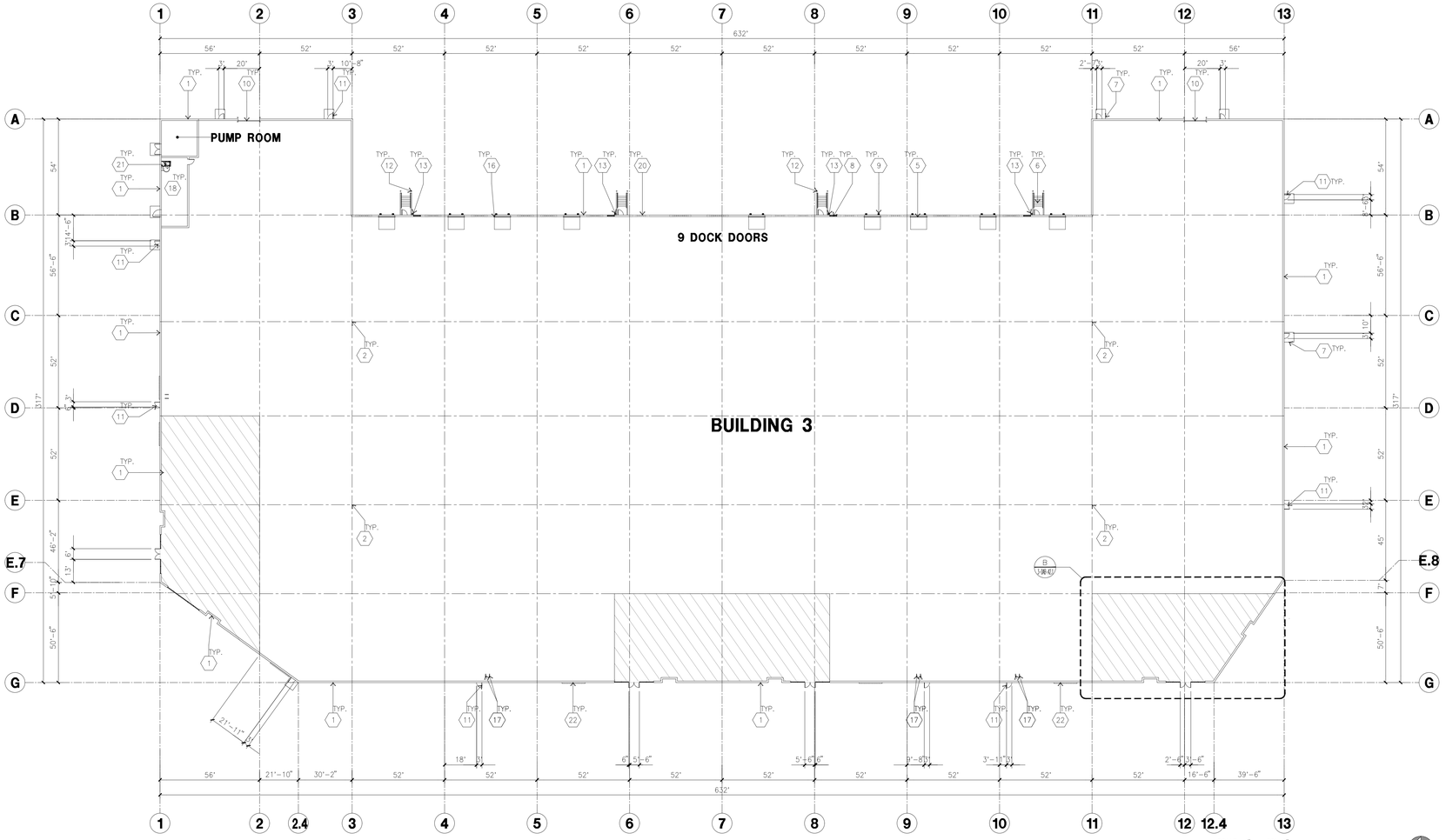
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Mechanical:	-
Plumbing:	-
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Title: OVERALL SITE PLAN

Project Number: 22313
Drawn by: TSP
Date: 10/06/2022
Revision:

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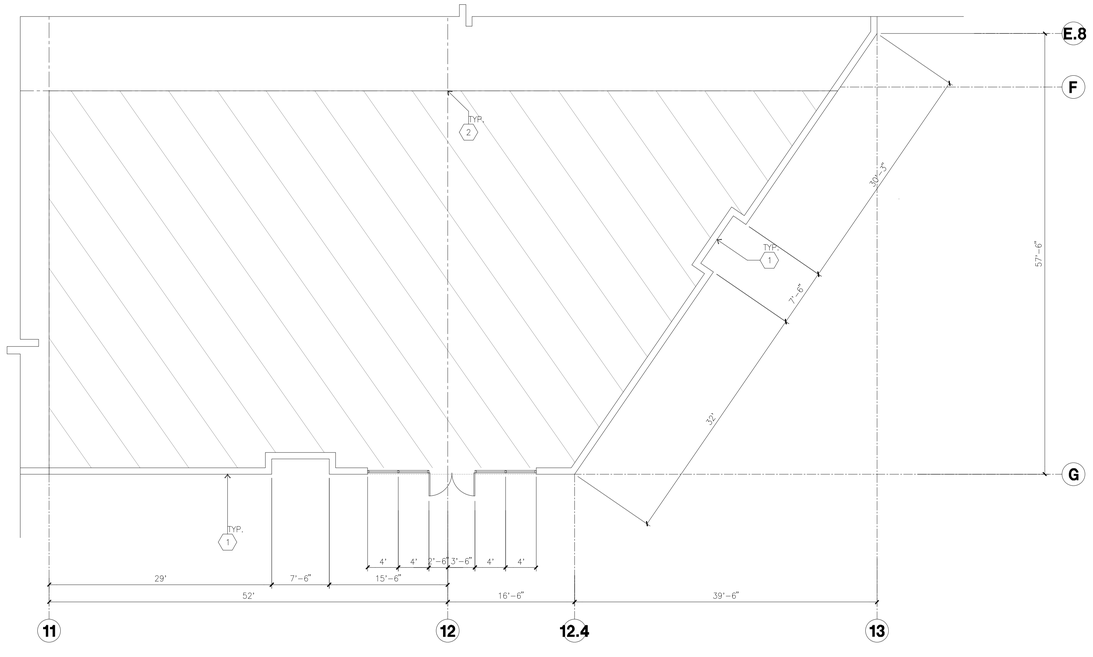
OVERALL FLOOR PLAN A

scale: 1" = 30'-0"

SCALE: 1" = 30'-0"

0 30' 60' 90'

TRUE NORTH



ENLARGED FLOOR PLAN B

scale: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

0 8' 16' 24'

TRUE NORTH

KEYNOTES - FLOOR PLAN

1. CONCRETE TILT-UP PANEL.
2. STRUCTURAL STEEL COLUMN.
3. TYPICAL STOREFRONT SYSTEM WITH GLAZING. SEE ENLARGED PLANS AND ELEVATIONS FOR SIZE, COLOR AND LOCATIONS.
4. CONCRETE RAMP W/ 4/2" HIGH CONC TILT-UP GUARD WALL OR BUILDING WALL ON BOTH SIDES OF RAMP.
5. 9' X 10' DOCK DOOR. SECTIONAL O.H., STANDARD GRADE. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
6. EXTERIOR METAL STEEL STAIR.
7. 5'-6"X5'-6"X4" THICK CONCRETE EXTERIOR LANDING PAD TYPICAL AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREA, FINISH TO BE MEDIUM BROOM FINISH. SLOPE TO BE 1/4" : 12" MAX.
8. 4'X8' METAL LOUVER.
9. DOCK DOOR BUMPER.
10. 12' X 14' DRIVE THRU, SECTIONAL O.H., STANDARD GRADE. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
11. 3' X 7' HOLLOW METAL EXTERIOR MAN DOOR. DESIGNED TO RESIST CITY REQUIRED WIND SPEED.
12. CONC. FILLED GUARD POST. 6" DIA. U.N.O., 48"H.
13. EXTERIOR DOWNSPOUT WITH OVERFLOW SCUPPER.
14. INTERIOR ROOF DRAIN & OVERFLOW SCUPPERS.
15. INTERIOR ROOF DRAIN WITH PIPED OVERFLOW.
16. Z GUARD.
17. INTERIOR BIKE RACK.
18. ELECTRICAL ROOM.
19. METAL CANOPY ABOVE.
20. KNOCK OUT PANEL.
21. ROOF ACCESS LADDER.
22. TRELLIS.

GENERAL NOTES - FLOOR PLAN

1. THIS BUILDING IS DESIGNED FOR HIGH PILE STORAGE WITH FIRE ACCESS MAN DOORS AT 125' +/- A SEPARATE PERMIT WILL BE REQUIRED FOR ANY RACKING/CONVEYER SYSTEMS. INSURE HEAT AND SMOKE VENTS AS REQ'D COMPLY WITH TABLE 910.3 CBC
2. FIRE HOSE LOCATIONS SHALL BE APPROVED PER FIRE DEPARTMENT.
3. SEE "C" DRAWINGS FOR FINISH SURFACE ELEVATIONS.
4. WAREHOUSE INTERIOR CONCRETE WALLS ARE PAINTED WHITE. COLUMNS ARE TO RECEIVE PRIMER ONLY. ALL GYP. BD. WALLS IN WAREHOUSE TO RECEIVE 1 COAT OF WHITE TO COVER.
5. THE BUILDING FLOOR SLAB IS FLAT/SLOPED, SEE CIVIL.
6. SLOPE POUR STRIP 1/2" TO EXTERIOR AT ALL MANDOOR EXITS. SEE "S" DRAWINGS FOR POUR STRIP LOCATION.
7. PROVIDE 6" DIA. CONCRETE BOLLARD AT ALL FIRE RISER AND UNPROTECTED INTERIOR ROOF DRAIN.
8. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE PANEL WALL, GRIDLINE, OR FACE OF STUD U.N.O.
9. SEE CIVIL DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR TO VERIFY ACTUAL UTILITY LOCATIONS. PLUMBING/ELECTRICAL COORDINATION.
10. FOR DOOR TYPES AND SIZES, SEE DETAIL SHEET A5.1. NOTE: ALL DOORS PER DOOR SCHEDULE ARE FINISH OPENINGS.
11. CONTRACTOR TO PROTECT AND KEEP THE FLOOR SLAB CLEAN. ALL EQUIPMENT TO BE DIAPERED INCLUDING CARS AND TRUCKS.
12. ALL EXIT MAN DOORS IN WAREHOUSE TO HAVE ILLUMINATED EXIT SIGN HARDWARE.
13. HIGHLY FLAMMABLE AND COMBUSTIBLE MATERIAL SHALL NOT BE USED OR STORED IN THIS BUILDING.
14. PROVIDE FIRE EXTINGUISHERS AT LOCATIONS DETERMINED BY FIRE DEPARTMENT.
15. EACH EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS "EXIT". THE MOUNTING HEIGHT FOR SUCH SIGNAGE SHALL BE 60" FROM FINISH FLOOR LEVEL TO THE CENTER OF THE SIGN.
16. AFFIX AN INTERNATIONAL ACCESSIBILITY SYMBOL ON ALL ACCESSIBLE ENTRANCES PER CBC 11B-216.6
17. ALL INTERIOR AND EXTERIOR WALKING SURFACES TO BE NON-SLIP TYPE

FLOOR SLAB AND POUR STRIPS REQ.

THESE NOTES ARE VERY MIN. REQUIREMENT. SEE "S" DWGS FOR ADDITIONAL REQUIREMENTS

1. FLOOR COMPACTION - 95%
2. TRENCH COMPACTION - 90%
3. BUILDING FLOOR SLAB: SEE STRUCTURAL DRAWINGS FOR DETAILS.
4. CONTRACTOR TO BUILD FOR CLASS V FLOOR PER A.C.I. 302-1R-96
5. CONCRETE SLAB TO HAVE STEEL FLOAT HARD TROWEL BURNISHED FINISH.
6. CONTRACTOR TO CURE SLAB TO BE WET CURING USING BURLINE FOR 7 DAYS MIN.
7. ALL EQUIPMENT & MOVING VEHICLES SHALL BE DIAPERED.
8. NO CRANES, CONCRETE TRUCKS, OR ANYTHING HEAVIER WILL BE PLACED ON THE SLAB.
9. SLAB TO BE FF50 FL35 MEASURED WITHIN 24 HOURS.
10. NO FLY ASH IN THE CONCRETE
11. WHERE [▨] INDICATED, PROVIDE VAPOR BARRIER (15 MIL STEGO OR EQUAL) CONFORMING TO ASTM E 1745 UNDER THE CONCRETE SLAB. PROVIDE SAND PER SOILS ENGINEER OR MANUFACTURER'S RECOMMENDATION. CONCRETE SLAB IN OFFICE AREAS, WHERE SAND OVER VISQUEEN ARE REQUIRED, SHALL BE NATURALLY HYDRATED WITHOUT USE OF BURLENE, CURING COMPOUND, OR RELEASE AGENTS.
12. SEAL CONCRETE SLAB W/ "LAPIDOLITH" SEALER
13. SHURESEAL,LAPIDOLITH OR APPROVED EQUAL FLOOR SEALER APPLIED ONE COAT AT END OF JOB IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
14. NO PERMANENT GREASE PEN PANEL MARKS ON FLOOR SLAB. NO RED CAULK MARKS. ALL CONSTRUCTION MARKS TO BE REMOVED BEFORE SEALING.
15. 10' POUR STRIP AT TRUCK DOOR, 4FT. MAX. ELSEWHERE.
16. ALL FLOOR SLAB NAIL OR BRACE FRAME HOLES FILLED WITH APPROVED 2 PART EPOXY COMPOUND TO MATCH CONCRETE COLOR; PEGA BOND LV 2000,BURKE EPOXY INJECTION RESIN OR EQUAL.
17. PROVIDE FIRE EXTINGUISHERS PER FIRE DEPARTMENT REQUIREMENT.
18. MM-80 AT SPEED BAY ONLY, PRICE AS ADDITIONAL ALTERNATE

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Mechanical:	-
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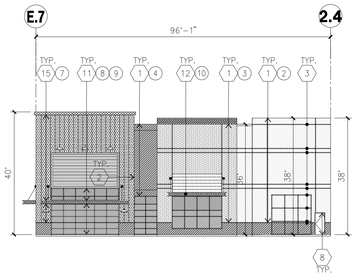
Title: OVERALL FLOOR PLAN

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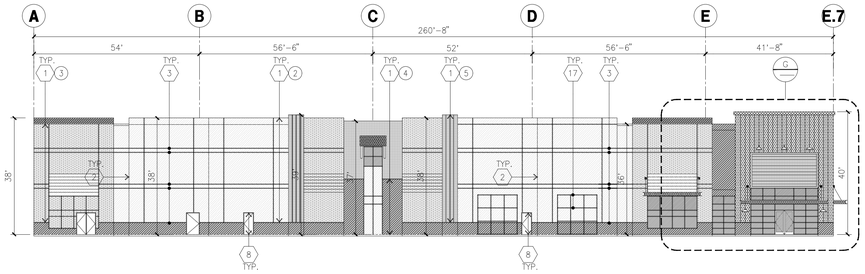
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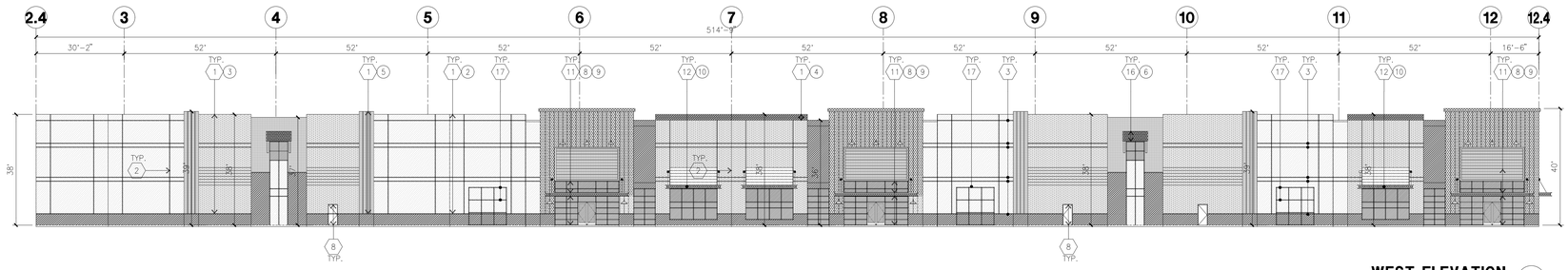
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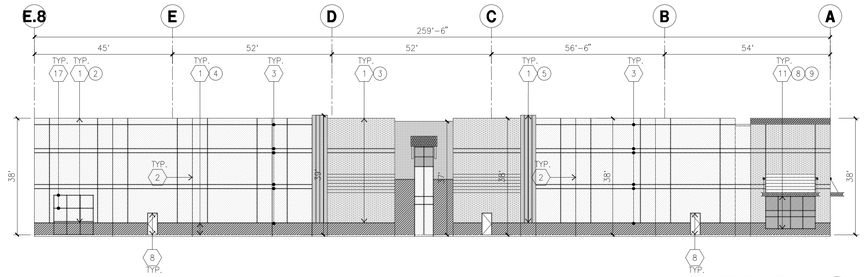
NORTHWEST ELEVATION B
scale: 1" = 20'-0"



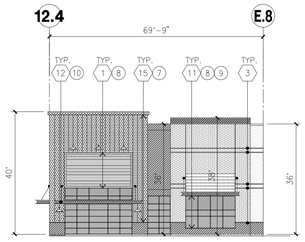
NORTH ELEVATION A
scale: 1" = 20'-0"



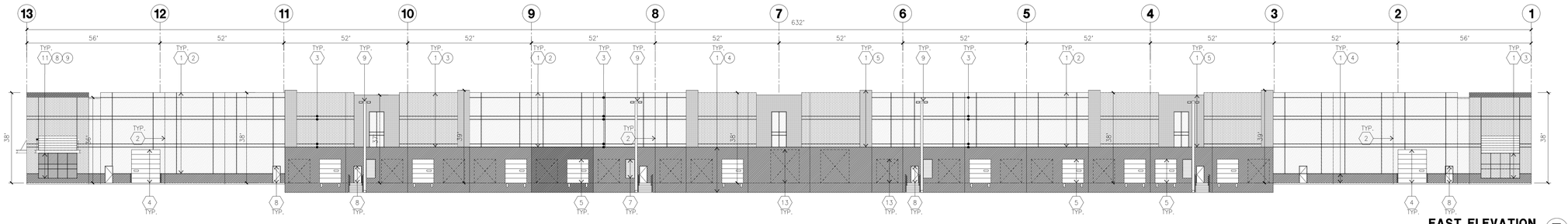
WEST ELEVATION C
scale: 1" = 20'-0"



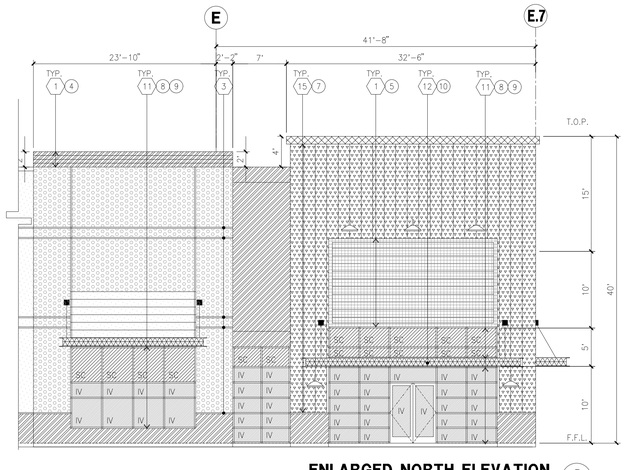
SOUTH ELEVATION E
scale: 1" = 20'-0"



SOUTHWEST ELEVATION D
scale: 1" = 20'-0"



EAST ELEVATION F
scale: 1" = 20'-0"



ENLARGED NORTH ELEVATION G
scale: 1/8" = 1'-0"

KEYNOTES - ELEVATIONS

1. CONCRETE TILT-UP PANEL(PAINTED). FINISH GRADE VARIES. SEE "C" DRAWINGS. WATERPROOF ALL WALLS WHERE EXTERIOR GRADE IS HIGHER THAN FINISH FLOOR AND EXPOSED TO THE WEATHER. WATERPROOFING TO BE PROTECTED WITH PROTECTION BOARD AND A MIN. OF 6" OF GRAVEL. PROVIDE TRENCH DRAIN AT BOTTOM AND DAYLIGHT TO CURB OR TAKE TO STORM DRAIN.
2. PANEL JOINT.
3. PANEL REVEAL. ALL REVEALS TO HAVE A MAX. OF 3/8" CHAMFER. REVEAL COLOR TO MATCH ADJACENT BUILDING FIELD COLOR. U.N.O.
4. OVERHEAD DOOR @ DRIVE THRU. PROVIDE COMPLETE WEATHER-STRIPPING PROTECTION ALL AROUND.
5. OVERHEAD DOOR @ DOCK HIGH. PROVIDE COMPLETE WEATHER-STRIPPING PROTECTION ALL AROUND.
6. EXTERIOR METAL STEEL STAIR.
7. METAL LOUVER. PAINT TO MATCH BUILDING COLOR.
8. HOLLOW METAL DOORS. PROVIDE COMPLETE WEATHER STRIPING ALL AROUND DOOR. PROVIDE FOR RAIN DIVERTER ABOVE DOOR.
9. EXTERIOR DOWNSPOUT WITH OVERFLOW SCUPPERS.
10. DOCK BUMPER.
11. ALUMINUM STOREFRONT FRAMING WITH TEMPERED GLAZING.
12. METAL CANOPY
13. KNOCK OUT PANEL
14. ROOF LINE BEYOND
15. AEP SPAN WIDE BATTEN 13.25" WIDE, 22GA WALL PANEL.
16. STANDING SEAM METAL ROOF
17. TRELLIS.

GENERAL NOTES - ELEVATIONS

A. ALL PAINT COLOR CHANGES TO OCCUR AT INSIDE CORNERS UNLESS NOTED OTHERWISE.
B. ALL PAINT FINISHES ARE TO BE FLAT UNLESS NOTED OTHERWISE.
C. T.O.P. EL.= TOP OF PARAPET ELEVATION.
D. F.F. = FINISH FLOOR ELEVATION.
E. STOREFRONT CONSTRUCTION: GLASS, METAL ATTACHMENTS AND LINTELS SHALL BE DESIGNED TO RESIST CITY REQUIRED WIND SPEED, EXPOSURE "C" WINDS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PRIOR TO INSTALLATION.
F. CONTRACTOR SHALL FULLY PAINT SEVERAL CONCRETE PANEL W/ SELECTED COLORS. LOCATION TO BE SELECTED BY ARCHITECT. ARCHITECT AND OWNER SHALL APPROVE PRIOR TO PAINTING REMAINDER OF BUILDING.
G. BACK SIDE OF PARAPETS TO HAVE SMOOTH FINISH AND BE PAINTED WITH ELASTOMERIC PAINT.
H. FOR SPANDREL GLAZING, ALLOW SPACE BEHIND SPANDREL TO BREATH.
J. USE ADHESIVE BACK WOOD STRIPS FOR ALL REVEAL FORMS.
K. THE FIRST COAT OF PAINT TO BE ROLLED-ON AND THE SECOND COAT TO BE SPRAYED-ON
L. EXTERIOR STAIRS AND RAMPS TO MATCH BUILDING COLOR. RAILINGS TO MATCH BUILDING COLOR.
M. ALL DOORS TO BE PAINTED THE SAME COLOR AS THE ADJACENT WALL.

ELEVATION COLOR LEGEND/SCHED.

1. CONCRETE TILT-UP PANEL. COLOR : SW 7104 CUTTON WHITE 265-C1
2. CONCRETE TILT-UP PANEL. COLOR : SW 7010 WHITE DUCK 254-C5
3. CONCRETE TILT-UP PANEL. COLOR : SW 7030 ANEW GRAY 243-C2
4. CONCRETE TILT-UP PANEL. COLOR : DET620 BARNWOOD GRAY
5. CONCRETE TILT-UP PANEL. COLOR : SW 7026 GRIFFIN 241-C6
6. METAL PANEL. COLOR : OLD ZINC GRAY
7. METAL PANEL/STANDING SEAM METAL ROOF. COLOR : TERRA COTTA
8. MULLIONS COLOR : BLACK MULLION
9. GLAZING COLOR : GREEN GLAZING
10. CANOPY MATERIAL : SHERWIN-WILLIAMS PRO-INDUSTRIAL WATERBASED B53-1150 SEMI GLOSS SW 7069 IRON ORE @ METAL TRELLIS AND METAL CANOPY

GLAZING LEGEND

NOTE: ALL EXTERIOR AND INTERIOR GLAZING SHALL BE TEMPERED.

IV INSULATED VISION GLASS

S SPANDREL GLASS WITH CONCRETE BEHIND

V SINGLE LITE VISION GLASS

IV : INSULATED VISION GLASS
1/4" ATLANTICA + 1/4" SUNGATE 400 CLEAR
1" INSULATED GLASS UNIT WITH 1/2" AIRSPACE AND 1/4" LITES
U: 0.27 SHGC: 0.35 VLT: 58%
MINIMUM VT TO BE 0.42 PER 2016 CEC TABLE 140.3-B

SC : SPANDREL WITH CONCRETE BEHIND
1/4" CLEAR WITH ATLANTIC WATERS OPACICOAT PAINTED ON REFLECTIVE. INSTALLED ON CONCRETE.

V : VISION GLASS
1/4" ATLANTICA

S : SPANDREL
1/4" CLEAR WITH ATLANTIC WATERS OPACICOAT PAINTED ON REFLECTIVE. INSTALLED ON OPENINGS.

MULLIONS : BLACK MULLION

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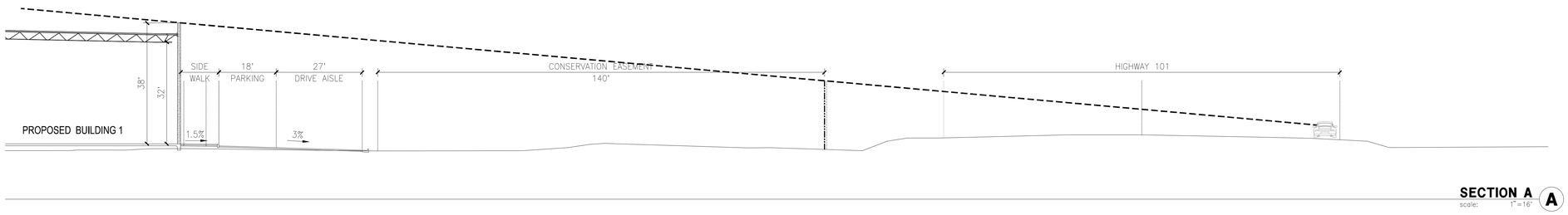
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Title: ELEVATION

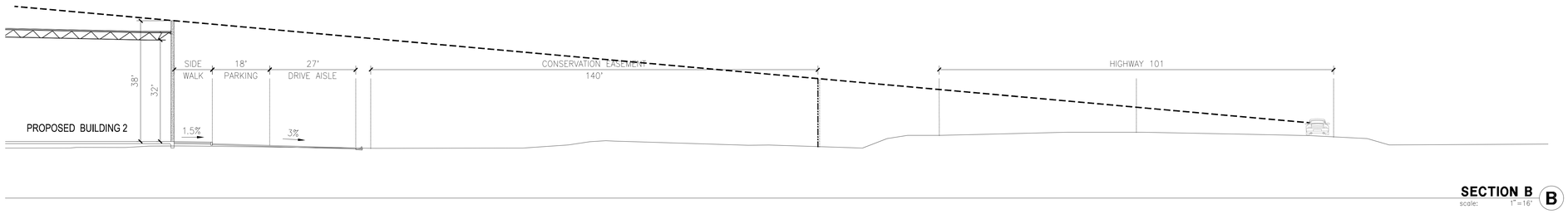
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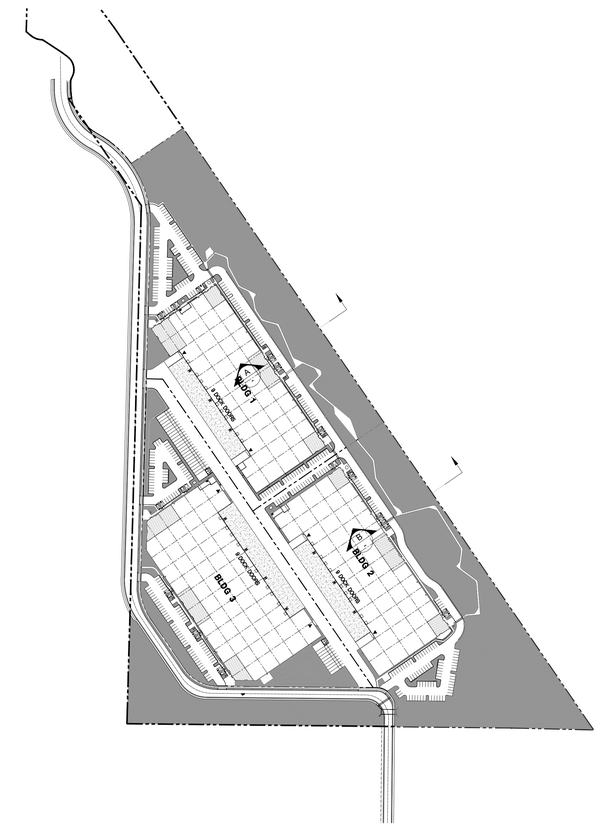
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SECTION A scale: 1" = 16' **A**



SECTION B scale: 1" = 16' **B**



KEYMAP scale: 1" = 200' **C**

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Plumbing:	-
Electrical:	-
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Fire Protection:	
Soils Engineer:	

Title: SITE SECTIONS

Project Number:	22313
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2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

301.1 SCOPE. BUILDINGS SHALL BE DESIGNED TO INCLUDE THE GREEN BUILDING MEASURES SPECIFIED AS MANDATORY IN THE APPLICATION CHECKLISTS CONTAINED IN THIS CODE. VOLUNTARY GREEN BUILDING MEASURES ARE ALSO INCLUDED IN THE APPLICATION CHECKLISTS AND MAY BE INCLUDED IN THE DESIGN AND CONSTRUCTION OF STRUCTURES COVERED BY THIS CODE, BUT ARE NOT REQUIRED UNLESS ADOPTED BY A CITY, COUNTY, OR CITY AND COUNTY AS SPECIFIED IN SECTION 101.7.

301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC-CG] THE PROVISIONS OF INDIVIDUAL SECTIONS OF CHAPTER 5 APPLY TO NEWLY CONSTRUCTED BUILDINGS, BUILDING ADDITIONS OF 1,000 SQUARE FEET OR GREATER, AND/OR BUILDING ALTERATIONS WITH A PERMIT VALUATION OF $200,000 OR ABOVE (FOR OCCUPANCIES WITHIN THE AUTHORITY OF CALIFORNIA BUILDING STANDARDS COMMISSION). CODE SECTIONS RELEVANT TO ADDITIONS AND ALTERATIONS SHALL ONLY APPLY TO THE PORTIONS OF THE BUILDING BEING ADDED OR ALTERED WITHIN THE SCOPE OF THE PERMITTED WORK.

A CODE SECTION WILL BE DESIGNATED BY A BANNER TO INDICATE WHERE THE CODE SECTION ONLY APPLIES TO NEWLY CONSTRUCTED BUILDINGS [N] OR TO ADDITIONS AND/OR ALTERATIONS [A]. WHEN THE CODE SECTION APPLIES TO BOTH, NO BANNER WILL BE USED.

301.3.1 NONRESIDENTIAL ADDITIONS AND ALTERATIONS THAT CAUSE UPDATES TO PLUMBING FIXTURES ONLY:

NOTE: ON AND AFTER JANUARY 1, 2014, CERTAIN COMMERCIAL REAL PROPERTY, AS DEFINED IN CIVIL CODE SECTION 1101.3, SHALL HAVE ITS NONCOMPLIANT PLUMBING FIXTURES REPLACED WITH APPROPRIATE WATER-CONSERVING PLUMBING FIXTURES UNDER SPECIFIC CIRCUMSTANCES. SEE CIVIL CODE SECTION 1101.1 ET SEQ. FOR DEFINITIONS, TYPES OF COMMERCIAL REAL PROPERTY AFFECTED, EFFECTIVE DATES, CIRCUMSTANCES NECESSITATING REPLACEMENT OF NONCOMPLIANT PLUMBING FIXTURES, AND DUTIES AND RESPONSIBILITIES FOR ENSURING COMPLIANCE.

301.3.2 WASTE DIVERSION. THE REQUIREMENTS OF SECTION 5.408 SHALL BE REQUIRED FOR ADDITIONS AND ALTERATIONS WHENEVER A PERMIT IS REQUIRED FOR WORK.

301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (SEE GBSC)
301.5 HEALTH FACILITIES. (SEE GBSC)

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. IN MIXED OCCUPANCY BUILDINGS, EACH PORTION OF A BUILDING SHALL COMPLY WITH THE SPECIFIC GREEN BUILDING MEASURES APPLICABLE TO EACH SPECIFIC OCCUPANCY.

SECTION 303 PHASED PROJECTS

303.1 PHASED PROJECTS. FOR SHELL BUILDINGS AND OTHERS CONSTRUCTED FOR FUTURE TENANT IMPROVEMENTS, ONLY THOSE CODE MEASURES RELEVANT TO THE BUILDING COMPONENTS AND SYSTEMS CONSIDERED TO BE NEW CONSTRUCTION (OR NEWLY CONSTRUCTED) SHALL APPLY.

303.1.1 INITIAL TENANT IMPROVEMENTS. THE PROVISIONS OF THIS CODE SHALL APPLY ONLY TO THE INITIAL TENANT IMPROVEMENTS TO A PROJECT. SUBSEQUENT TENANT IMPROVEMENTS SHALL COMPLY WITH THE SCOPING PROVISIONS IN SECTION 301.3 NON-RESIDENTIAL ADDITIONS AND ALTERATIONS.

ABBREVIATION DEFINITIONS:
HCD DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
BSC CALIFORNIA BUILDING STANDARDS COMMISSION
DSA-SS DIVISION OF THE STATE ARCHITECT, STRUCTURAL SAFETY
OSHPD OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
LR LOW RISE
HR HIGH RISE
AA ADDITIONS AND ALTERATIONS
N NEW

CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.1 PLANNING AND DESIGN

SECTION 5.101 GENERAL
5.101.1 SCOPE
THE PROVISIONS OF THIS CHAPTER OUTLINE PLANNING, DESIGN AND DEVELOPMENT METHODS THAT INCLUDE ENVIRONMENTALLY RESPONSIBLE SITE SELECTION, BUILDING DESIGN, BUILDING SITING AND DEVELOPMENT TO PROTECT, RESTORE AND ENHANCE THE ENVIRONMENTAL QUALITY OF THE SITE AND RESPECT THE INTEGRITY OF ADJACENT PROPERTIES.

SECTION 5.102 DEFINITIONS
5.102.1 DEFINITIONS
THE FOLLOWING TERMS ARE DEFINED IN CHAPTER 2 (AND ARE INCLUDED HERE FOR REFERENCE)

CUTOFF LUMINAIRES. LUMINAIRES WHOSE LIGHT DISTRIBUTION IS SUCH THAT THE CANDELA PER 1000 LAMP LUMENS DOES NOT NUMERICALLY EXCEED 25 (2.5 PERCENT) AT AN ANGLE OF 90 DEGREES ABOVE NADIR, AND 100 (10 PERCENT) AT A VERTICAL ANGLE OF 80 DEGREES ABOVE NADIR. THIS APPLIES TO ALL LATERAL ANGLES AROUND THE LUMINAIRE.

LOW-EMITTING AND FUEL EFFICIENT VEHICLES.
ELIGIBLE VEHICLES ARE LIMITED TO THE FOLLOWING:

1. ZERO EMISSION VEHICLE (ZEV), INCLUDING NEIGHBORHOOD ELECTRIC VEHICLES (NEV), PARTIAL ZERO EMISSION VEHICLE (PZEV), ADVANCED TECHNOLOGY PZEV (AT ZEV) OR CNG FUELED (ORIGINAL EQUIPMENT MANUFACTURER ONLY) REGULATED UNDER HEALTH AND SAFETY CODE SECTION 43800 AND CCR, TITLE 13, SECTIONS 1961 AND 1962.
2. HIGH-EFFICIENCY VEHICLES, REGULATED BY U.S. EPA, BEARING HIGH-OCCUPANCY VEHICLE (HOV) CAR POOL LANE STICKERS ISSUED BY THE DEPARTMENT OF MOTOR VEHICLES.

NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A MOTOR VEHICLE THAT MEETS THE DEFINITION OF "LOW-SPEED VEHICLE" EITHER IN SECTION 385.5 OF THE VEHICLE CODE OR IN 49CFR571.500 (AS IT EXISTED ON JULY 1, 2000), AND IS CERTIFIED TO ZERO-EMISSION VEHICLE STANDARDS.

TENANT-OCCUPANTS. BUILDING OCCUPANTS WHO INHABIT A BUILDING DURING ITS NORMAL HOURS OF OPERATION AS PERMANENT OCCUPANTS, SUCH AS EMPLOYEES, AS DISTINGUISHED FROM CUSTOMERS AND OTHER TRANSIENT VISITORS.

VANPOOL VEHICLE. ELIGIBLE VEHICLES ARE LIMITED TO ANY MOTOR VEHICLE, OTHER THAN A MOTORTRUCK OR TRUCK TRACTOR, DESIGNED FOR CARRYING MORE THAN 10 BUT NOT MORE THAN 15 PERSONS INCLUDING THE DRIVER; WHICH IS MAINTAINED AND USED PRIMARILY FOR THE NONPROFIT WORK-RELATED TRANSPORTATION OF ADULTS FOR THE PURPOSE OF RIDESHARING.

NOTE: SOURCE: VEHICLE CODE, DIVISION 1, SECTION 668

ZEV. ANY VEHICLE CERTIFIED TO ZERO-EMISSION STANDARDS.

SECTION 5.106 SITE DEVELOPMENT
5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND. NEWLY CONSTRUCTED PROJECTS AND ADDITIONS WHICH DISTURB LESS THAN ONE ACRE OF LAND, AND ARE NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE, SHALL PREVENT THE POLLUTION OF STORM WATER RUNOFF FROM THE CONSTRUCTION ACTIVITIES THROUGH ONE OR MORE OF THE FOLLOWING MEASURES:

5.106.1.1 LOCAL ORDINANCE. COMPLY WITH A LAWFULLY ENACTED STORM WATER MANAGEMENT AND/OR EROSION CONTROL ORDINANCE.

5.106.1.2 BEST MANAGEMENT PRACTICES (BMPS). PREVENT THE LOSS OF SOIL THROUGH WIND OR WATER EROSION BY IMPLEMENTING AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROL AND GOOD HOUSEKEEPING BMPS.

1. SOIL LOSS BMPS THAT SHOULD BE CONSIDERED FOR IMPLEMENTATION AS APPROPRIATE FOR EACH PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   A. SCHEDULING CONSTRUCTION ACTIVITY DURING DRY WEATHER, WHEN POSSIBLE.
   B. PRESERVATION OF NATURAL FEATURES, VEGETATION, SOIL, AND BUFFERS AROUND SURFACE WATERS.
   C. DRAINAGE SWALES OR LINED DITCHES TO CONTROL STORMWATER FLOW.
   D. MULCHING OR HYDROSEEDING TO STABILIZE DISTURBED SOILS.
   E. EROSION CONTROL TO PROTECT SLOPES.
   F. PROTECTION OF STORM DRAIN INLETS (GRAVEL BAGS OR CATCH BASIN INSERTS).
   G. PERIMETER SEDIMENT CONTROL (PERIMETER SILT FENCE, FIBER ROLLS).
   H. SEDIMENT TRAP OR SEDIMENT BASIN TO RETAIN SEDIMENT ON SITE.
   I. STABILIZED CONSTRUCTION EXITS.
   J. WIND EROSION CONTROL.
   K. OTHER SOIL LOSS BMPS ACCEPTABLE TO THE ENFORCING AGENCY.
2. GOOD HOUSEKEEPING BMPS TO MANAGE CONSTRUCTION EQUIPMENT, MATERIALS, NON-STORMWATER DISCHARGES AND WASTES THAT SHOULD BE CONSIDERED FOR IMPLEMENTATION AS APPROPRIATE FOR EACH PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   A. DEWATERING ACTIVITIES.
   B. MATERIAL HANDLING AND WASTE MANAGEMENT.
   C. BUILDING MATERIALS STOCKPILE MANAGEMENT.
   D. MANAGEMENT OF WASHOUT AREAS (CONCRETE, PAINTS, STUCCO, ETC.)
   E. CONTROL OF VEHICLE/EQUIPMENT FUELING TO CONTRACTOR'S STAGING AREA.
   F. VEHICLE AND EQUIPMENT CLEANING PERFORMED OFF SITE.
   G. SPILL PREVENTION AND CONTROL.
   H. OTHER HOUSEKEEPING BMPS ACCEPTABLE TO THE ENFORCING AGENCY.

5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND. COMPLY WITH ALL LAWFULLY ENACTED STORMWATER DISCHARGE REGULATIONS FOR PROJECTS THAT (1) DISTURB ONE ACRE OR MORE OF LAND, OR (2) DISTURB LESS THAN ONE ACRE OF LAND BUT ARE PART OF A LARGER COMMON PLAN OF DEVELOPMENT SALE.

NOTE: PROJECTS THAT (1) DISTURB ONE ACRE OR MORE OF LAND, OR (2) DISTURB LESS THAN ONE ACRE OF LAND BUT ARE PART OF THE LARGER COMMON PLAN OF DEVELOPMENT OR SALE MUST COMPLY WITH THE POST-CONSTRUCTION REQUIREMENTS DETAILED IN THE APPLICABLE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES ISSUED BY THE STATE WATER RESOURCES CONTROL BOARD OR THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD (FOR PROJECTS IN THE LAKE TAHOE HYDROLOGIC UNIT).

THE NPDES PERMITS REQUIRE POSTCONSTRUCTION RUNOFF (POST-PROJECT HYDROLOGY) TO MATCH THE PRECONSTRUCTION RUNOFF (PRE-PROJECT HYDROLOGY) WITH THE INSTALLATION OF POSTCONSTRUCTION STORMWATER MANAGEMENT MEASURES. THE NPDES PERMITS EMPHASIZE RUNOFF REDUCTION THROUGH ON-SITE STORMWATER USE, INTERCEPTION, EVAPOTRANSPIRATION, AND INFILTRATION THROUGH NONSTRUCTURAL CONTROLS, SUCH AS LOW IMPACT DEVELOPMENT (LID) PRACTICES, AND CONVERSATION DESIGN MEASURES. STORMWATER VOLUME THAT CANNOT BE ADDRESSED USING NONSTRUCTURAL PRACTICES IS REQUIRED TO BE CAPTURED IN STRUCTURAL PRACTICES AND BE APPROVED BY THE ENFORCING AGENCY.

REFER TO THE CURRENT APPLICABLE PERMITS ON THE STATE WATER RESOURCES CONTROL BOARD WEBSITE AT: WWW.WATERBOARDS.CA.GOV/CONSTRUCTIONSTORMWATER. CONSIDERATION TO THE STORMWATER RUNOFF MANAGEMENT MEASURES SHOULD BE GIVEN DURING THE INITIAL DESIGN PROCESS FOR APPROPRIATE INTEGRATION INTO SITE DEVELOPMENT.

5.106.4 BICYCLE PARKING. FOR BUILDINGS WITHIN THE AUTHORITY OF CALIFORNIA BUILDING STANDARDS COMMISSION AS SPECIFIED IN SECTION 103, COMPLY WITH SECTION 5.106.4.1. FOR BUILDINGS WITHIN THE AUTHORITY OF THE DIVISION OF THE STATE ARCHITECT PURSUANT TO SECTION 105, COMPLY WITH SECTION 5.106.4.2

5.106.4.1 BICYCLE PARKING. [BSC-CG] COMPLY WITH SECTIONS 5.106.4.1.1 AND 5.106.4.1.2; OR MEET THE APPLICABLE LOCAL ORDINANCE, WHICHEVER IS STRICTER.

5.106.4.1.1 SHORT-TERM BICYCLE PARKING. IF THE NEW PROJECT OR AN ADDITION OR ALTERATION IS ANTICIPATED TO GENERATE VISITOR TRAFFIC, PROVIDE PERMANENTLY ANCHORED BICYCLE RACKS WITHIN 200 FEET OF THE VISITORS' ENTRANCE, READILY VISIBLE TO PASSERS-BY, FOR 5% OF NEW VISITOR MOTORIZED VEHICLE PARKING SPACES BEING ADDED, WITH A MINIMUM OF ONE TWO-BIKE CAPACITY RACK.
EXCEPTION: ADDITIONS OR ALTERATIONS WHICH ADD NINE OR LESS VISITOR VEHICULAR PARKING SPACES.

5.106.4.1.2 LONG-TERM BICYCLE PARKING. FOR NEW BUILDINGS WITH TENANT SPACES THAT HAVE 10 OR MORE TENANT-OCCUPANTS, PROVIDE SECURE BICYCLE PARKING FOR 5 PERCENT OF THE TENANT-OCCUPANT VEHICULAR PARKING SPACES WITH A MINIMUM OF ONE BICYCLE PARKING FACILITY.

5.106.4.1.3 FOR ADDITIONS OR ALTERATIONS THAT ADD 10 OR MORE TENANT-OCCUPANT VEHICULAR PARKING SPACES, PROVIDE SECURE BICYCLE PARKING FOR 5 PERCENT OF THE TENANT VEHICULAR PARKING SPACES BEING ADDED, WITH A MINIMUM OF ONE BICYCLE PARKING FACILITY.

5.106.4.1.4 FOR NEW SHELL BUILDINGS IN PHASED PROJECTS PROVIDE SECURE BICYCLE PARKING FOR 5 PERCENT OF THE ANTICIPATED TENANT-OCCUPANT VEHICULAR PARKING SPACES WITH A MINIMUM OF ONE BICYCLE PARKING FACILITY.

5.106.4.1.5 ACCEPTABLE BICYCLE PARKING FACILITY FOR SECTIONS 5.106.4.1.2, 5.106.4.1.3, AND 5.106.4.1.4 SHALL BE CONVENIENT FROM THE STREET AND SHALL MEET ONE OF THE FOLLOWING:

1. COVERED, LOCKABLE ENCLOSURES WITH PERMANENTLY ANCHORED RACKS FOR BICYCLES;
2. LOCKABLE BICYCLE ROOMS WITH PERMANENTLY ANCHORED RACKS; OR
3. LOCKABLE, PERMANENTLY ANCHORED BICYCLE LOCKERS.

NOTE: ADDITIONAL INFORMATION ON RECOMMENDED BICYCLE ACCOMMODATIONS MAY BE OBTAINED FROM SACRAMENTO AREA BICYCLE ADVOCATES.

5.106.4.2 BICYCLE PARKING. [DSA-SS] FOR PUBLIC SCHOOLS AND COMMUNITY COLLEGES, COMPLY WITH SECTIONS 5.106.4.2.1 AND 5.106.4.2.2

5.106.4.2.1 STUDENT BICYCLE PARKING. PROVIDE PERMANENTLY ANCHORED BICYCLE RACKS CONVENIENTLY ACCESSED WITH A MINIMUM OF FOUR TWO-BIKE CAPACITY RACKS PER NEW BUILDING.
5.106.4.2.2 STAFF BICYCLE PARKING. PROVIDE PERMANENT, SECURE BICYCLE PARKING CONVENIENTLY ACCESSED WITH A MINIMUM OF TWO STAFF BICYCLE PARKING SPACES PER NEW BUILDING. ACCEPTABLE BICYCLE PARKING FACILITIES SHALL BE CONVENIENT FROM THE STREET OR STAFF PARKING AREA AND SHALL MEET ONE OF THE FOLLOWING:

1. COVERED, LOCKABLE ENCLOSURES WITH PERMANENTLY ANCHORED RACKS FOR BICYCLES;
2. LOCKABLE BICYCLE ROOMS WITH PERMANENTLY ANCHORED RACKS; OR
3. LOCKABLE, PERMANENTLY ANCHORED BICYCLE LOCKERS.

5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES. IN NEW PROJECTS OR ADDITIONS OR ALTERATIONS THAT ADD 10 OR MORE VEHICULAR PARKING SPACES, PROVIDE DESIGNATED PARKING FOR ANY COMBINATION OF LOW-EMITTING, FUEL-EFFICIENT AND CARPOOL/VAN POOL VEHICLES AS FOLLOWS:

TABLE 5.106.5.2 – PARKING

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0–9	0
10–25	1
25–50	3
51–75	6
76–100	8
101–150	11
151–200	16
201 AND OVER	AT LEAST 8% OF TOTAL

5.106.5.2.1 – PARKING STALL MARKING. PAINT, IN THE PAINT USED FOR STALL STRIPING, THE FOLLOWING CHARACTERS SUCH THAT THE LOWER EDGE OF THE LAST WORD ALIGNS WITH THE END OF THE STALL STRIPING AND IS VISIBLE BENEATH A PARKED VEHICLE: CLEAN AIR / VAN POOL / EV

NOTE: VEHICLES BEARING CLEAN AIR VEHICLE STICKERS FROM EXPIRED HOV LANE PROGRAMS MAY BE CONSIDERED ELIGIBLE FOR DESIGNATED PARKING SPACES.

5.106.5.3 ELECTRIC VEHICLE (EV) CHARGING. [N] CONSTRUCTION SHALL COMPLY WITH SECTION 5.106.5.3.1 OR SECTION 5.106.5.3.2 TO FACILITATE FUTURE INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). WHEN EVSE(S) IS/ARE INSTALLED, IT SHALL BE IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE, THE CALIFORNIA ELECTRICAL CODE AND AS FOLLOWS:

5.106.5.3.1 SINGLE CHARGING SPACE REQUIREMENTS. [N] WHEN ONLY A SINGLE CHARGING SPACE IS REQUIRED PER TABLE 5.106.5.3.3, A RACEWAY IS REQUIRED TO BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE. CONSTRUCTION PLANS AND SPECIFICATIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. THE TYPE AND LOCATION OF THE EVSE.
2. A LISTED RACEWAY CAPABLE OF ACCOMMODATING A 208/240 -VOLT DEDICATED BRANCH CIRCUIT.
3. THE RACEWAY SHALL NOT BE LESS THAN TRADE SIZE 1".
4. THE RACEWAY SHALL ORIGINATE AT A SERVICE PANEL OR A SUBPANEL SERVING THE AREA, AND SHALL TERMINATE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF THE CHARGING EQUIPMENT AND LISTED SUITABLE CABINET, BOX, ENCLOSURE OR EQUIVALENT.
5. THE SERVICE PANEL OR SUBPANEL SHALL HAVE SUFFICIENT CAPACITY TO ACCOMMODATE A MINIMUM 40-AMPERE DEDICATED BRANCH CIRCUIT FOR THE FUTURE INSTALLATION OF THE EVSE.

5.106.5.3.2 MULTIPLE CHARGING SPACE REQUIREMENTS. [N] WHEN MULTIPLE CHARGING SPACES ARE REQUIRED PER TABLE 5.106.5.3.3 RACEWAY(S) IS/ARE REQUIRED TO BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE. CONSTRUCTION PLANS AND SPECIFICATIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. THE TYPE AND LOCATION OF THE EVSE.
2. THE RACEWAY(S) SHALL ORIGINATE AT A SERVICE PANEL OR A SUBPANEL(S) SERVING THE AREA, AND SHALL TERMINATE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF THE CHARGING EQUIPMENT AND INTO LISTED SUITABLE CABINET(S), BOX(ES), ENCLOSURE(S) OR EQUIVALENT.
3. PLAN DESIGN SHALL BE BASED UPON 40-AMPERE MINIMUM BRANCH CIRCUITS.
4. ELECTRICAL CALCULATIONS SHALL SUBSTANTIATE THE DESIGN OF THE ELECTRICAL SYSTEM, TO INCLUDE THE RATING OF EQUIPMENT AND ANY ON-SITE DISTRIBUTION TRANSFORMERS AND HAVE SUFFICIENT CAPACITY TO SIMULTANEOUSLY CHARGE ALL REQUIRED EVS AT ITS FULL RATED AMPERAGE.
5. THE SERVICE PANEL OR SUBPANEL(S) SHALL HAVE SUFFICIENT CAPACITY TO ACCOMMODATE THE REQUIRED NUMBER OF DEDICATED BRANCH CIRCUIT(S) FOR THE FUTURE INSTALLATION OF THE EVSE.

5.106.5.3.3 EV CHARGING SPACE CALCULATIONS. [N] TABLE 5.106.5.3.3 SHALL BE USED TO DETERMINE IF SINGLE OR MULTIPLE CHARGING SPACE REQUIREMENTS APPLY FOR THE FUTURE INSTALLATION OF EVSE.

EXCEPTIONS: ON A CASE-BY-CASE BASIS WHERE THE LOCAL ENFORCING AGENCY HAS DETERMINED EV CHARGING AND INFRASTRUCTURE IS NOT FEASIBLE BASED UPON ONE OR MORE OF THE FOLLOWING CONDITIONS:

1. WHERE THERE IS INSUFFICIENT ELECTRICAL SUPPLY.
2. WHERE THERE IS EVIDENCE SUITABLE TO THE LOCAL ENFORCING AGENCY SUBSTANTIATING THAT ADDITIONAL LOCAL UTILITY INFRASTRUCTURE DESIGN REQUIREMENTS, DIRECTLY RELATED TO THE IMPLEMENTATION OF SECTION 5.106.5.3, MAY ADVERSELY IMPACT THE CONSTRUCTION COST OF THE PROJECT.

TABLE 5.106.5.3.3

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0–9	0
10–25	1
26–50	2
51–75	4
76–100	5
101–150	7
151–200	10
201 AND OVER	6% OF TOTAL*

1. CALCULATION FOR SPACES SHALL BE ROUNDED UP TO THE NEAREST WHOLE NUMBER.

5.106.5.3.4 [N] IDENTIFICATION. THE SERVICE PANEL OR SUBPANEL(S) CIRCUIT DIRECTORY SHALL IDENTIFY THE RESERVED OVERCURRENT PROTECTIVE DEVICE SPACE(S) FOR FUTURE EV CHARGING AS "EV CAPABLE". THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE".

5.106.5.3.5 [N] FUTURE CHARGING SPACES QUALIFY AS DESIGNATED PARKING AS DESCRIBED IN SECTION 5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES.

5.106.8 LIGHT POLLUTION REDUCTION. [N] ALL OUTDOOR LIGHTING SYSTEMS SHALL BE DESIGNED AND INSTALLED TO COMPLY WITH THE FOLLOWING:

1. THE MINIMUM REQUIREMENTS IN THE CALIFORNIA ENERGY CODE FOR LIGHTING ZONES 0–4 AS DEFINED IN CHAPTER 10, SECTION 10-114 OF THE CALIFORNIA ADMINISTRATIVE CODE; AND
2. BACKLIGHT (B) RATINGS AS DEFINED IN IES TM-15-11 (SHOWN IN TABLE A–1 IN CHAPTER 8);
3. UPLIGHT AND GLARE RATINGS AS DEFINED IN CALIFORNIA ENERGY CODE (SHOWN IN TABLES 130.2–A AND 130.2–B IN CHAPTER 8) AND
4. ALLOWABLE BUG RATINGS NOT EXCEEDING THOSE SHOWN IN TABLE 5.106.8, [N] OR COMPLY WITH A LOCAL ORDINANCE LAWFULLY ENACTED PURSUANT TO SECTION 101.7, WHICHEVER IS MORE STRINGENT.

EXCEPTIONS: [N]

1. LUMINAIRES THAT QUALIFY AS EXCEPTIONS IN SECTION 140.7 OF THE CALIFORNIA ENERGY CODE.
2. EMERGENCY LIGHTING.
3. BUILDING FACADE MEETING THE REQUIREMENTS IN TABLE 140.7-B OF THE CALIFORNIA ENERGY CODE, PART 6.
4. CUSTOM LIGHTING FEATURES AS ALLOWED BY THE LOCAL ENFORCING AGENCY, AS PERMITTED BY SECTION 101.8 ALTERNATE MATERIALS, DESIGNS AND METHODS OF CONSTRUCTION.

NOTE: [N]
1. SEE ALSO CALIFORNIA BUILDING CODE, CHAPTER 12, SECTION 1205.6 FOR COLLEGE CAMPUS LIGHTING REQUIREMENTS FOR PARKING FACILITIES AND WALKWAYS.
2. REFER TO CHAPTER 8 (COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIAL) FOR IES TM-15-11 TABLE A–1, CALIFORNIA ENERGY CODE TABLES 130.2–A AND 130.2–B.
3. REFER TO THE CALIFORNIA BUILDING CODE FOR REQUIREMENTS FOR ADDITIONS AND ALTERATIONS.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS 1,2

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING 3					
LUMINAIRE GREATER THAN 2 MOUNTING HEIGHTS (MH) FROM PROPERTY LINE	N/A	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT
LUMINAIRE BACK HEMISPHERE IS 1–2 MH FROM PROPERTY LINE	N/A	B2	B3	B4	B4
LUMINAIRE BACK HEMISPHERE IS 0.5–1 MH FROM PROPERTY LINE	N/A	B1	B2	B3	B3
LUMINAIRE BACK HEMISPHERE IS LESS THAN 0.5 MH FROM PROPERTY LINE	N/A	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)					
FOR AREA LIGHTING 4	N/A	U0	U0	U0	U0
FOR ALL OTHER OUTDOOR LIGHTING,INCLUDING DECORATIVE LUMINAIRES	N/A	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING 5 (G)					
LUMINAIRE GREATER THAN 2 MH FROM PROPERTY LINE	N/A	G1	G2	G3	G4
LUMINAIRE FRONT HEMISPHERE IS 1–2 MH FROM PROPERTY LINE	N/A	G0	G1	G1	G2
LUMINAIRE FRONT HEMISPHERE IS 0.5–1 MH FROM PROPERTY LINE	N/A	G0	G0	G1	G1
LUMINAIRE BACK HEMISPHERE IS LESS THAN 0.5 MH FROM PROPERTY LINE	N/A	G0	G0	G0	G1
1. IESNA LIGHTING ZONES 0 AND 5 ARE NOT APPLICABLE; REFER TO LIGHTING ZONES AS DEFINED IN THE CALIFORNIA ENERGY CODE AND CHAPTER 10 OF THE CALIFORNIA ADMINISTRATIVE CODE.					
2. FOR PROPERTY LINES THAT ABUT PUBLIC WALKWAYS, BIKEWAYS, PLAZAS AND PARKING LOTS, THE PROPERTY LINE MAY BE CONSIDERED TO BE 5 FEET BEYOND THE ACTUAL PROPERTY LINE FOR PURPOSE OF DETERMINING COMPLIANCE WITH THIS SECTION. FOR PROPERTY LINES THAT ABUT PUBLIC ROADWAYS AND PUBLIC TRANSIT CORRIDORS, THE PROPERTY LINE MAY BE CONSIDERED TO BE THE CENTERLINE OF THE PUBLIC ROADWAY OR PUBLIC TRANSIT CORRIDOR FOR THE PURPOSE OF DETERMINING COMPLIANCE WITH THIS SECTION.					
3. IF THE NEAREST PROPERTY LINE IS LESS THAN OR EQUAL TO TWO MOUNTING HEIGHTS FROM THE BACK HEMISPHERE OF THE LUMINAIRE DISTRIBUTION, THE APPLICABLE REDUCED BACKLIGHT RATING SHALL BE MET.					
4. GENERAL LIGHTING LUMINAIRES IN AREAS SUCH AS OUTDOOR PARKING, SALES OR STORAGE LOTS SHALL MEET THESE REDUCED RATINGS. DECORATIVE LUMINAIRES LOCATED IN THESE AREAS SHALL MEET U-VALUE LIMITS FOR "ALL OTHER OUTDOOR LIGHTING".					
5. IF THE NEAREST PROPERTY LINE IS LESS THAN OR EQUAL TO TWO MOUNTING HEIGHTS FROM THE FRONT HEMISPHERE OF THE LUMINAIRE DISTRIBUTION, THE APPLICABLE REDUCED GLARE RATING SHALL BE MET.					

5.106.10 GRADING AND PAVING. CONSTRUCTION PLANS SHALL INDICATE HOW SITE GRADING OR A DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS. EXAMPLES OF METHODS TO MANAGE SURFACE WATER INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

5.106.12 SHADE TREES [DSA-SS]. SHADE TREES SHALL BE PLANTED TO COMPLY WITH SECTIONS 5.106.12.1, 5.106.12.2, AND 5.106.12.3. PERCENTAGES SHOWN SHALL BE MEASURED AT NOON ON THE SUMMER SOLSTICE. LANDSCAPE IRRIGATION NECESSARY TO ESTABLISH AND MAINTAIN TREE HEALTH SHALL COMPLY WITH SECTION 5.304.6.

5.106.12.1 SURFACE PARKING AREAS. SHADE TREE PLANTINGS, MINIMUM #10 CONTAINER SIZE OR EQUAL, SHALL BE INSTALLED TO PROVIDE SHADE OVER 50 PERCENT OF THE PARKING AREA WITHIN 15 YEARS.

EXCEPTIONS: THE SURFACE PARKING AREA COVERED BY SOLAR PHOTOVOLTAIC SHADE STRUCTURES, OR SHADE STRUCTURES, WITH ROOFING MATERIALS THAT COMPLY WITH TABLE A5.106.11.2.2 IN APPENDIX A5, ARE NOT INCLUDED IN THE TOTAL AREA CALCULATIONS.

5.106.12.2 LANDSCAPE AREAS. SHADE TREES PLANTINGS, MINIMUM #10 CONTAINER SIZE OR EQUAL SHALL BE INSTALLED TO PROVIDE SHADE OF 20% OF THE LANDSCAPE AREA WITHIN 15 YEARS.

EXCEPTIONS: PLAYFIELDS FOR ORGANIZED SPORT ACTIVITY ARE NOT INCLUDED IN THE TOTAL AREA CALCULATION.

5.106.12.3. HARDSCAPE AREAS. SHADE TREE PLANTINGS, MINIMUM #10 CONTAINER SIZE OR EQUAL SHALL BE INSTALLED TO PROVIDE SHADE OVER 20 PERCENT OF THE HARDSCAPE AREA WITHIN 15 YEARS.

EXCEPTIONS: WALKS, HARDSCAPE AREAS COVERED BY SOLAR PHOTOVOLTAIC SHADE STRUCTURES, AND HARDSCAPE AREAS COVERED BY SHADE STRUCTURES WITH ROOFING MATERIALS THAT COMPLY WITH TABLE A5.106.11.2.2 IN APPENDIX A5, ARE NOT INCLUDED IN THE TOTAL AREA CALCULATION.

DIVISION 5.2 ENERGY EFFICIENCY

SECTION 5.201 GENERAL
5.201.1 SCOPE [BSC-CG] CALIFORNIA ENERGY CODE [DSA-SS]. FOR THE PURPOSES OF MANDATORY ENERGY EFFICIENCY STANDARDS IN THIS CODE, THE CALIFORNIA ENERGY COMMISSION WILL CONTINUE TO ADOPT MANDATORY BUILDING STANDARDS.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

SECTION 5.301 GENERAL
5.301.1 SCOP

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

Y	N/A	RESPON. PARTY

5.303.3.4 FAUCETS AND FOUNTAINS.

5.303.3.4.1 NONRESIDENTIAL LAVATORY FAUCETS. LAVATORY FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.5 GALLONS PER MINUTE AT 60 PSI.

5.303.3.4.2 KITCHEN FAUCETS. KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.

5.303.3.4.3 WASH FOUNTAINS. WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THANT.8 GALLONS PER MINUTE/20 [RIM SPACE (INCHES) AT 60 PSI].

5.303.3.4.4 METERING FAUCETS. METERING FAUCETS SHALL NOT DELIVER MORE THAN 0.20 GALLONS PER CYCLE.

5.303.3.4.5 METERING FAUCETS FOR WASH FOUNTAINS. METERING FAUCETS FOR WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.20 GALLONS PER MINUTE/20 [RIM SPACE (INCHES) AT 60 PSI].

NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

☐ ☒ 5.303.4 COMMERCIAL KITCHEN EQUIPMENT.

5.303.4.1 FOOD WASTE DISPOSERS. DISPOSERS SHALL EITHER MODULATE THE USE OF WATER TO NO MORE THAN 1 GPM WHEN THE DISPOSER IS NOT IN USE (NOT ACTIVELY GRINDING FOOD WASTE/NO-LOAD) OR SHALL AUTOMATICALLY SHUT OFF AFTER NO MORE THAN 10 MINUTES OF INACTIVITY. DISPOSERS SHALL USE NO MORE THAN 8 GPM OF WATER.
NOTE: THIS CODE SECTION DOES NOT AFFECT LOCAL JURISDICTION AUTHORITY TO PROHIBIT OR REQUIRE DISPOSER INSTALLATION.

☒ ☐ 5.303.5 AREAS OF ADDITION OR ALTERATION. FOR THOSE OCCUPANCIES WITHIN THE AUTHORITY OF THE CALIFORNIA BUILDING STANDARDS COMMISSION AS SPECIFIED IN SECTION 103, THE PROVISIONS OF SECTION 5.303.3 AND 5.303.4 SHALL APPLY TO NEW FIXTURES IN ADDITIONS OR AREAS OF ALTERATION TO THE BUILDING.

☒ ☐ 5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1701.1 OF THE CALIFORNIA PLUMBING CODE AND IN CHAPTER 6 OF THIS CODE.

SECTION 5.304 OUTDOOR WATER USE
5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. NONRESIDENTIAL DEVELOPMENTS SHALL COMPLY WITH A LOCAL WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICHEVER IS MORE STRINGENT.

☒ ☐

NOTES:
1. THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) IS LOCATED IN THE CALIFORNIA CODE OF REGULATIONS, TITLE 23, CHAPTER 2.7, DIVISION 2.
2. MWELO AND SUPPORTING DOCUMENTS, INCLUDING A WATER BUDGET CALCULATOR, ARE AVAILABLE AT: HTTPS: //WWW.WATER.CA.GOV/.

☐ ☒ 5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. FOR PUBLIC SCHOOLS AND COMMUNITY COLLEGES, LANDSCAPE PROJECTS AS DESCRIBED IN SECTIONS 5.304.6.1 AND 5.304.6.2 SHALL COMPLY WITH THE CALIFORNIA DEPARTMENT OF WATER RESOURCES MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) COMMENCING WITH SECTION 490 OF CHAPTER 2.7, DIVISION 2, TITLE 23, CALIFORNIA CODE OF REGULATIONS, EXCEPT THAT THE EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) SHALL BE 0.65 WITH AN ADDITIONAL WATER ALLOWANCE FOR SPECIAL LANDSCAPE AREAS (SLA) OF 0.35.

EXCEPTION: ANY PROJECT WITH AN AGGREGATE LANDSCAPE AREA OF 2,500 SQUARE FEET OR LESS MAY COMPLY WITH THE PRESCRIPTIVE MEASURES CONTAINED IN APPENDIX D OF THE MWELO.

5.304.6.1 NEWLY CONSTRUCTED LANDSCAPES. NEW CONSTRUCTION PROJECTS WITH AN AGGREGATE LANDSCAPE AREA EQUAL TO OR GREATER THAN 500 SQUARE FEET.

5.304.6.2 REHABILITATED LANDSCAPES. REHABILITATED LANDSCAPE PROJECTS WITH AN AGGREGATE LANDSCAPE AREA EQUAL TO OR GREATER THAN 1,200 SQUARE FEET.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 5.401 GENERAL
5.401.1 SCOPE. THE PROVISIONS OF THIS CHAPTER SHALL OUTLINE MEANS OF ACHIEVING MATERIAL CONSERVATION AND RESOURCE EFFICIENCY THROUGH PROTECTION OF BUILDINGS FROM EXTERIOR MOISTURE, CONSTRUCTION WASTE DIVERSION, EMPLOYMENT OF TECHNIQUES TO REDUCE POLLUTION THROUGH RECYCLING OF MATERIALS, AND BUILDING COMMISSIONING OR TESTING AND ADJUSTING.

SECTION 5.402 DEFINITIONS
5.402.1 DEFINITIONS. THE FOLLOWING TERMS ARE DEFINED IN CHAPTER 2 (AND ARE INCLUDED HERE FOR REFERENCE)

ADJUST. TO REGULATE FLUID FLOW RATE AND AIR PATTERNS AT THE TERMINAL EQUIPMENT, SUCH AS TO REDUCE FAN SPEED OR ADJUST A DAMPER.

BALANCE. TO PROPORTION FLOWS WITHIN THE DISTRIBUTION SYSTEM, INCLUDING SUB-MAINS, BRANCHES AND TERMINALS, ACCORDING TO DESIGN QUANTITIES.

BUILDING COMMISSIONING. A SYSTEMATIC QUALITY ASSURANCE PROCESS THAT SPANS THE ENTIRE DESIGN AND CONSTRUCTION PROCESS, INCLUDING VERIFYING AND DOCUMENTING THAT BUILDING SYSTEMS AND COMPONENTS ARE PLANNED, DESIGNED, INSTALLED, TESTED, OPERATED AND MAINTAINED TO MEET THE OWNER'S PROJECT REQUIREMENTS.

ORGANIC WASTE. FOOD WASTE, GREEN WASTE, LANDSCAPE AND PRUNING WSTE, NONHAZARDOUS WOOD WASTE, AND FOOD SOILED PAPER WASTE THAT IS MIXED IN WITH FOOD WASTE.

TEST. A PROCEDURE TO DETERMINE QUANTITATIVE PERFORMANCE OF A SYSTEM OR EQUIPMENT

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT
5.407.1 WEATHER PROTECTION. PROVIDE A WEATHER-RESISTANT EXTERIOR WALL AND FOUNDATION ENVELOPE AS REQUIRED BY CALIFORNIA BUILDING CODE SECTION 1402.2 (WEATHER PROTECTION), MANUFACTURER'S INSTALLATION INSTRUCTIONS OR LOCAL ORDINANCE, WHICHEVER IS MORE STRINGENT.

☒ ☐ 5.407.2 MOISTURE CONTROL. EMPLOY MOISTURE CONTROL MEASURES BY THE FOLLOWING METHODS.

5.407.2.1 SPRINKLERS. DESIGN AND MAINTAIN LANDSCAPE IRRIGATION SYSTEMS TO PREVENT SPRAY ON STRUCTURES.

5.407.2.2 ENTRIES AND OPENINGS. DESIGN EXTERIOR ENTRIES AND/OR OPENINGS SUBJECT TO FOOT TRAFFIC OR WIND-DRIVEN RAIN TO PREVENT WATER INTRUSION INTO BUILDINGS AS FOLLOWS:

5.407.2.2.1 EXTERIOR DOOR PROTECTION. PRIMARY EXTERIOR ENTRIES SHALL BE COVERED TO PREVENT WATER INTRUSION BY USING NONABSORBENT FLOOR AND WALL FINISHES WITHIN AT LEAST 2 FEET AROUND AND PERPENDICULAR TO SUCH OPENINGS PLUS AT LEAST ONE OF THE FOLLOWING:

1. AN INSTALLED AWNING AT LEAST 4 FEET IN DEPTH.
2. THE DOOR IS PROTECTED BY A ROOF OVERHANG AT LEAST 4 FEET IN DEPTH.
3. THE DOOR IS RECESSED AT LEAST 4 FEET.
4. OTHER METHODS WHICH PROVIDE EQUIVALENT PROTECTION.

5.407.2.2.2 FLASHING. INSTALL FLASHINGS INTEGRATED WITH A DRAINAGE PLANE.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING
5.408.1 CONSTRUCTION WASTE MANAGEMENT. RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65% OF THE NON-HAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH SECTION 5.408.1.1, 5.408.1.2 OR 5.408.1.3; OR MEET A LOCAL CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE, WHICHEVER IS MORE STRINGENT.

5.408.1.1 CONSTRUCTION WASTE MANAGEMENT PLAN. WHERE A LOCAL JURISDICTION DOES NOT HAVE A CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE, SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN THAT:

1. IDENTIFIES THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS TO BE DIVERTED FROM DISPOSAL BY EFFICIENT USAGE, RECYCLING, REUSE ON THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.
2. DETERMINES IF CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE SORTED ON-SITE (SOURCE-SEPARATED) OR BULK MIXED (SINGLE STREAM).
3. IDENTIFIES DIVERSION FACILITIES WHERE CONSTRUCTION AND DEMOLITION WASTE MATERIAL COLLECTED WILL BE TAKEN.
4. SPECIFIES THAT THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BY BOTH.

5.408.1.2 WASTE MANAGEMENT COMPANY. UTILIZE A WASTE MANAGEMENT COMPANY THAT CAN PROVIDE VERIFIABLE DOCUMENTATION THAT THE PERCENTAGE OF CONSTRUCTION AND DEMOLITION WASTE MATERIAL DIVERTED FROM THE LANDFILL COMPLIES WITH THIS SECTION.

NOTE: THE OWNER OR CONTRACTOR SHALL MAKE THE DETERMINATION IF THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL WILL BE DIVERTED BY A WASTE MANAGEMENT COMPANY.

EXCEPTIONS TO SECTIONS 5.408.1.1 AND 5.408.1.2:

1. EXCAVATED SOIL AND LAND-CLEARING DEBRIS.
2. ALTERNATE WASTE REDUCTION METHODS DEVELOPED BY WORKING WITH LOCAL AGENCIES IF DIVERSION OR RECYCLE FACILITIES CAPABLE OF COMPLIANCE WITH THIS ITEM DO NOT EXIST.
3. DEMOLITION WASTE MEETING LOCAL ORDINANCE OR CALCULATED IN CONSIDERATION OF LOCAL RECYCLING FACILITIES AND MARKETS.

5.408.1.3 WASTE STREAM REDUCTION ALTERNATIVE. THE COMBINED WEIGHT OF NEW CONSTRUCTION DISPOSAL THAT DOES NOT EXCEED TWO POUNDS PER SQUARE FOOT OF BUILDING AREA MAY BE DEEMED TO MEET THE 65% MINIMUM REQUIREMENT AS APPROVED BY THE ENFORCING AGENCY.

5.408.1.4 DOCUMENTATION. DOCUMENTATION SHALL BE PROVIDED TO THE ENFORCING AGENCY WHICH DEMONSTRATES COMPLIANCE WITH SECTIONS 5.408.1.1, THROUGH 5.408.1.3. THE WASTE MANAGEMENT PLAN SHALL BE UPDATED AS NECESSARY AND SHALL BE ACCESSIBLE DURING CONSTRUCTION FOR EXAMINATION BY THE ENFORCING AGENCY.

NOTES:

1. SAMPLE FORMS FOUND IN "A GUIDE TO THE CALIFORNIA GREEN BUILDING STANDARDS CODE (NONRESIDENTIAL)" LOCATED AT WWW.BSC.CA.GOV/HOME/CALGREEN.ASPX MAY BE USED TO ASSIST IN DOCUMENTING COMPLIANCE WITH THE WASTE MANAGEMENT PLAN.
2. MIXED CONSTRUCTION AND DEMOLITION DEBRIS PROCESSORS CAN BE LOCATED AT THE CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY (CALRECYCLE).

☒ ☐ 5.408.2 UNIVERSAL WASTE. [A] ADDITIONS AND ALTERATIONS TO A BUILDING OR TENANT SPACE THAT MEET THE SCOPING PROVISIONS IN SECTION 301.3 FOR NONRESIDENTIAL ADDITIONS AND ALTERATIONS, SHALL REQUIRE VERIFICATION THAT UNIVERSAL WASTE ITEMS SUCH AS FLUORESCENT LAMPS AND BALLAST AND MERCURY CONTAINING THERMOSTATS AS WELL AS OTHER CALIFORNIA PROHIBITED UNIVERSAL WASTE MATERIALS ARE DISPOSED OF PROPERLY AND ARE DIVERTED FROM LANDFILLS. A LIST OF PROHIBITED UNIVERSAL WASTE MATERIALS SHALL BE INCLUDED IN THE CONSTRUCTION DOCUMENTS.

NOTE: REFER TO THE UNIVERSAL WASTE RULE LINK AT: HTTP: //WWW.DTSC.CA.GOV/LAWSREGSPOLICIES/REGS/UPLOAD/OEAR-A_REGS_UWR_FINALTEXT.PDF

☐ ☒ 5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 PERCENT OF TREES, STUMPS, ROCKS AND ASSOCIATED VEGETATION AND SOILS RESULTING PRIMARILY FROM LAND CLEARING SHALL BE REUSED OR RECYCLED. FOR A PHASED PROJECT, SUCH MATERIAL MAY BE STOCKPILED ON SITE UNTIL THE STORAGE SITE IS DEVELOPED.

EXCEPTION: REUSE, EITHER ON OR OFF-SITE, OF VEGETATION OR SOIL CONTAMINATED BY DISEASE OR PEST INFESTATION.

NOTES:

1. IF CONTAMINATION BY DISEASE OR PEST INFESTATION IS SUSPECTED, CONTACT THE COUNTY AGRICULTURAL COMMISSIONER AND FOLLOW ITS DIRECTION FOR RECYCLING OR DISPOSAL OF THE MATERIAL.
2. FOR A MAP OF KNOW PEST AND/OR DISEASE QUARANTINE ZONES, CONSULT WITH THE CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE. (WWW.CDFA.CA.GOV)

☒ ☐ SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS
5.410.1 RECYCLING BY OCCUPANTS. PROVIDE READILY ACCESSIBLE AREAS THAT SERVE THE ENTIRE BUILDING AND ARE IDENTIFIED FOR THE DEPOSITING, STORAGE AND COLLECTION OF NON-HAZARDOUS MATERIALS FOR RECYCLING, INCLUDING (AT A MINIMUM) PAPER, CORRUGATED CARDBOARD, GLASS, PLASTICS, ORGANIC WASTE, AND METALS OR MEET A LAWFULLY ENACTED LOCAL RECYCLING ORDINANCE, IF MORE RESTRICTIVE.

EXCEPTION: RURAL JURISDICTIONS THAT MEET AND APPLY FOR THE EXEMPTION IN PUBLIC RESOURCES CODE 42649.82 (A)(2)(A) ET SEQ. SHALL ALSO BE EXEMPT FROM THE ORGANIC WASTE PORTION OF THIS SECTION.

5.410.1.1 ADDITIONS. ALL ADDITIONS CONDUCTED WITHIN A 12-MONTH PERIOD UNDER SINGLE OR MULTIPLE PERMITS, RESULTING IN AN INCREASE OF 30% OR MORE IN FLOOR AREA, SHALL PROVIDE RECYCLING AREAS ON SITE.

EXCEPTION: ADDITIONS WITHIN A TENANT SPACE RESULTING IN LESS THAN A 30% INCREASE IN THE TENANT SPACE FLOOR AREA.

5.410.1.2 SAMPLE ORDINANCE. SPACE ALLOCATION FOR RECYCLING AREAS SHALL COMPLY WITH CHAPTER 18, PART 3, DIVISION 30 OF THE PUBLIC RESOURCES CODE. CHAPTER 18 IS KNOWN AS THE CALIFORNIA SOLID WASTE REUSE AND RECYCLING ACCESS ACT OF 1991 (ACT).

NOTE: A SAMPLE ORDINANCE FOR USE BY LOCAL AGENCIES MAY BE FOUND IN APPENDIX A OF THE DOCUMENT AT THE CALRECYCLE'S WEB SITE.

☐ ☒ 5.410.2 COMMISSIONING. [N] NEW BUILDINGS 10,000 SQUARE FEET AND OVER. FOR NEW BUILDINGS 10,000 SQUARE FEET AND OVER, BUILDING COMMISSIONING SHALL BE INCLUDED IN THE DESIGN AND CONSTRUCTION PROCESSES OF THE BUILDING PROJECT TO VERIFY THAT THE BUILDING SYSTEMS AND COMPONENTS MEET THE OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS. COMMISSIONING SHALL BE PERFORMED IN ACCORDANCE WITH THIS SECTION BY TRAINED PERSONNEL WITH EXPERIENCE ON PROJECTS OF COMPARABLE SIZE AND COMPLEXITY. FOR I-OCCUPANCIES THAT ARE NOT REGULATED BY OSHPD OR FOR I-OCCUPANCIES AND L-OCCUPANCIES THAT ARE NOT REGULATED Y THE CALIFORNIA ENERGY CODE SECTION 100.0 SCOPE, ALL REQUIREMENTS IN SECTIONS 5.410.2 THROUGH 5.410.2.6 SHALL APPLY.

NOTE: FOR ENERGY-RELATED SYSTEMS UNDER THE SCOPE (SECTION 100) OF THE CALIFORNIA ENERGY CODE, INCLUDING HEATING, VENTILATION, AIR CONDITIONING (HVAC) SYSTEMS AND CONTROLS, INDOOR LIGHTING SYSTEMS AND CONTROLS, AS WELL AS WATER HEATING SYSTEMS AND CONTROLS, REFER TO CALIFORNIA ENERGY CODE SECTION 120.8 FOR COMMISSIONING REQUIREMENTS

COMMISSIONING REQUIREMENTS SHALL INCLUDE:

1. OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS.
2. BASIS OF DESIGN.
3. COMMISSIONING MEASURES SHOWN IN THE CONSTRUCTION DOCUMENTS.
4. COMMISSIONING PLAN.
5. FUNCTIONAL PERFORMANCE TESTING.
6. DOCUMENTATION AND TRAINING.
7. COMMISSIONING REPORT.

EXCEPTIONS:

1. UNCONDITIONED WAREHOUSES OF ANY SIZE.
2. AREAS LESS THAN 10,000 SQUARE FEET USED FOR OFFICES OR OTHER CONDITIONED ACCESSORY SPACES WITHIN UNCONDITIONED WAREHOUSES.
3. TENANT IMPROVEMENTS LESS THAN 10,000 SQUARE FEET AS DESCRIBED IN SECTION 303.1.1.
4. OPEN PARKING GARAGES OF ANY SIZE, OR OPEN PARKING GARAGE AREAS, OF ANY SIZE, WITHIN A STRUCTURE.

NOTE: FOR THE PURPOSES OF THIS SECTION, UNCONDITIONED SHALL MEAN A BUILDING, AREA, OR ROOM WHICH DOES NOT PROVIDE HEATING AND OR AIR CONDITIONING.

INFORMATIONAL NOTES:

1. IAS AC 476 IS AN ACCREDITATION CRITERIA FOR ORGANIZATIONS PROVIDING TRAINING AND/OR CERTIFICATION OF COMMISSIONING PERSONNEL. AC 476 IS AVAILABLE TO THE AUTHORITY HAVING JURISDICTION AS A REFERENCE FOR QUALIFICATIONS OF COMMISSIONING PERSONNEL. AC 476 DES NOT CERTIFY INDIVIDUALS TO CONDUCT FUNCTIONAL PERFORMANCE TESTS OR TO ADJUST AND BALANCE SYSTEMS.
2. FUNCTIONAL PERFORMANCE TESTING FOR HEATING, VENTILATION, AIR CONDITIONING SYSTEMS AND LIGHTING CONTROLS MUST BE PERFORMED IN COMPLIANCE WITH THE CALIFORNIA ENERGY CODE.

5.410.2.1 OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS (OPR). [N] THE EXPECTATIONS AND REQUIREMENTS OF THE BUILDING APPROPRIATE TO ITS PHASE SHALL BE DOCUMENTED BEFORE THE DESIGN PHASE OF THE PROJECT BEGINS. THIS DOCUMENTATION SHALL INCLUDE THE FOLLOWING:
1. ENVIRONMENTAL AND SUSTAINABILITY GOALS.
2. BUILDING SUSTAINABLE GOALS.
3. INDOOR ENVIRONMENTAL QUALITY REQUIREMENTS.
4. PROJECT PROGRAM, INCLUDING FACILITY FUNCTIONS AND HOURS OF OPERATION, AND NEED FOR AFTER HOURS OPERATION.
5. EQUIPMENT AND SYSTEMS EXPECTATIONS.
6. BUILDING OCCUPANT AND OPERATION AND MAINTENANCE (O&M) PERSONNEL EXPECTATIONS.

5.410.2.2 BASIS OF DESIGN (BOD). [N] A WRITTEN EXPLANATION OF HOW THE DESIGN OF THE BUILDING SYSTEMS MEETS THE OPR SHALL BE COMPLETED AT THE DESIGN PHASE OF THE BUILDING PROJECT. THE BASIS OF DESIGN DOCUMENT SHALL COVER THE FOLLOWING SYSTEMS:

1. RENEWABLE ENERGY SYSTEMS.
2. LANDSCAPE IRRIGATION SYSTEMS.
3. WATER REUSE SYSTEM.

5.410.2.3 COMMISSIONING PLAN. [N] PRIOR TO PERMIT ISSUANCE A COMMISSIONING PLAN SHALL BE COMPLETED TO DOCUMENT HOW THE PROJECT WILL BE COMMISSIONED. THE COMMISSIONING PLAN SHALL INCLUDE THE FOLLOWING:
1. GENERAL PROJECT INFORMATION.
2. COMMISSIONING GOALS.
3. SYSTEMS TO BE COMMISSIONED. PLANS TO TEST SYSTEMS AND COMPONENTS SHALL INCLUDE:
   A. AN EXPLANATION OF THE ORIGINAL DESIGN INTENT.
   B. EQUIPMENT AND SYSTEMS TO BE TESTED, INCLUDING THE EXTENT OF TESTS.
   C. FUNCTIONS TO BE TESTED.
   D. CONDITIONS UNDER WHICH THE TEST SHALL BE PERFORMED.
   E. MEASURABLE CRITERIA FOR ACCEPTABLE PERFORMANCE.
4. COMMISSIONING TEAM INFORMATION.
5. COMMISSIONING PROCESS ACTIVITIES, SCHEDULES AND RESPONSIBILITIES. PLANS FOR THE COMPLETION OF COMMISSIONING SHALL BE INCLUDED.

5.410.2.4 FUNCTIONAL PERFORMANCE TESTING. [N] FUNCTIONAL PERFORMANCE TESTS SHALL DEMONSTRATE THE CORRECT INSTALLATION AND OPERATION OF EACH COMPONENT, SYSTEM AND SYSTEM-TO-SYSTEM INTERFACE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. FUNCTIONAL PERFORMANCE TESTING REPORTS SHALL CONTAIN INFORMATION ADDRESSING EACH OF THE BUILDING COMPONENTS TESTED, THE TESTING METHODS UTILIZED, AND INCLUDE ANY READINGS AND ADJUSTMENTS MADE.

5.410.2.5 DOCUMENTATION AND TRAINING. [N] A SYSTEMS MANUAL AND SYSTEMS OPERATIONS TRAINING ARE REQUIRED, INCLUDING OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) REQUIREMENTS IN CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

5.410.2.5.1 SYSTEMS MANUAL. [N] DOCUMENTATION OF THE OPERATIONAL ASPECTS OF THE BUILDING SHALL BE COMPLETED WITHIN THE SYSTEMS MANUAL AND DELIVERED TO THE BUILDING OWNER OR REPRESENTATIVE. THE SYSTEMS MANUAL SHALL INCLUDE THE FOLLOWING:
1. SITE INFORMATION, INCLUDING FACILITY DESCRIPTION, HISTORY AND CURRENT REQUIREMENTS.
2. SITE CONTACT INFORMATION.
3. BASIC OPERATIONS AND MAINTENANCE, INCLUDING GENERAL SITE OPERATING PROCEDURES, BASIC TROUBLESHOOTING, RECOMMENDED MAINTENANCE REQUIREMENTS, SITE EVENTS LOG.
4. MAJOR SYSTEMS.
5. SITE EQUIPMENT INVENTORY AND MAINTENANCE NOTES.
6. A COPY OF VERIFICATIONS REQUIRED BY THE ENFORCING AGENCY OR THIS CODE.
7. OTHER RESOURCES AND DOCUMENTATION, IF APPLICABLE.

5.410.2.5.2 SYSTEMS OPERATIONS TRAINING. [N] A PROGRAM FOR TRAINING OF THE APPROPRIATE MAINTENANCE STAFF FOR EACH EQUIPMENT TYPE AND/OR SYSTEM SHALL BE DEVELOPED AND DOCUMENTED IN THE COMMISSIONING REPORT AND SHALL INCLUDE THE FOLLOWING:
1. SYSTEM/EQUIPMENT OVERVIEW (WHAT IT IS, WHAT IT DOES AND WITH WHAT OTHER SYSTEMS AND/OR EQUIPMENT IT INTERFACES).
2. REVIEW AND DEMONSTRATION OF SERVICING/PREVENTIVE MAINTENANCE.
3. REVIEW OF THE INFORMATION IN THE SYSTEMS MANUAL.
4. REVIEW OF THE RECORD DRAWINGS ON THE SYSTEM/EQUIPMENT.

5.410.2.6 COMMISSIONING REPORT. [N] A REPORT OF COMMISSIONING PROCESS ACTIVITIES UNDERTAKEN THROUGH THE DESIGN AND CONSTRUCTION PHASES OF THE BUILDING PROJECT SHALL BE COMPLETED AND PROVIDED TO THE OWNER OR REPRESENTATIVE.

5.410.4 TESTING AND ADJUSTING. NEW BUILDINGS LESS THAN 10,000 SQUARE FEET. TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR NEW BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO SECTION 303.1:

5.410.4.2 (RESERVED)

NOTE: FOR ENERGY-RELATED SYSTEMS UNDER THE SCOPE (SECTION 100) OF THE CALIFORNIA ENERGY CODE, INCLUDING HEATING, VENTILATION, AIR CONDITIONING (HVAC) SYSTEMS AND CONTROLS, INDOOR LIGHTING SYSTEM AND CONTROLS, AS WELL AS WATER HEATING SYSTEMS AND CONTROLS, REFER TO CALIFORNIA ENERGY CODE SECTION 120.8 FOR COMMISSIONING REQUIREMENTS AND SECTIONS 120.5, 120.6, 130.4, AND 140.9(B)3 FOR ADDITIONAL TESTING REQUIREMENTS OF SPECIFIC SYSTEMS.

5.410.4.2 SYSTEMS. DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE INCLUDED FOR TESTING AND ADJUSTING SHALL INCLUDE AT A MINIMUM, AS APPLICABLE TO THE PROJECT:

1. RENEWABLE ENERGY SYSTEMS.
2. LANDSCAPE IRRIGATION SYSTEMS.
3. WATER REUSE SYSTEMS.

5.410.4.3 PROCEDURES. PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEM.

5.410.4.3.1 HVAC BALANCING. IN ADDITION TO TESTING AND ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, THE SYSTEM SHALL BE BALANCED IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS; THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS; ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY THE ENFORCING AGENCY.

5.410.4.4 REPORTING. AFTER COMPLETION OF TESTING, ADJUSTING AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.

5.410.4.5 OPERATION AND MAINTENANCE (O & M) MANUAL. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTEES/WARRANTIES FOR EACH SYSTEM. O & M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN COR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

5.410.4.5.1 INSPECTIONS AND REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.

DIVISION 5.5 ENVIRONMENTAL QUALITY

SECTION 5.501 GENERAL
5.501.1 SCOPE. THE PROVISIONS OF THIS CHAPTER SHALL OUTLINE MEANS OF REDUCING THE QUANTITY OF AIR CONTAMINANTS THAT ARE ODOROUS, IRRITATING, AND/OR HARMFUL TO THE COMFORT AND WELL-BEING OF A BUILDING'S INSTALLERS, OCCUPANTS AND NEIGHBORS.

SECTION 5.502 DEFINITIONS
5.502.1 DEFINITIONS. THE FOLLOWING TERMS ARE DEFINED IN CHAPTER 2 (AND ARE INCLUDED HERE FOR REFERENCE)

ARTERIAL HIGHWAY. A GENERAL TERM DENOTING A HIGHWAY PRIMARILY FOR THROUGH TRAFFIC USUALLY ON A CONTINUOUS ROUTE.

A-WEIGHTED SOUND LEVEL (DBA). THE SOUND PRESSURE LEVEL IN DECIBELS AS MEASURED ON A SOUND LEVEL METER USING THE INTERNATIONALLY STANDARDIZED A-WEIGHTING FILTER OR AS COMPUTED FROM SOUND SPECTRAL DATA TO WHICH A-WEIGHTING ADJUSTMENTS HAVE BEEN MADE.

1 BTU/HOUR. BRITISH THERMAL UNITS PER HOUR, ALSO REFERRED TO AS BTU. THE AMOUNT OF HEAT REQUIRED TO RAISE ONE POUND OF WATER ONE DEGREE FAHRENHEIT PER HOUR, A COMMON MEASURE OF HEAT TRANSFER RATE. A TON OF REFRIGERATION IS 12,000 BTU, THE AMOUNT OF HEAT REQUIRED TO MELT A TON (2,000 POUNDS) OF ICE AT 32º FAHRENHEIT.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A METRIC SIMILAR TO THE DAY-NIGHT AVERAGE SOUND LEVEL (LDN), EXCEPT THAT A 5 DECIBEL ADJUSTMENT IS ADDED TO THE EQUIVALENT CONTINUOUS SOUND EXPOSURE LEVEL FOR EVENING HOURS (7PM TO 10PM) IN ADDITION TO THE 10 DB NIGHTTIME ADJUSTMENT USED IN THE LDN.

COMPOSITE WOOD PRODUCTS. COMPOSITE WOOD PRODUCTS INCLUDE HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD. "COMPOSITE WOOD PRODUCTS" DOES NOT INCLUDE HARDBOARD, STRUCTURAL PLYWOOD, STRUCTURAL PANELS, STRUCTURAL COMPOSITE LUMBER, ORIENTED STRAND BOARD, GLUED LAMINATED TIMBER, TIMBER, PREFABRICATED WOOD I-JOISTS OR FINGER-JOINTED LUMBER, ALL AS SPECIFIED IN CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 17, SECTION 93120.1(A).

NOTE: SEE CCR, TITLE 17, SECTION 93120.1.

DAY-NIGHT AVERAGE SOUND LEVEL (LDN). THE A-WEIGHTED EQUIVALENT CONTINUOUS SOUND EXPOSURE LEVEL FOR A 24-HOUR PERIOD WITH A 10 DB ADJUSTMENT ADDED TO SOUND LEVELS OCCURRING DURING NIGHTTIME HOURS (10P.M. TO 7 A.M.).

DECIBEL (DB). A MEASURE ON A LOGARITHMIC SCALE OF THE MAGNITUDE OF A PARTICULAR QUANTITY (SUCH AS SOUND PRESSURE, SOUND POWER, SOUND INTENSITY) WITH RESPECT TO A REFERENCE QUANTITY.

ELECTRIC VEHICLE (EV). AN AUTOMOTIVE-TYPE VEHICLE FOR ON-ROAD USE, SUCH AS PASSENGER AUTOMOBILES, BUSES, TRUCKS, VANS, NEIGHBORHOOD ELECTRIC VEHICLES, ELECTRIC MOTORCYCLES, AND THE LIKE, PRIMARILY POWERED BY AN ELECTRIC MOTOR THAT DRAWS CURRENT FROM A RECHARGEABLE STORAGE BATTERY, FUEL CELL, PHOTOVOLTAIC ARRAY, OR OTHER SOURCE OF ELECTRIC CURRENT. PLUG-IN HYBRID ELECTRIC VEHICLES (PHEV) ARE CONSIDERED ELECTRIC VEHICLES. FOR PURPOSES OF THE CALIFORN

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

Y	N/A	RESPON. PARTY
☒	☐	

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. FINISH MATERIALS SHALL COMPLY WITH SECTIONS 5.504.4.1 THROUGH 5.504.4.6.

5.504.4.1 ADHESIVES, SEALANTS AND CAULKS. ADHESIVES, SEALANTS, AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:

1. ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLES 5.504.4.1 AND 5.504.4.2. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS AS SPECIFIED IN SUBSECTION 2, BELOW.
2. AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.

TABLE 5.504.4.1 – ADHESIVE VOC LIMIT[1,2]

Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVES	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.orb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

TABLE 5.504.4.2 – SEALANT VOC LIMIT

Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	CURRENT VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NONPOROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

5.504.4.3 PAINTS AND COATINGS. ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS IN TABLE 1 OF THE ARB ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, AS SHOWN IN TABLE 5.504.4.3, UNLESS MORE STRINGENT LOCAL LIMITS APPLY. THE VOC CONTENT LIMIT FOR COATINGS THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE 5.504.4.3 SHALL BE DETERMINED BY CLASSIFYING THE COATING AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASED ON ITS GLOSS, AS DEFINED IN SUBSECTIONS 4.21, 4.36 AND 4.37 OF THE 2007 CALIFORNIA AIR RESOURCES BOARD SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NONFLAT-HIGH GLOSS VOC LIMIT IN TABLE 5.504.4.3 SHALL APPLY.

5.504.4.3.1 AEROSOL PAINTS AND COATINGS. AEROSOL PAINTS AND COATINGS SHALL MEET THE PWMR LIMITS FOR ROC IN SECTION 94522(A)(3) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(C)(2) AND (D)(2) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520, AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8 RULE 49.

Y	N/A	RESPON. PARTY

TABLE 5.504.4.3 – VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	CURRENT VOC LIMIT
FLAT COATINGS	50
NONFLAT COATINGS	100
NONFLAT HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH-TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS:	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

5.504.4.3.2 VERIFICATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AT THE REQUEST OF THE ENFORCING AGENCY. DOCUMENTATION MAY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. MANUFACTURER'S PRODUCT SPECIFICATION
2. FIELD VERIFICATION OF ON-SITE PRODUCT CONTAINERS

5.504.4.4 CARPET SYSTEMS. ALL CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET AT LEAST ONE OF THE TESTING AND PRODUCT REQUIREMENTS:

1. CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM.
2. COMPLIANT WITH THE VOC-EMISSION LIMITS AND TESTING REQUIREMENTS SPECIFIED IN THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS, VERSION 1.1, FEBRUARY 2010 (ALSO KNOWN AS CDPH STANDARD METHOD V1.1 OR SPECIFICATION 01350).
3. NSF/ANSI 140 AT THE GOLD LEVEL OR HIGHER;
4. SCIENTIFIC CERTIFICATIONS SYSTEMS SUSTAINABLE CHOICE; OR
5. COMPLIANT WITH THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS CALIFORNIA (2014 CA-CHPS) CRITERIA LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE.

5.504.4.4.1 CARPET CUSHION. ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE GREEN LABEL PROGRAM.

5.504.4.4.2 CARPET ADHESIVE. ALL CARPET ADHESIVE SHALL MEET THE REQUIREMENTS OF TABLE 5.504.4.1.

5.504.4.5 COMPOSITE WOOD PRODUCTS. HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDINGS SHALL MEET THE REQUIREMENTS FOR FORMALDEHYDE AS SPECIFIED IN ARB'S AIR TOXICS CONTROL MEASURE (ATCM) FOR COMPOSITE WOOD (17 CCR 93120 ET SEQ.). THOSE MATERIALS NOT EXEMPTED UNDER THE ATCM MUST MEET THE SPECIFIED EMISSION LIMITS, AS SHOWN IN TABLE 5.504.4.5.

5.504.4.5.3 DOCUMENTATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AS REQUESTED BY THE ENFORCING AGENCY. DOCUMENTATION SHALL INCLUDE AT LEAST ONE OF THE FOLLOWING:

1. PRODUCT CERTIFICATIONS AND SPECIFICATIONS.
2. CHAIN OF CUSTODY CERTIFICATIONS.
3. PRODUCT LABELED AND INVOICED AS MEETING THE COMPOSITE WOOD PRODUCTS REGULATION (SEE CCR, TITLE 17, SECTION 93120, ET SEQ.).
4. EXTERIOR GRADE PRODUCTS MARKED AS MEETING THE PS-1 OR PS-2 STANDARDS OF THE ENGINEERED WOOD ASSOCIATION, THE AUSTRALIAN AS/NZS 2269 OR EUROPEAN 636 3S STANDARDS.
5. OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY.

Y	N/A	RESPON. PARTY

TABLE 5.504.4.5 – FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16 INCHES (8 MM).

5.504.4.6 RESILIENT FLOORING SYSTEMS. FOR 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING, INSTALLED RESILIENT FLOORING SHALL MEET AT LEAST ONE OF THE FOLLOWING:

1. CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSCORE PROGRAM;
2. COMPLIANT WITH THE VOC-EMISSION LIMITS AND TESTING REQUIREMENTS SPECIFIED IN THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S 2010 STANDARD METHOD FOR THE TESTING AND EVALUATION CHAMBERS, VERSION 1.1, FEBRUARY 2010;
3. COMPLIANT WITH THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS CALIFORNIA (2014 CA-CHPS) CRITERIA AND LISTED IN THE CHPS HIGH PERFORMANCE PRODUCT DATABASE; OR
4. PRODUCTS CERTIFIED UNDER UL GREENGUARD GOLD (FORMERLY THE GREENGUARD CHILDREN'S & SCHOOLS PROGRAM).

5.504.4.6.1 VERIFICATION OF COMPLIANCE. DOCUMENTATION SHALL BE PROVIDED VERIFYING THAT RESILIENT FLOORING MATERIALS MEET THE POLLUTANT EMISSION LIMITS.

5.504.5.3 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13. MERV 13 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY, AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.

EXCEPTIONS: EXISTING MECHANICAL EQUIPMENT.

5.504.5.3.1 LABELING. INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

☒ ☐ 5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. WHERE OUTDOOR AREAS ARE PROVIDED FOR SMOKING, PROHIBIT SMOKING WITHIN 25 FEET OF BUILDING ENTRIES, OUTDOOR AIR INTAKES AND OPERABLE WINDOWS AND WITHIN THE BUILDING AS ALREADY PROHIBITED BY OTHER LAWS OR REGULATIONS; OR AS ENFORCED BY ORDINANCES, REGULATIONS OR POLICIES OF ANY CITY, COUNTY, CITY AND COUNTY, CALIFORNIA COMMUNITY COLLEGE, CAMPUS OF THE CALIFORNIA STATE UNIVERSITY, OR CAMPUS OF THE UNIVERSITY OF CALIFORNIA, WHICHEVER ARE MORE STRINGENT. WHEN ORDINANCES, REGULATIONS OR POLICIES ARE NOT IN PLACE, POST SIGNAGE TO INFORM BUILDING OCCUPANTS OF THE PROHIBITIONS.

☒ ☐ SECTION 5.505 INDOOR MOISTURE CONTROL
5.505.1 INDOOR MOISTURE CONTROL. BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CALIFORNIA BUILDING CODE, CCR, TITLE 24, PART 2, SECTIONS 1202 (VENTILATION) AND CHAPTER 14 (EXTERIOR WALLS). FOR ADDITIONAL MEASURES, SEE SECTION 5.407.2 OF THIS CODE.

☒ ☐ SECTION 5.506 INDOOR AIR QUALITY
5.506.1 OUTSIDE AIR DELIVERY. FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 120.1 (REQUIREMENTS FOR VENTILATION) OF THE CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

☒ ☐ 5.506.2 CARBON DIOXIDE (CO2) MONITORING. FOR BUILDINGS OR ADDITIONS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE, SECTION 120(C)(4).

☐ ☒ SECTION 5.507 ENVIRONMENTAL COMFORT
5.507.4 ACOUSTICAL CONTROL. EMPLOY BUILDING ASSEMBLIES AND COMPONENTS WITH SOUND TRANSMISSION CLASS (STC) VALUES DETERMINED IN ACCORDANCE WITH ASTM E 90 AND ASTM E 413, OR OUTDOOR-INDOOR SOUND TRANSMISSION CLASS (OITC) DETERMINED IN ACCORDANCE WITH ASTM E 1332, USING EITHER THE PRESCRIPTIVE OR PERFORMANCE METHOD IN SECTION 5.507.4.1 OR 5.507.4.2.

EXCEPTION: BUILDINGS WITH FEW OR NO OCCUPANTS OR WHERE OCCUPANTS ARE NOT LIKELY TO BE AFFECTED BY EXTERIOR NOISE, AS DETERMINED BY THE ENFORCEMENT AUTHORITY, SUCH AS FACTORIES, STADIUMS, STORAGE, ENCLOSED PARKING STRUCTURES AND UTILITY BUILDINGS.

EXCEPTION: [DSA-SS] FOR PUBLIC SCHOOLS AND COMMUNITY COLLEGES, THE REQUIREMENTS OF THIS SECTION AND ALL SUBSECTIONS APPLY ONLY TO NEW CONSTRUCTION.

5.507.4.1 EXTERIOR NOISE TRANSMISSION, PRESCRIPTIVE METHOD. WALL AND ROOF-CEILING ASSEMBLIES EXPOSED TO THE NOISE SOURCE MAKING UP THE BUILDING OR ADDITION ENVELOPE OR ALTERED ENVELOPE SHALL MEET A COMPOSITE STC RATING OF AT LEAST 50 OR A COMPOSITE OITC RATING OF NO LESS THAN 40, WITH EXTERIOR WINDOWS OF A MINIMUM STC OF 40 OR OITC OF 30 IN THE FOLLOWING LOCATIONS:

1. WITHIN THE 65 CNEL NOISE CONTOUR OF AN AIRPORT.

EXCEPTIONS:

1. LDN OR CNEL FOR MILITARY AIRPORTS SHALL BE DETERMINED BY THE FACILITY AIR INSTALLATION COMPATIBLE LAND USE ZONE (AICUZ) PLAN.
2. LDN OR CNEL FOR OTHER AIRPORTS AND HELIPORTS FOR WHICH A LAND USE PLAN HAS NOT BEEN DEVELOPED SHALL BE DETERMINED BY THE LOCAL GENERAL PLAN NOISE ELEMENT.

2. WITHIN THE 65 CNEL OR LDN NOISE CONTOUR OF A FREEWAY OR EXPRESSWAY, RAILROAD, INDUSTRIAL SOURCE OR FIXED-GUIDEWAY SOURCE AS DETERMINED BY THE NOISE ELEMENT OF THE GENERAL PLAN.

5.507.4.1.1. NOISE EXPOSURE WHERE NOISE CONTOURS ARE NOT READILY AVAILABLE. BUILDINGS EXPOSED TO A NOISE LEVEL OF 65 DB L_{eq} – 1-HR DURING ANY HOUR OF OPERATION SHALL HAVE BUILDING, ADDITION OR ALTERATION EXTERIOR WALL AND ROOF-CEILING ASSEMBLIES EXPOSED TO THE NOISE SOURCE MEETING A COMPOSITE STC RATING OF AT LEAST 45 (OR OITC 35), WITH EXTERIOR WINDOWS OF A MINIMUM STC OF 40 (OR OITC 30).

5.507.4.2 PERFORMANCE METHOD. FOR BUILDINGS LOCATED AS DEFINED IN SECTION 5.507.4.1 OR 5.507.4.1.1, WALL AND ROOF-CEILING ASSEMBLIES EXPOSED TO THE NOISE SOURCE MAKING UP THE BUILDING OR ADDITION ENVELOPE OR ALTERED ENVELOPE SHALL BE CONSTRUCTED TO PROVIDE AN INTERIOR NOISE ENVIRONMENT ATTRIBUTABLE TO EXTERIOR SOURCES THAT DOES NOT EXCEED AN HOURLY EQUIVALENT NOISE LEVEL (LEQ-1HR) OF 50 DBA IN OCCUPIED AREAS DURING ANY HOUR OF OPERATION.

5.507.4.2.1. SITE FEATURES. EXTERIOR FEATURES SUCH AS SOUND WALLS OR EARTH BERMS MAY BE UTILIZED AS APPROPRIATE TO THE BUILDING, ADDITION OR ALTERATION PROJECT TO MITIGATE SOUND MIGRATION TO THE INTERIOR.

5.507.4.2.2 DOCUMENTATION OF COMPLIANCE. AN ACOUSTICAL ANALYSIS DOCUMENTING COMPLYING INTERIOR SOUND LEVELS SHALL BE PREPARED BY PERSONNEL APPROVED BY THE ARCHITECT OR ENGINEER OF RECORD.

5.507.4.3 INTERIOR SOUND TRANSMISSION. WALL AND FLOOR-CEILING ASSEMBLIES SEPARATING TENANT SPACES AND TENANT SPACES AND PUBLIC PLACES SHALL HAVE AN STC OF AT LEAST 40.

NOTE: EXAMPLES OF ASSEMBLIES AND THEIR VARIOUS STC RATINGS MAY BE FOUND AT THE CALIFORNIA OFFICE OF NOISE CONTROL: WWW.TOOLBASE.ORG/PDF/CASESTUDIES/STC_ICC_RATINGS.PDF.

☒ ☐ SECTION 5.508 OUTDOOR AIR QUALITY
5.508.1 OZONE DEPLETION AND GREENHOUSE GAS REDUCTIONS. INSTALLATIONS OF HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH SECTIONS 5.508.1.1 AND 5.508.1.2.

5.508.1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.

5.508.1.2 HALONS. INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

☐ ☒ 5.508.2 SUPERMARKET REFRIGERANT LEAK REDUCTION. NEW COMMERCIAL REFRIGERATION SYSTEMS SHALL COMPLY WITH THE PROVISIONS OF THIS SECTION WHEN INSTALLED IN RETAIL FOOD STORES 8,000 SQUARE FEET OR MORE CONDITIONED AREA, AND THAT UTILIZE EITHER REFRIGERATED DISPLAY CASES, OR WALK-IN COOLERS OR FREEZERS CONNECTED TO REMOTE COMPRESSOR UNITS OR CONDENSING UNITS. THE LEAK REDUCTION MEASURES APPLY TO REFRIGERATION SYSTEMS CONTAINING HIGH-GLOBAL-WARMING POTENTIAL (HIGH-GWP) REFRIGERANTS WITH A GWP OF 150 OR GREATER. NEW REFRIGERATION SYSTEMS INCLUDE BOTH NEW FACILITIES AND THE REPLACEMENT OF EXISTING REFRIGERATION SYSTEMS IN EXISTING FACILITIES.

EXCEPTION: REFRIGERATION SYSTEMS CONTAINING LOW-GLOBAL WARMING POTENTIAL (LOW-GWP) REFRIGERANT WITH A GWP VALUE LESS THAN 150 ARE NOT SUBJECT TO THIS SECTION. LOW-GWP REFRIGERANTS ARE NONOZONE-DEPLETING REFRIGERANTS THAT INCLUDE AMMONIA, CARBON DIOXIDE (CO_2), AND POTENTIALLY OTHER REFRIGERANTS.

Y	N/A	RESPON. PARTY

5.508.2.1 REFRIGERANT PIPING. PIPING COMPLIANT WITH THE CALIFORNIA MECHANICAL CODE SHALL BE INSTALLED TO BE ACCESSIBLE FOR LEAK PROTECTION AND REPAIRS. PIPING RUNS USING THREADED PIPE, COPPER TUBING WITH AN OUTSIDE DIAMETER (OD) LESS THAN 1/4 INCH, FLARED TUBING CONNECTIONS AND SHORT RADIUS ELBOWS SHALL NOT BE USED IN REFRIGERANT SYSTEMS EXCEPT AS NOTED BELOW.

5.508.2.1.1 THREADED PIPE. THREADED CONNECTIONS ARE PERMITTED AT THE COMPRESSOR RACK.

5.508.2.1.2 COPPER PIPE. COPPER TUBING WITH AN OD LESS THAN 1/4 INCH MAY BE USED IN SYSTEMS WITH A REFRIGERANT CHARGE OF 5 POUNDS OR LESS.

5.508.2.1.2.1 ANCHORAGE. ONE-FOUTH-INCH OD TUBING SHALL BE SECURELY CLAMPED TO A RIGID BASE TO KEEP VIBRATION LEVELS BELOW 8 MILS.

5.508.2.1.3 FLARED TUBING CONNECTIONS. DOUBLE-FLARED TUBING CONNECTIONS MAY BE USED FOR PRESSURE CONTROLS, VALVE PILOT LINES AND OIL.

EXCEPTION: SINGLE-FLARED TUBING CONNECTIONS MAY BE USED WITH A MULTIRING SEAL COATED WITH INDUSTRIAL SEALANT SUITABLE FOR USE WITH REFRIGERANTS AND TIGHTENED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

5.508.2.1.4 ELBOWS. SHORT RADIUS ELBOWS ARE ONLY PERMITTED WHERE SPACE LIMITATIONS PROHIBIT USE OF LONG RADIUS ELBOWS.

5.508.2.2 VALVES. VALVES VALVES AND FITTINGS SHALL COMPLY WITH THE CALIFORNIA MECHANICAL CODE AND AS FOLLOWS.

5.508.2.2.1 PRESSURE RELIEF VALVES. FOR VESSELS CONTAINING HIGH-GWP REFRIGERANT, A RUPTURE DISC SHALL BE INSTALLED BETWEEN THE OUTLET OF THE VESSEL AND THE INLET OF THE PRESSURE RELIEF VALVE.

5.508.2.2.1.1 PRESSURE DETECTION. A PRESSURE GAUGE, PRESSURE TRANSDUCER OR OTHER DEVICE SHALL BE INSTALLED IN THE SPACE BETWEEN THE RUPTURE DISC AND THE RELIEF VALVE INLET TO INDICATE A DISC RUPTURE OR DISCHARGE OF THE RELIEF VALVE.

5.508.2.2.2 ACCESS VALVES. ONLY SCHRADER ACCESS VALVES WITH A BRASS OR STEEL BODY ARE PERMITTED FOR USE.

5.508.2.2.2.1 VALVE CAPS. FOR SYSTEMS WITH A REFRIGERANT CHARGE OF 5 POUNDS OR MORE, VALVE CAPS SHALL BE BRASS OR STEEL AND NOT PLASTIC.

5.508.2.2.2.2 SEAL CAPS. IF DESIGNED FOR IT, THE CAP SHALL HAVE A NEOPRENE O-RING IN PLACE.

5.508.2.2.2.2.1 CHAIN TETHERS. CHAIN TETHERS TO FIT OVR THE STEM ARE REQUIRED FOR VALVES DESIGNED TO HAVE SEAL CAPS.

EXCEPTION: VALVES WITH SEAL CAPS THAT ARE NOT REMOVED FROM THE VALVE DURING STEM OPERATION.

5.508.2.3 REFRIGERATED SERVICE CASES. REFRIGERATED SERVICE CASES HOLDING FOOD PRODUCTS CONTAINING VINEGAR AND SALT SHALL HAVE EVAPORATOR COILS OF CORROSION-RESISTANT MATERIAL, SUCH AS STAINLESS STEEL; OR BE COATED TO PREVENT CORROSION FROM THESE SUBSTANCES.

5.508.2.3.1 COIL COATING. CONSIDERATION SHALL BE GIVEN TO THE HEAT TRANSFER EFFICIENCY OF COIL COATING TO MAXIMIZE ENERGY EFFICIENCY.

5.508.2.4 REFRIGERANT RECEIVERS. REFRIGERANT RECEIVERS WITH CAPACITIES GREATER THAN 200 POUNDS SHALL BE FITTED WITH A DEVICE THA INDICATES THE LEVEL OF REFRIGERANT IN THE RECEIVER.

5.508.2.5 PRESSURE TESTING. THE SYSTEM SHALL BE PRESSURE TESTED DURING INSTALLATION PRIOR TO EVACUATION AND CHARGING.

5.508.2.5.1 MINIMUM PRESSURE. THE SYSTEM SHALL BE CHARGED WITH REGULATED DRY NITROGEN AND APPROPRIATE TRACER GAS TO BRING SYSTEM PRESSURE UP TO 300 PSIG MINIMUM.

5.508.2.5.2 LEAKS. CHECK THE SYSTEM FOR LEAKS, REPAIR ANY LEAKS, AND RETEST FOR PRESSURE USING THE SAME GAUGE.

5.508.2.5.3 ALLOWABLE PRESSURE CHANGE. THE SYSTEM SHALL STAND, UNALTERED, FOR 24 HOURS WITH NO MORE THAN A +/- ONE POUND PRESSURE CHANGE FROM 300 PSIG, MEASURED WITH THE SAME GAUGE.

5.508.2.6 EVACUATION. THE SYSTEM SHALL BE EVACUATED AFTER PRESSURE TESTING AND PRIOR TO CHARGING.

5.508.2.6.1 FIRST VACUUM. PULL A SYSTEM VACUUM DOWN TO AT LEAST 1000 MICRONS (+/- 50 MICRONS), AND HOLD FOR 30 MINUTES.

5.508.2.6.2 SECOND VACUUM. PULL A SECOND SYSTEM VACUUM TO A MINIMUM OF 500 MICRONS AND HOLD FOR 30 MINUTES.

5.508.2.6.3 THIRD VACUUM. PULL A THIRD VACUUM DOWN TO A MINIMUM OF 300 MICRONS, AND HOLD FOR 24 HOURS WITH A MAXIMUM DRIFT OF 100 MICRONS OVER A 24-HOUR PERIOD.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS
702.1 INSTALLER TRAINING. HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS INCLUDING DUCTS AND EQUIPMENT BY A NATIONALLY OR REGIONALLY RECONIZED TRAINING OR CERTIFICATION PROGRAM. UNCERTIFIED PERSONS MAY PERFORM HVAC INSTALLATIONS WHEN UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF A PERSON TRAINED AND CERTIFIED TO INSTALL HVAC SYSTEMS OR CONTRACTOR LICENSED TO INSTALL HVAC SYSTEMS. EXAMPLES OF ACCEPTABLE HVAC TRAINING AND CERTIFICATION PROGRAMS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

1. STATE CERTIFIED APPRENTICESHIP PROGRAMS.
2. PUBLIC UTILITY TRAINING PROGRAMS.
3. TRAINING PROGRAMS SPONSORED BY TRADE, LABOR OR STATEWIDE ENERGY CONSULTING OR VERIFICATION ORGANIZATIONS.
4. PROGRAMS SPONSORED BY MANUFACTURING ORGANIZATIONS.
5. OTHER PROGRAMS ACCEPTABLE TO THE ENFORCING AGENCY.

702.2 SPECIAL INSPECTION [HCD1] WHEN REQUIRED BY THE ENFORCING AGENCY, THE OWNER OR THE RESPONSIBLE ENTITY ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTION OR OTHER DUTIES NECESSARY TO SUBSTANTIATE COMPLIANCE WITH THIS CODE. SPECIAL INSPECTORS SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE ENFORCING AGENCY FOR THE PARTICULAR TYPE OF INSPECTION OR TASK TO BE PERFORMED. IN ADDITION TO OTHER CERTIFICATIONS OR QUALIFICATIONS ACCEPTABLE TO THE ENFORCING AGENCY, THE FOLLOWING CERTIFICATIONS OR EDUCATION MAY BE CONSIDERED BY THE ENFORCING AGENCY WHEN EVALUATING THE QUALIFICATIONS OF A SPECIAL INSPECTOR:

1. CERTIFICATION BY A NATIONAL OR REGIONAL GREEN BUILDING PROGRAM OR STANDARD PUBLISHER.
2. CERTIFICATION BY A STATEWIDE ENERGY CONSULTING OR VERIFICATION ORGANIZATION, SUCH AS HERS RATERS, BUILDING PERFORMANCE CON



North Elevation



West Elevation



South Elevation



East Elevation

Conceptual Elevations Building 1 - 32ft clear

790 SHILOH ROAD

Windsor, CA | #22313 | 10.06.2022



North Elevation



West Elevation



South Elevation



East Elevation

Conceptual Elevations Building 2 - 32ft clear

790 SHILOH ROAD

Windsor, CA #22313 | 10.06.2022



North Elevation



Northwest Elevation



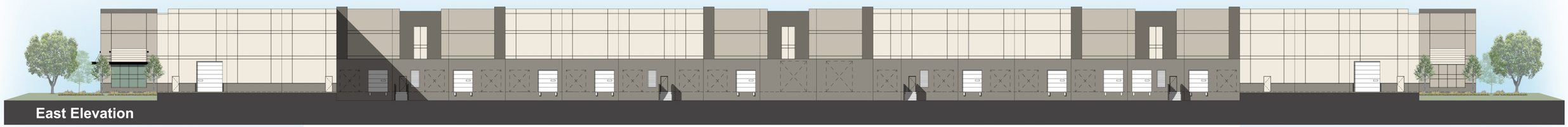
West Elevation



South Elevation



Southeast Elevation



East Elevation

Conceptual Elevations Building 3 - 32ft clear

790 SHILOH ROAD

Windsor, CA #22313 | 10.06.2022



North Elevation



West Elevation



South Elevation



East Elevation

Conceptual Elevations Building 1 - 32ft clear

790 SHILOH ROAD

Windsor, CA | #22313 | 09.19.2022

HPA architecture 42 Years

DEVCON DEVCON DEVCON DEVCON



North Elevation



West Elevation



South Elevation



East Elevation

Conceptual Elevations Building 2 - 32ft clear

790 SHILOH ROAD

Windsor, CA | #22313 | 10.06.2022



North Elevation



Northwest Elevation



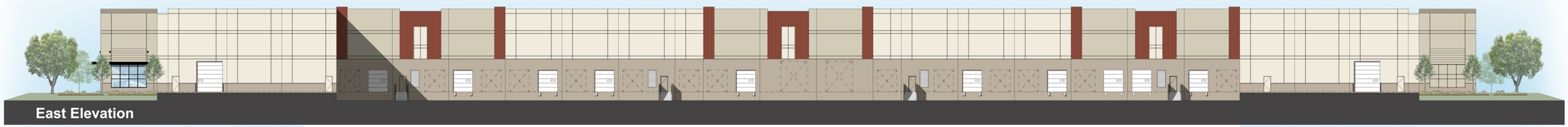
West Elevation



Southwest Elevation



South Elevation

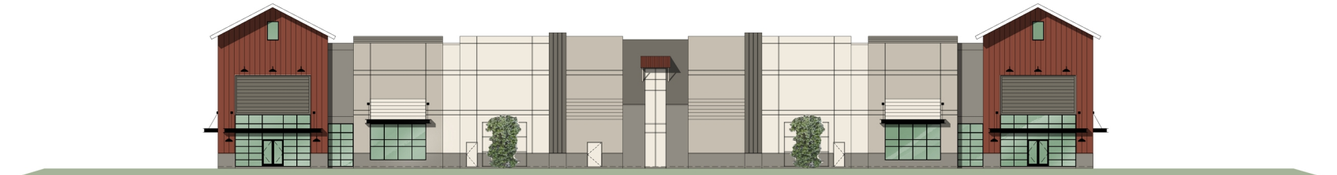


East Elevation

Conceptual Elevations Building 3 - 32ft clear

790 SHILOH ROAD

Windsor, CA #22313 | 10.06.2022



Building 1 - North Elevation



Building 3 - West Elevation

1

Sherwin Williams
SW 7104
Cutton White

2

Sherwin Williams
SW 7010
WHITE DUCK

3

Sherwin Williams
SW 7030
ANEW GRAY

4

DET620
BARNWOOD GRAY

5

Sherwin Williams
SW 7026
GRIFFIN

6

Standing Seam Metal Roof
Color : Old Zinc Gray

7

Metal Panel
/Standing Seam Metal Roof
Color : Terra Cotta

8

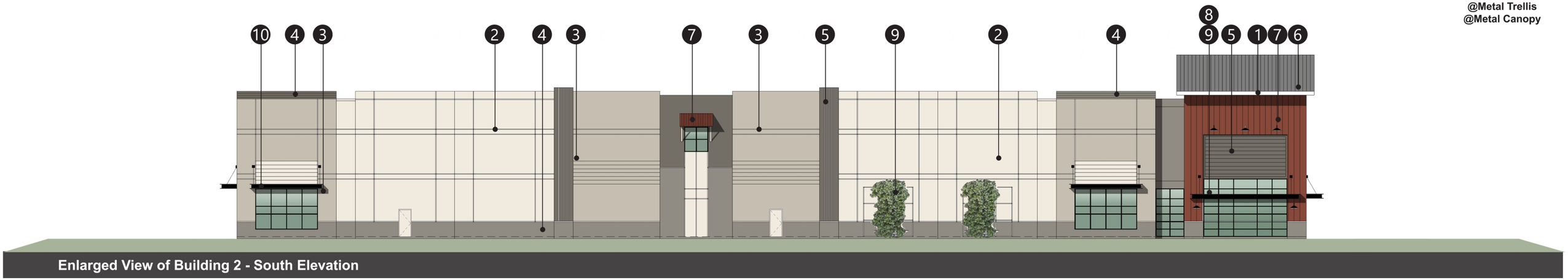
Black Mullion

9

Green
Glazing

10

Sherwin Williams
Pro-Industrial Waterbased
B53-1150 Semi Gloss
SW 7069 Iron Ore
@Metal Trellis
@Metal Canopy



Enlarged View of Building 2 - South Elevation

HPA architecture 42 Years

Conceptual Material Board

790 SHILOH ROAD

Windsor, CA #22313 | 10.06.2022

DEVCON



East Elevation



Enlarged View

Signage Requirments

790 SHILOH ROAD

Windsor, CA | #22313 | 10.06.2022

SHILOH BUSINESS PARK SUBDIVISION
TENTATIVE MAP

790 Shiloh Road
Windsor, California

APN 059-271-095

ABBREVIATIONS

AAI	ADOBE ASSOCIATES, INC.	HDPE	HIGH DENSITY POLYETHYLENE
AB	AGGREGATE BASE	HORIZ	HORIZONTAL
AC	ASPHALT CONCRETE	HP	HIGH POINT
AD	AREA DRAIN	HWY	HIGHWAY
ADA	AMERICANS WITH DISABILITIES ACT	IG	INVERT GRADE
APPROX	APPROXIMATE	INV	INVERT
BC	BEGIN HORIZONTAL CURVE	LF	LINEAR FEET
BCR	BEGIN CURB RETURN	LAT	LATERAL
BLDG	BUILDING	LS	LANDSCAPE
BM	BENCH MARK	MAX	MAXIMUM
BNDY	BOUNDARY	MH	MANHOLE
BO	BLOWOFF VALVE	MIN	MINIMUM
BSW	BACK OF SIDEWALK	MON	MONUMENT
BVC	BEGIN VERTICAL CURVE	NTS	MONUMENT
C&G	CURB & GUTTER	NO	NUMBER
CB	CATCH BASIN	NP	NO PARKING SIGN
CIPP	CAST-IN-PLACE PIPE	OC	ON CENTER
℄	CENTERLINE	PCC	POINT OF COMPOUND CURVE
CL	CLASS	PIV	POST INDICATOR VALVE
CMP	CORRUGATED METAL PIPE	PL	PROPERTY LINE
CO	CLEANOUT	PP	POWER POLE
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONN	CONNECTION	PU	PUBLIC
DCV	DETECTOR CHECK VALVE	PUE	PUBLIC UTILITY EASEMENT
DDCV	DOUBLE DETECTOR CHECK VALVE	PVC	POLYVINYL CHLORIDE PIPE
		PR	PRIVATE
DI	DRAINAGE INLET	RCE	REGISTERED CIVIL ENGINEER
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DS	DOWN SPOUT	RDWD	REDWOOD
DW	DOMESTIC WATER	RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
DWG	DRAWING	R/W	RIGHT OF WAY
DWY	DRIVEWAY	RWL	RECLAIMED WATER LINE
EC	END HORIZONTAL CURVE	S	SLOPE
ECR	END CURB RETURN	SCH	SCHEDULE
EG	EXISTING GROUND	SCWA	SONOMA COUNTY WATER AGENCY
EP	EDGE OF PAVEMENT	SD	STORM DRAIN
EL	ELEVATION	SF	SQUARE FEET
ESMT	EASEMENT	SL	STREET LIGHT
EUC	EUCALYPTUS	SPEC	SPECIFICATIONS
EVC	END VERTICAL CURVE	SS	SANITARY SEWER
EX	EXISTING	STA	STATION
FL	FLOWLINE	STD	STANDARD
FG	FINISH GRADE	S/W	SIDEWALK
FH	FIRE HYDRANT	TC	TOP OF CURB
FR	FIRE RISER	TEL	TELEPHONE
FOC	FACE OF CURB	TYP	TYPICAL
FS	FINISHED SURFACE	UNO	UNLESS NOTED OTHERWISE
FW	FIRE WATER	VAR	VARIES
G	GAS MAIN	VC	VERTICAL CURVE
GB	GRADE BREAK	VERT	VERTICAL
GR	GRATE	W	WATER
GW	GUY WIRE	WM	WATER METER
HC	HANDICAPPED RAMP	WV	WATER VALVE
		WWF	WELDED WIRE FABRIC

LEGEND

PROPOSED	EXISTING	DESCRIPTION
		PROPERTY BOUNDARY
C		COMPACT PARKING
		CURB & GUTTER
		SANITARY SEWER & MANHOLE
		SANITARY SEWER & CLEANOUT
		SANITARY SEWER LATERAL
		STORM DRAIN & MANHOLE
		STORM DRAIN & DRAINAGE INLET (DI)
		STORM DRAIN & AREA DRAIN (AD)
		ROOF DRAIN & DOWN SPOUT (DS)
		WATER SERVICE / WM WATER SERVICE / RPBP
		FIRE LINE / DDCV
		BLOW-OFF
		WATER MAIN & GATE VALVE
		FIRE HYDRANT
		STREET SIGN
		STREET NAME SIGN
		JOINT TRENCH COMPOSITE DRY UTILITY (BY OTHERS)
		TRANSFORMER (BY OTHERS)
		LIGHT STANDARD
		UTILITY POLE W/WO GUY WIRE
C CX.X		DETAIL X ON SHEET CX.X
		GRASS-LINED DRAINAGE SWALE

SHEET INDEX

C1.0	TITLE SHEET – TENTATIVE MAP
C2.0	OVERALL SITE PLAN
C3.0	PRELIMINARY GRADING & DRAINAGE PLAN
C4.0	PRELIMINARY UTILITY PLAN
C5.0	ROAD PROFILE & SECTIONS

SITE INFORMATION

TOTAL NO. OF LOTS: 4

SITE AREA: 41.11 ACRES
SMALLEST LOT SIZE: 381,700 SF; 8.76 AC (LOT 4)
LARGEST LOT SIZE: 528,844 SF; 12.14 AC (LOT 2)
AVERAGE LOT SIZE: 447,706 SF; 10.28 AC

PRESENT ZONING: PLANNED DEVELOPMENT (PD)

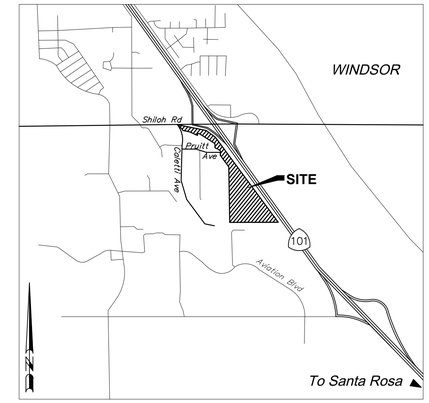
PROPOSED ZONING: LIGHT INDUSTRIAL (LI)

CIVIL ENGINEER INFO

ADOBE ASSOCIATES, INC.
1220 NORTH DUTTON AVE
SANTA ROSA, CA 95401
707-541-2300
INFO@ADOBEINC.COM

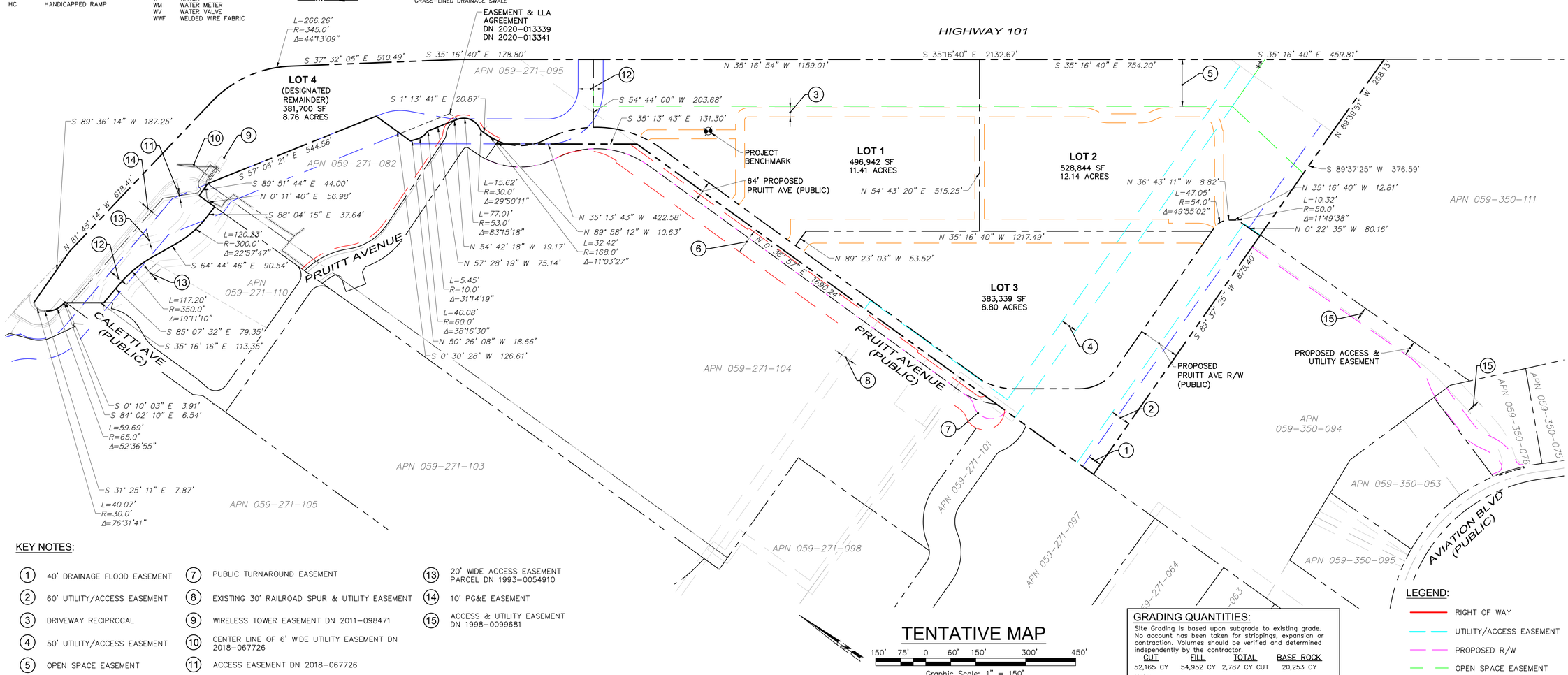
BENCHMARK

BENCH MARK: SET 1/2" REBAR & CAP, ADOBE ASSOCIATES CONTROL POINT #1, EL= 120.1' GPS DERIVED NAVD 88 BASED UPON STATIC GPS MEASUREMENTS COLLECTED NOVEMBER 18, 2021 AND ADJUSTED USING THE NGS OPUS ADJUSTMENT TOOL ACCORDING TO AND GEOID 18.



VICINITY MAP

NOT TO SCALE



KEY NOTES:

1. 40' DRAINAGE FLOOD EASEMENT
2. 60' UTILITY/ACCESS EASEMENT
3. DRIVEWAY RECIPROCAL
4. 50' UTILITY/ACCESS EASEMENT
5. OPEN SPACE EASEMENT
6. EXISTING PRUITT AVE R/W TO BE MOVED
7. PUBLIC TURNAROUND EASEMENT
8. EXISTING 30' RAILROAD SPUR & UTILITY EASEMENT
9. WIRELESS TOWER EASEMENT DN 2011-098471
10. CENTER LINE OF 6' WIDE UTILITY EASEMENT DN 2018-067726
11. ACCESS EASEMENT DN 2018-067726
12. COVENANT OF LIMITING IMPROVEMENT (TO BE ABANDONED)
13. 20' WIDE ACCESS EASEMENT PARCEL DN 1993-0054910
14. 10' PG&E EASEMENT
15. ACCESS & UTILITY EASEMENT DN 1998-0099681

TENTATIVE MAP

150' 75' 0 60' 150' 300' 450'
Graphic Scale: 1" = 150'

GRADING QUANTITIES:

Site Grading is based upon subgrade to existing grade. No account has been taken for strippings, expansion or contraction. Volumes should be verified and determined independently by the contractor.

CUT	FILL	TOTAL	BASE ROCK
52,165 CY	54,952 CY	2,787 CY CUT	20,253 CY

Note:
Excess material to be off-hauled to an approved location or placed onsite under the direction of the project Soils Engineer. Earth materials placed onsite not shown on these plans may require revisions(s) to the grading permit.

Area of Disturbance = 29.7 Acres

LEGEND:

- RIGHT OF WAY
- UTILITY/ACCESS EASEMENT
- PROPOSED R/W
- OPEN SPACE EASEMENT
- DRAINAGE/FLOOD EASEMENT
- DRIVEWAY RECIPROCAL

No.	Date	Revisions Description	Approved

adobe associates, inc.
civil engineering | land surveying | wastewater
1220 N. Dutton Ave., Santa Rosa, CA 95401
P. (707) 541-2300 F. (707) 541-2301
Website: www.adobeinc.com
"A Service You Can Count On!"

Timothy L. Schram, RCE 67890
My license expires 6/30/2023

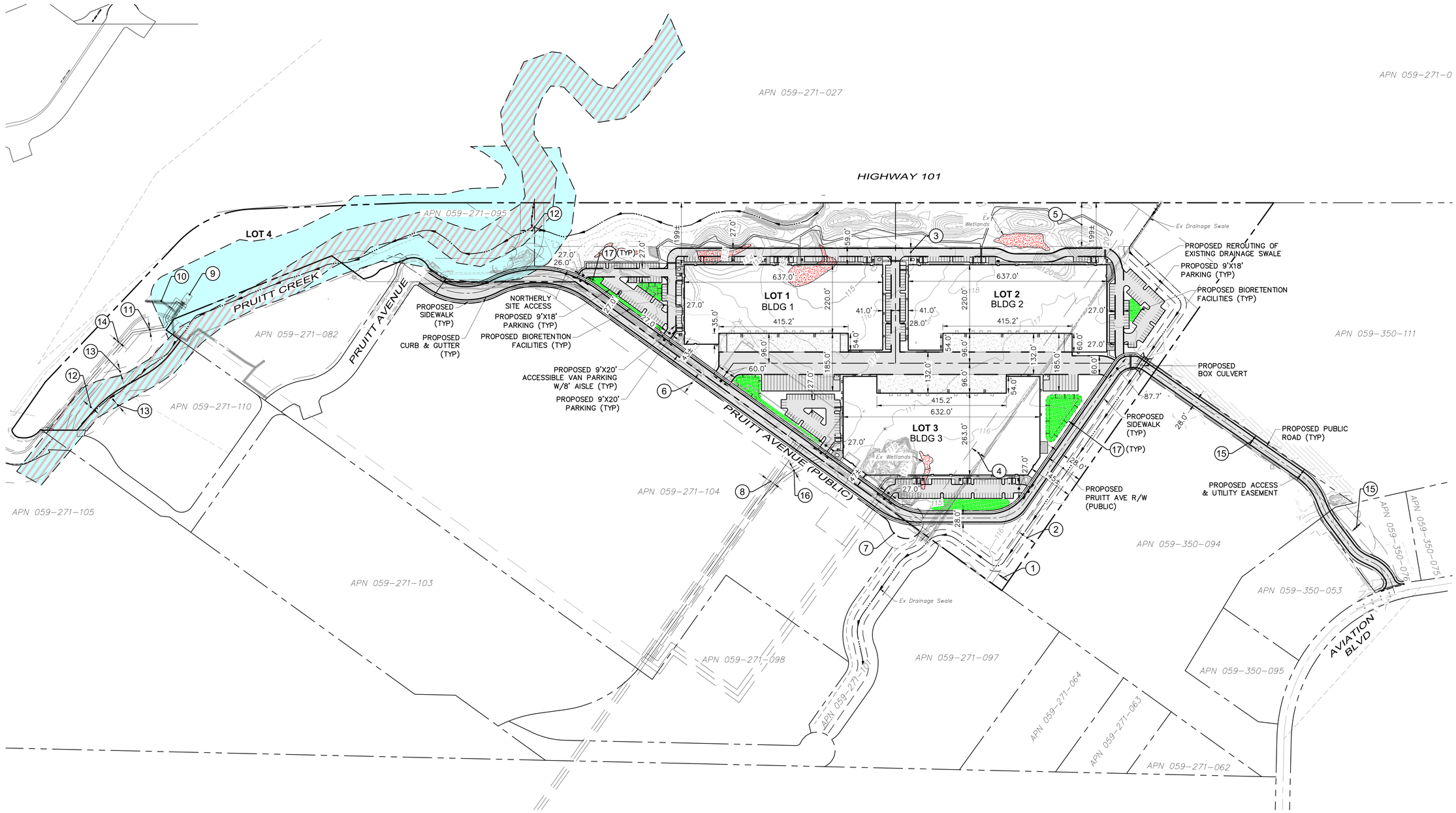
PROFESSIONAL ENGINEER * TIMOTHY LEE SCHRAM * No. 067890 Exp. 6/30/2023 * CIVIL * REGISTERED * STATE OF CALIFORNIA

SHILOH BUSINESS PARK
TENTATIVE MAP
TITLE SHEET
790 Shiloh Rd
Windsor, California
APN 059-271-095

SCALE: AS SHOWN
Date: October 6, 2022
Design by: BC/RM
Drawn by: EB
Checked by: TLS

Sheet
C1.0
1 of 5 Sheets
Job 21367

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KEY NOTES:

1. 40' DRAINAGE FLOOD EASEMENT
2. 60' UTILITY/ACCESS EASEMENT
3. DRIVEWAY RECIPROCAL
4. 50' UTILITY/ACCESS EASEMENT
5. OPEN SPACE EASEMENT
6. EXISTING PRUITT AVE R/W TO BE MOVED
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14. 10' PG&E EASEMENT
15. ACCESS & UTILITY EASEMENT DN 1998-0099681
16. 20' RAILROAD SPUR
17. BIO-RETENTIONS TO BE INCLUDED IN MAINTANCE AGREEMENT AMONGST ALL LOTS

OVERALL SITE PLAN

150' 75' 0 60' 150' 3000' 450'

Graphic Scale: 1" = 150'

HATCHING LEGEND:

- APPROX ZONE AE PER FEMA
- APPROX REGULATORY FLOODWAY
- EXISTING WETLANDS
- ASPHALT CONCRETE
- HARDSCAPE (SLD)
- BIO-RETENTION

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Revisions

No.	Date	Description	Approved

adobe associates, inc.
civil engineering | land surveying | wastewater
1220 N. Dutton Ave., Santa Rosa, CA 95401
P. (707) 541-2300 F. (707) 541-2301
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Timothy L. Schram, RCE 67890
My license expires 6/30/2023

PROFESSIONAL ENGINEER * REGISTERED * TIMOTHY LEE SCHRAM No. 067890 Exp. 6/30/2023 CIVIL * STATE OF CALIFORNIA

SHILOH BUSINESS PARK
TENTATIVE MAP
OVERALL SITE PLAN

790 Shiloh Rd
Windsor, California
APN 059-271-095

SCALE: AS SHOWN
Date: October 6, 2022
Design by: BC/RM
Drawn by: EB
Checked by: TLS

Sheet
C2.0
2 of 5 Sheets
Job 21367

HIGHWAY 101

PRUITT CREEK

MATCHLINE - SEE BELOW FOR CONTINUATION

MATCHLINE - SEE ABOVE FOR CONTINUATION

PRUITT AVENUE (PUBLIC)

LOT 1
BLDG 1
119.00 SLAB
118.00 PAD

LOT 2
BLDG 2
120.00 SLAB
119.00 PAD

LOT 3
BLDG 3
120.50 SLAB
119.50 PAD

BIORETENTION #1 (1,665 SQFT)

BIORETENTION #2 (11,214 SQFT)

BIORETENTION #3 (8,310 SQFT)

BIORETENTION #4 (7,015 SF)

BIORETENTION #6 (2,563 SQFT)

BIORETENTION #7 (2,800 SQFT)

PROPOSED SWALE (TYP) S=0.004

PROPOSED BOX CULVERT

Ex Wetland (Typ)

Ex Tree (Typ)

Ex Flowline (Typ)

Ex 24" Steel SD Pipe

20" CMP SD 112.12 IG

108 LF 18" SD s=0.002

124 LF 18" SD s=0.0025

181 LF 18" SD s=0.002

130 LF 18" SD s=0.0025

157 LF 18" SD s=0.0025

135 LF 18" SD s=0.0025

247 LF 18" SD s=0.002

133 LF 18" SD s=0.0025

106 LF 18" SD s=0.022

523 LF 18" SD s=0.0025

65 LF 12" SD s=0.01

128 LF 12" SD s=0.0025

260 LF 18" SD s=0.0025

97 LF 12" SD s=0.005

258 LF 18" SD s=0.0025

130 LF 18" SD s=0.0025

306 LF 8" SD s=0.0025

190 LF 18" SD s=0.0025

CONNECTION TO PRUITT AVE

PRUITT CREEK

PROPOSED CURB AND GUTTER (TYP)

PRUITT AVENUE

PRUITT AVENUE EXTENSION

PROPOSED PUBLIC SIDEWALK (TYP)

MATCHLINE - SEE ABOVE FOR CONTINUATION

80' 40' 0 40' 80' 160' 240'

Graphic Scale: 1" = 80'

CONNECTION TO AVIATION BLVD

MATCHLINE - SEE ABOVE FOR CONTINUATION

PROPOSED PUBLIC SIDEWALK (TYP)

PRUITT AVENUE EXTENSION

AVIATION BLVD

PROPOSED PLANTER (TYP)

150' 75' 0 75' 150' 300' 450'

Graphic Scale: 1" = 150'

PRELIMINARY GRADING AND DRAINAGE PLAN

80' 40' 0 40' 80' 160' 240'

Graphic Scale: 1" = 80'

DEMOLITION LEGEND:

12" LO — EX TREE TO BE REMOVED

NOTE:

TOTAL BIORETENTION AREA SHOWN: 33,567 SQFT

REQUIRED BIORETENTION AREA: 33,300 SQFT

BIO-RETENTIONS TO BE INCLUDED IN MAINTENANCE AGREEMENT AMONGST ALL LOTS

HATCHING LEGEND:

- ASPHALT CONCRETE
- HARDSCAPE (SLD)
- BIO-RETENTION AREA
- EXISTING WETLANDS

STORM DRAIN SCHEDULE	
DI-X	OLDCASTLE MODEL DI-1818
TD-X	12" TRENCH DRAIN WITH TRAFFIC GRADED GRATE
FOUNDATION DRAINS PER GEOTECH'S RECOMMENDATION	
ALL DOWNSPOUTS TO BE TIED TO UNDERGROUND SD SYSTEM WITH 4" SD, S=0.010 (MIN). (SAP)	
STORM DRAIN PIPE SHALL BE RCP, PVC, OR HDPE. (MEETING CALTRANS SEC. 64 SPECIFICATIONS).	

Revisions			
No.	Date	Description	Approved

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Timothy L. Schram, RCE 67890
My license expires 6/30/2023

REGISTERED PROFESSIONAL ENGINEER * TIMOTHY LEE SCHRAM * No. 067890 * Exp 6/30/2023 * CIVIL * STATE OF CALIFORNIA

SHILOH BUSINESS PARK
TENTATIVE MAP
PRELIMINARY GRADING & DRAINAGE PLAN
790 Shiloh Rd
Windsor, California
APN 059-271-095

SCALE: AS SHOWN
Date: October 6, 2022
Design by: BC/RM
Drawn by: EB
Checked by: TLS

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C3.0
3 of 5 Sheets
Job 21367

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HIGHWAY 101

PRUITT CREEK

MATCHLINE - SEE BELOW FOR CONTINUATION

112.0 IG

DI–X 117.1 GR 113.31 IG

DI–X 117.1 GR 113.64 IG

DI–X 117.1 GR 114.03 IG

DI–X 117.1 GR 114.43 IG

DI–X 117.1 GR 114.82 IG

DI–X 118.1 GR 115.60 IG

DI–X 118.1 GR 115.26 IG

DI–X 118.1 GR 114.64 IG

DI–X 118.1 GR 114.31 IG

Ex Flowline (Typ)

Ex Private SSFM (to be removed)

108 LF 18" SD s=0.002

124 LF 18" SD s=0.0025

130 LF 18" SD s=0.0025

157 LF 18" SD s=0.0025

157 LF 18" SD s=0.0025

135 LF 18" SD s=0.0025

247 LF 18" SD s=0.002

133 LF 18" SD s=0.0025

PROPOSED PRIVATE WATER EASEMENT

10.0'

DI–X 113.5 GR 112.58 IG

DI–X 115.8 GR 112.22 IG

20" CMP SD 112.12 IG

181 LF 18" SD s=0.002

CATCH BASIN (TYP) SEE ROAD PROFILE FOR FLOWLINE ELEVATIONS

PROPOSED PUBLIC UTILITY EASEMENT

PROPOSED W, FW, & RW SERVICES

35.0'

12.5'

12.5'

LOT 1
BLDG 1
119.00 SLAB
118.00 PAD

LOT 2
BLDG 2
120.00 SLAB
119.00 PAD

TD–X 115.0 GR 113.32 IG

DI–X 117.2 GR 114.62 IG

TD–X 116.0 GR 113.98 IG

260 LF 18" SD s=0.0025

6" SS STUB

6" SS STUB

128 LF 12" SD s=0.0025

65 LF 12" SD s=0.01

DI–X 113.5 GR 112.50 IG

DI–X 116.6 GR 113.97 IG

DI–X 116.6 GR 113.33 IG

20.0'

97 LF 12" SD s=0.005

6" SS STUB

PROPOSED PRIVATE SEWER EASEMENT

TD–X 116.5 GR 114.46 IG

130 LF 18" SD s=0.0025

LOT 3
BLDG 3
120.50 SLAB
119.50 PAD

DI–X 113.5 GR 112.44 IG

PROPOSED W, FW, & RW SERVICES

PROPOSED PUBLIC UTILITY EASEMENT

20.0'

20.0'

Ex Wetland (Typ)

DI–X 117.5 GR 111.68 IG

306 LF 18" SD s=0.0025

190 LF 18" SD s=0.0025

Ex Flowline (Typ)

RW

RW

RW

PROPOSED PRIVATE WATER EASEMENT

10.0'

106 LF 12" SD s=0.022

DI–X 118.0 GR 116.3 IG

523 LF 18" SD s=0.0025

PROPOSED PUBLIC UTILITY EASEMENT

PROPOSED W, FW, & RW SERVICES

20.0'

12.5'

MATCHLINE - SEE BELOW FOR CONTINUATION

PRUITT CREEK

W POC

RW POC

SS POC

SD POC 109.8±IG

Ex Private SSFM (to be removed)

PRUITT AVENUE

PRUITT AVENUE EXTENSION

MATCHLINE - SEE ABOVE FOR CONTINUATION

CONNECTION TO PRUITT AVE

80' 40' 0 40' 80' 160' 240'

Graphic Scale: 1" = 80'

MATCHLINE - SEE ABOVE FOR CONTINUATION

PRUITT AVE EXTENSION

RW STUB

W POC

AVIATION BLVD

CONNECTION TO AVIATION BLVD

150' 75' 0 75' 150' 300' 450'

Graphic Scale: 1" = 150'

PRELIMINARY UTILITY PLAN

80' 40' 0 40' 80' 160' 240'

Graphic Scale: 1" = 80'

UTILITY LEGEND:

- 6" PUBLIC RECLAIMED WATER MAIN
- PRIVATE WATER LINE W/HYDRANT
- 8" PUBLIC WATER MAIN W/HYDRANT
- 8" PUBLIC SS MAIN W/MANHOLE
- 6" PRIVATE SS LATERAL W/CLEANOUT
- PRIVATE STORM DRAIN (SIZE PER PLAN)
- EXISTING PUBLIC WATER MAIN
- EXISTING PUBLIC RECLAIMED WATER MAIN
- EXISTING PUBLIC SEWER MAIN
- EXISTING PRIVATE SEWER FORCE MAIN

HATCHING LEGEND:

- ASPHALT CONCRETE
- BIO–RETENTION AREA
- HARDSCAPE (SLD)
- EXISTING WETLANDS

STORM DRAIN SCHEDULE	
DI–X	OLDCASTLE MODEL DI–1818
TD–X	12" TRENCH DRAIN WITH TRAFFIC GRADED GRATE
FOUNDATION DRAINS PER GEOTECH'S RECOMMENDATION	
ALL DOWNSPOUTS TO BE TIED TO UNDERGROUND SD SYSTEM WITH 4" SD, S=0.010 (MIN). (SAP)	
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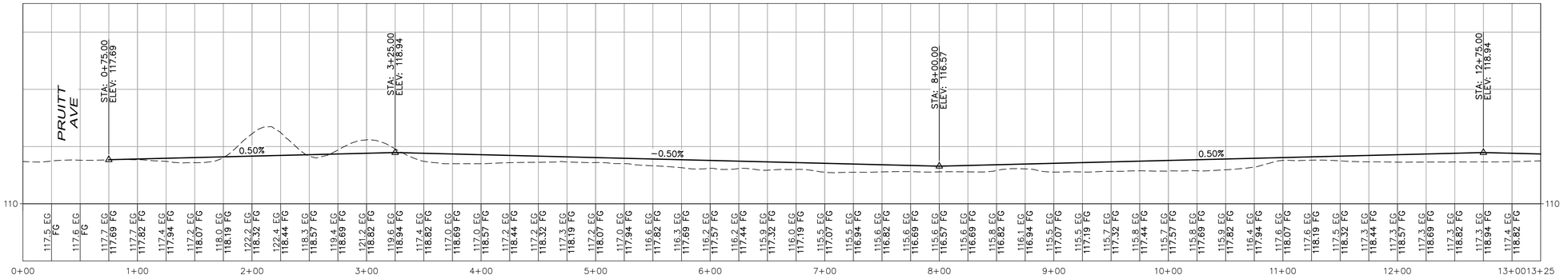
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SHILOH BUSINESS PARK
TENTATIVE MAP
PRELIMINARY UTILITY PLAN
790 Shiloh Rd
Windsor, California
APN 059–271–095

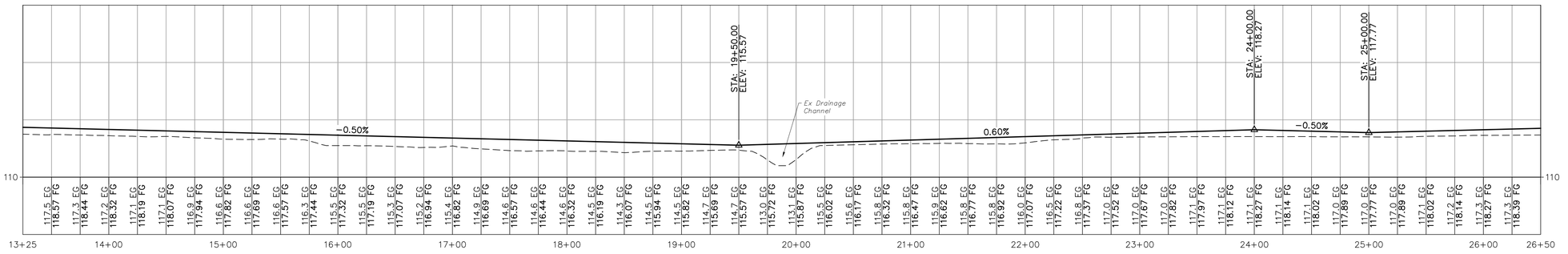
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Job 21367

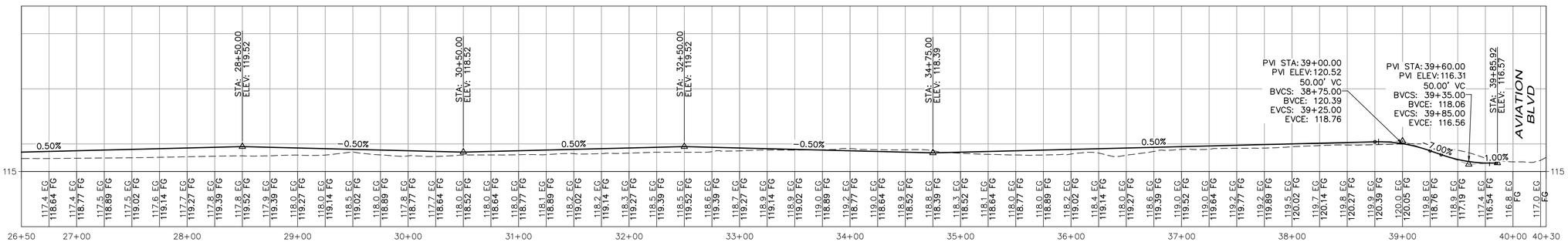
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PRUITT AVE ROAD PROFILE (1)



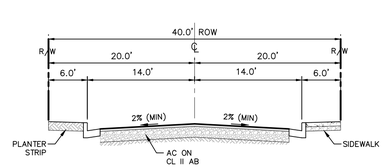
PRUITT AVE ROAD PROFILE (2)



PRUITT AVE ROAD PROFILE (3)

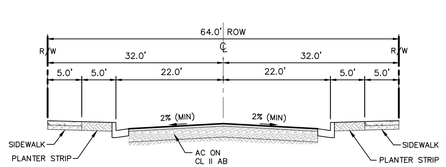
50' 25' 0 25' 50' 100' 150'

Graphic Scale: 1" = 50' Horizontal
1" = 10' Vertical



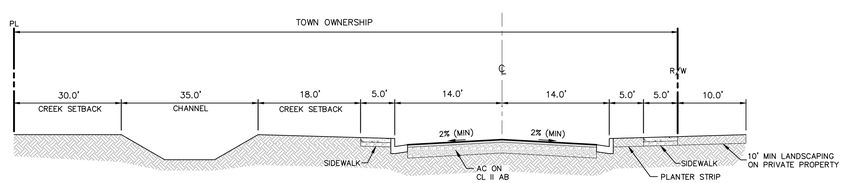
PRUITT AVE TO AVIATION BLVD (SONOMA COUNTY)

NTS



PRUITT AVE

NTS



PRUITT AVE EXTENSION (TOWN OF WINDSOR)

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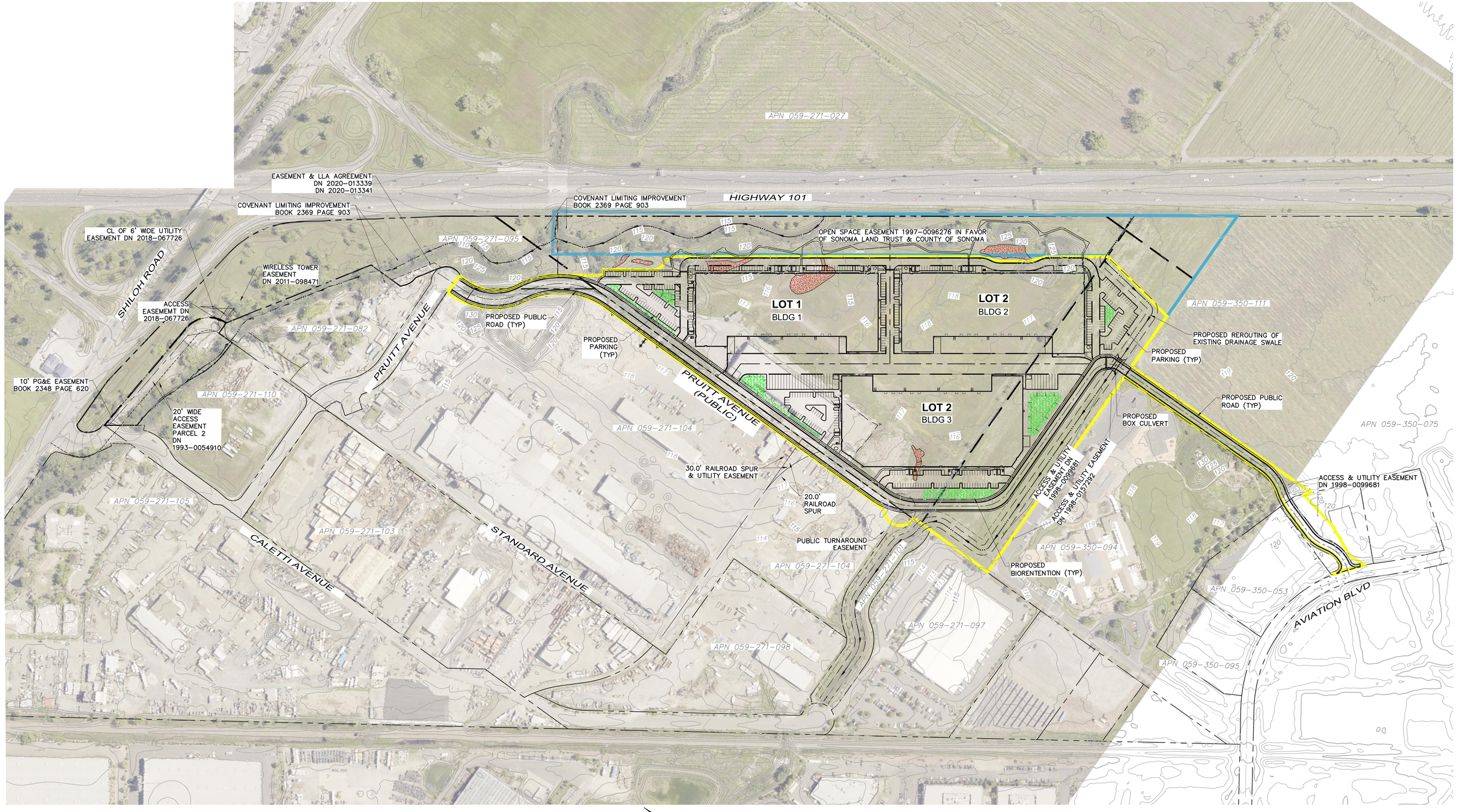
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SHILOH BUSINESS PARK
TENTATIVE MAP
ROAD PROFILE & SECTIONS
790 Shiloh Rd
Windsor, California
APN 059-271-095

SCALE: AS SHOWN
Date: October 6, 2022
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HATCHING LEGEND:

- Bio-Retention Area
- Wetlands Area
- Study Area
- Conservation Easement

OPPORTUNITIES & CONSTRAINTS MAP

150' 75' 0 75' 150' 300' 450'

Graphic Scale: 1" = 150'

October 6, 2022

OPPORTUNITIES & CONSTRAINTS MAP

SHILOH BUSINESS PARK
790 Shiloh Rd, Windsor, CA
APN 059-271-095

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SCALE: 1" = 100'-0"
0' 50' 100' 200'

North

5/13/2022 1:42:03 PM

Shiloh Business Park
790 Shiloh Road
Windsor, CA

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SEAL

SCHEMATIC LANDSCAPE PLAN

PROJECT NO. 21-153
DATE: 10/06/2022
SCALE:
ISSUE: -
SHEET NO. L1.00



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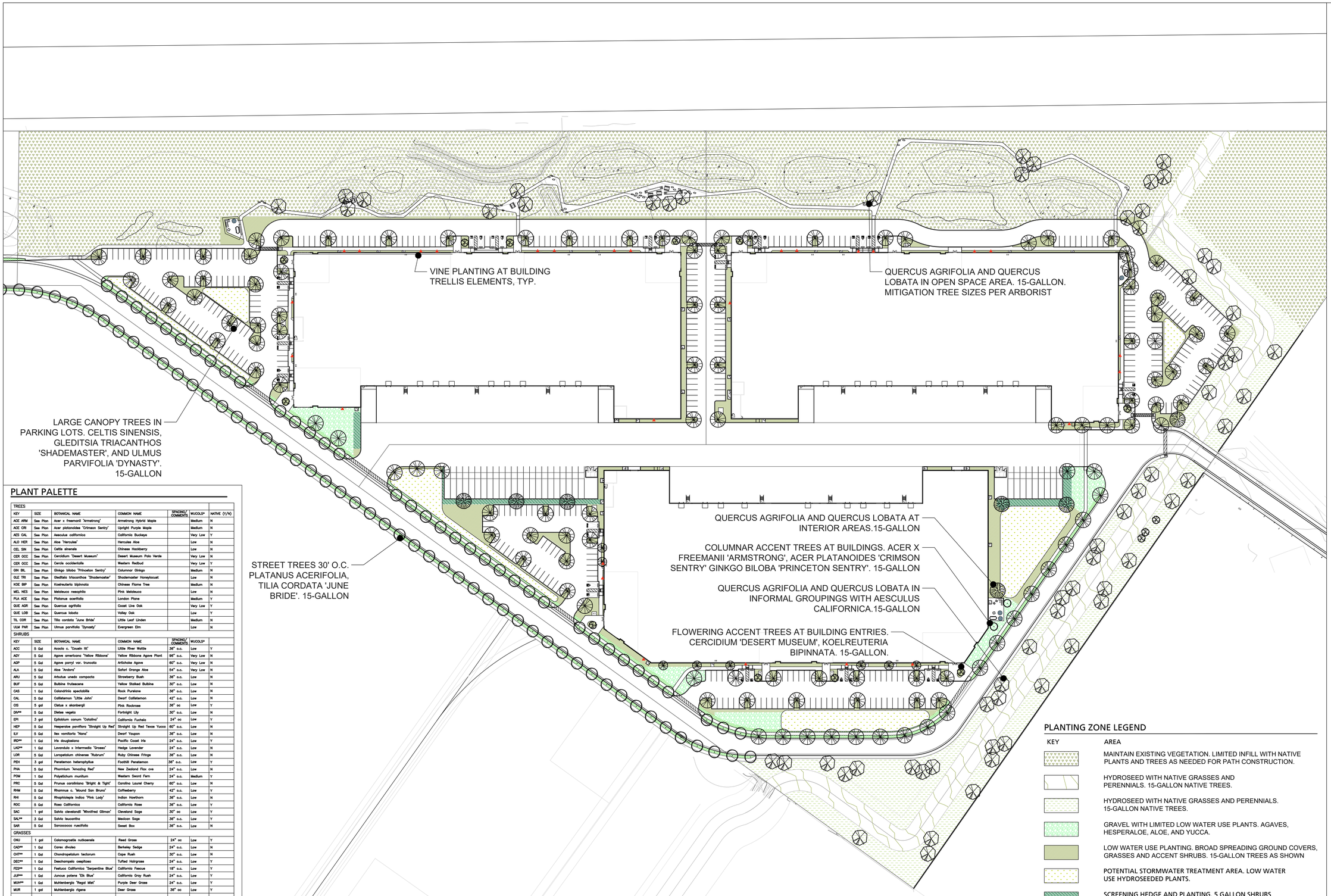
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SEAL

SCHEMATIC LANDSCAPE PLAN

PROJECT NO. 21-153
SHEET NO. L1.01
DATE: 10/06/2022
SCALE:
ISSUE: -



PLANT PALETTE

TREES						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	NATIVE (Y/N)
ACE ARM	See Plan	Acer x freemanii 'Armstrong'	Armstrong Hybrid Maple		Medium	N
ACE CRI	See Plan	Acer platanoides 'Crimson Sentry'	Upright Purple Maple		Medium	N
AES CAL	See Plan	Aesculus californica	California Buckeye		Very Low	Y
ALO HER	See Plan	Aloe 'Hercules'	Hercules Aloe		Low	N
CEL SIN	See Plan	Celtis sinensis	Chinese Hackberry		Low	N
CER OCC	See Plan	Cercidium 'Desert Museum'	Desert Museum Palo Verde		Very Low	N
CER OCC	See Plan	Cercis occidentalis	Western Redbud		Very Low	Y
GIN BIL	See Plan	Ginkgo biloba 'Princeton Sentry'	Columnar Ginkgo		Medium	N
GLE TRI	See Plan	Gleditsia triacanthos 'Shademaster'	Shademaster Honeylocust		Low	N
KOE BIP	See Plan	Koelreuteria bipinnata	Chinese Flame Tree		Medium	N
MEL NES	See Plan	Melaleuca nesophila	Pink Melaleuca		Low	N
PLA ACE	See Plan	Platanus acerifolia	London Plane		Medium	Y
QUE AGR	See Plan	Quercus agrifolia	Coast Live Oak		Very Low	Y
QUE LOB	See Plan	Quercus lobata	Valley Oak		Low	Y
TIL COR	See Plan	Tilia cordata 'June Bride'	Little Leaf Linden		Medium	N
ULM PAR	See Plan	Ulmus parvifolia 'Dynasty'	Evergreen Elm		Low	N
SHRUBS						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	
ACC	5 Gal	Acacia c. 'Cousin Itt'	Little River Wattle	36" o.c.	Low	Y
AGY	5 Gal	Agave americana 'Yellow Ribbons'	Yellow Ribbons Agave Plant	96" o.c.	Very Low	N
AGP	5 Gal	Agave parryi var. truncata	Artichoke Agave	60" o.c.	Very Low	N
ALA	5 Gal	Aloe 'Ardora'	Safari Orange Aloe	54" o.c.	Very Low	N
ARU	5 Gal	Arbutus unedo compacta	Strawberry Bush	36" o.c.	Low	N
BUF	5 Gal	Bulbine frutescens	Yellow Stalked Bulbine	30" o.c.	Low	N
CAS	1 Gal	Calandrinia spectabilis	Rock Purslane	36" o.c.	Low	N
CAL	5 Gal	Callistemon 'Little John'	Dwarf Callistemon	42" o.c.	Low	N
CIS	5 gal	Cistus x skanbergii	Pink Rockrose	36" oc	Low	Y
DIA**	5 Gal	Dietes vegeta	Fortnight Lily	30" o.c.	Low	N
EPI	3 gal	Epilobium canum 'Catalina'	California Fuchsia	24" oc	Low	Y
HEP	5 Gal	Hesperaloe parviflora 'Straight Up Red'	Straight Up Red Texas Yucca	60" o.c.	Low	N
ILV	5 Gal	Ilex vomitoria 'Nana'	Dwarf Youpon	36" o.c.	Low	N
IRD**	1 Gal	Iris douglasiana	Pacific Coast Iris	24" o.c.	Low	Y
LAD**	1 Gal	Lavandula x intermedia 'Grosso'	Hedge Lavender	24" o.c.	Low	N
LOR	5 Gal	Loropetalum chinense 'Ruburum'	Ruby Chinese Fringe	36" o.c.	Low	N
PEN	3 gal	Penstemon heterophyllus	Foothill Penstemon	36" o.c.	Low	Y
PHA	5 Gal	Phormium 'Amazing Red'	New Zealand Flax ove	24" o.c.	Low	N
POM	1 Gal	Polystichum munitum	Western Sword Fern	24" o.c.	Medium	Y
PRC	5 Gal	Prunus caroliniana 'Bright & Tight'	Carolina Laurel Cherry	60" o.c.	Low	N
RHM	5 Gal	Rhamnus c. 'Mound San Bruno'	Coffeeberry	42" o.c.	Low	Y
RHI	5 Gal	Rhaphiolepis indica 'Pink Lady'	Indian Hawthorn	36" o.c.	Low	N
ROC	5 Gal	Rosa Californica	California Rose	36" o.c.	Low	Y
SAC	1 gal	Salvia clevelandii 'Winnifred Gilman'	Cleveland Sage	30" oc	Low	Y
SAL**	3 Gal	Salvia leucantha	Mexican Sage	36" o.c.	Low	Y
SAR	5 Gal	Sarcococca ruscifolia	Sweet Box	36" o.c.	Low	N
GRASSES						
CNU	1 gal	Calamagrostis nutkaensis	Reed Grass	24" oc	Low	Y
CAD**	1 Gal	Carex divulsa	Berkeley Sedge	24" o.c.	Low	N
CHT**	1 Gal	Chondropetalum tectorum	Cape Rush	30" o.c.	Low	N
DEC**	1 Gal	Deschampsia cespitosa	Tufted Hairgrass	24" o.c.	Low	Y
FES**	1 Gal	Festuca Californica 'Serpentine Blue'	California Fescue	18" o.c.	Low	Y
JUP**	1 Gal	Juncus patens 'Elk Blue'	California Gray Rush	24" o.c.	Low	Y
MUH**	1 Gal	Muhlenbergia 'Regal Mist'	Purple Deer Grass	24" o.c.	Low	Y
MUR	1 gal	Muhlenbergia rigens	Deer Grass	36" oc	Low	Y
GROUNDCOVERS						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	
ACR	1 Gal	Acacia redolens	Acacia	48" o.c.	Very Low	N
ALF	1 Gal	Aloe ciliaris 'Firewall'	Groundcover Aloe	72" o.c.	Very Low	N
ARP	1 Gal	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita	60" o.c.	Low	Y
CEG	1 gal	Ceanothus g. h. 'Yankee Point'	Yanke Point Ceanothus	60" oc	Low	Y
COK	1 Gal	Coprosma kirkii 'Variegata'	Variegated Mirror Plant	36" o.c.	Low	Y
MAA	1 gal	Mahonia aquifolium	Oregon Grape	36" o.c.	Low	Y
MAC	1 gal	Mahonia aquifolium 'Compacta'	Oregon Grape	30" o.c.	Low	Y
MYP**	1 Gal	Myoporum parvifolium 'Putah Creek'	Creeping Myoporum	48" o.c.	Low	N
VINES						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	
BOS	1 Gal	Bougainvillea 'San Diego Red'	Violet Trumpet Vine	See Plan	Low	N
CLA	5 Gal	Clematis armandii	Evergreen Clematis	See Plan	Medium	N
FIP	1 Gal	Ficus pumila	Creeping Fig	See Plan	Medium	N
MAU	1 Gal	Macfadyena unguis-cati	Cat's Claw	See Plan	Medium	N

Native plant designation based on WUCOLS and Western Garden Book

* WUCOLS (WATER USE CLASSIFICATION OF LANDSCAPE SPECIES) WATER USE RATING

** Stormwater Treatment Area Plant

Note:
Planting and irrigation system to be designed to meet WELO requirements. This includes the use of mainly native and/or low water use plants and a smart weather based irrigation system primarily using subsurface irrigation.

PLANTING ZONE LEGEND

KEY	AREA
	MAINTAIN EXISTING VEGETATION. LIMITED INFILL WITH NATIVE PLANTS AND TREES AS NEEDED FOR PATH CONSTRUCTION.
	HYDROSEED WITH NATIVE GRASSES AND PERENNIALS. 15-GALLON NATIVE TREES.
	HYDROSEED WITH NATIVE GRASSES AND PERENNIALS. 15-GALLON NATIVE TREES.
	GRAVEL WITH LIMITED LOW WATER USE PLANTS. AGAVES, HESPERALOE, ALOE, AND YUCCA.
	LOW WATER USE PLANTING. BROAD SPREADING GROUND COVERS, GRASSES AND ACCENT SHRUBS. 15-GALLON TREES AS SHOWN
	POTENTIAL STORMWATER TREATMENT AREA. LOW WATER USE HYDROSEEDED PLANTS.
	SCREENING HEDGE AND PLANTING. 5 GALLON SHRUBS
	LOW WATER USE PLANTING PER CITY ZONING ORDINANCE FOR LANDSCAPE AREAS. 15-GALLON TREES AT 30'-40' O.C.

SCALE: 1" = 60'-0"
0' 30' 60' 120'

North

Shiloh Business Park
790 Shiloh Road
Windsor, CA

PLANNING FILE NO: #####-#####
PERMIT FILE NO: #####-#####

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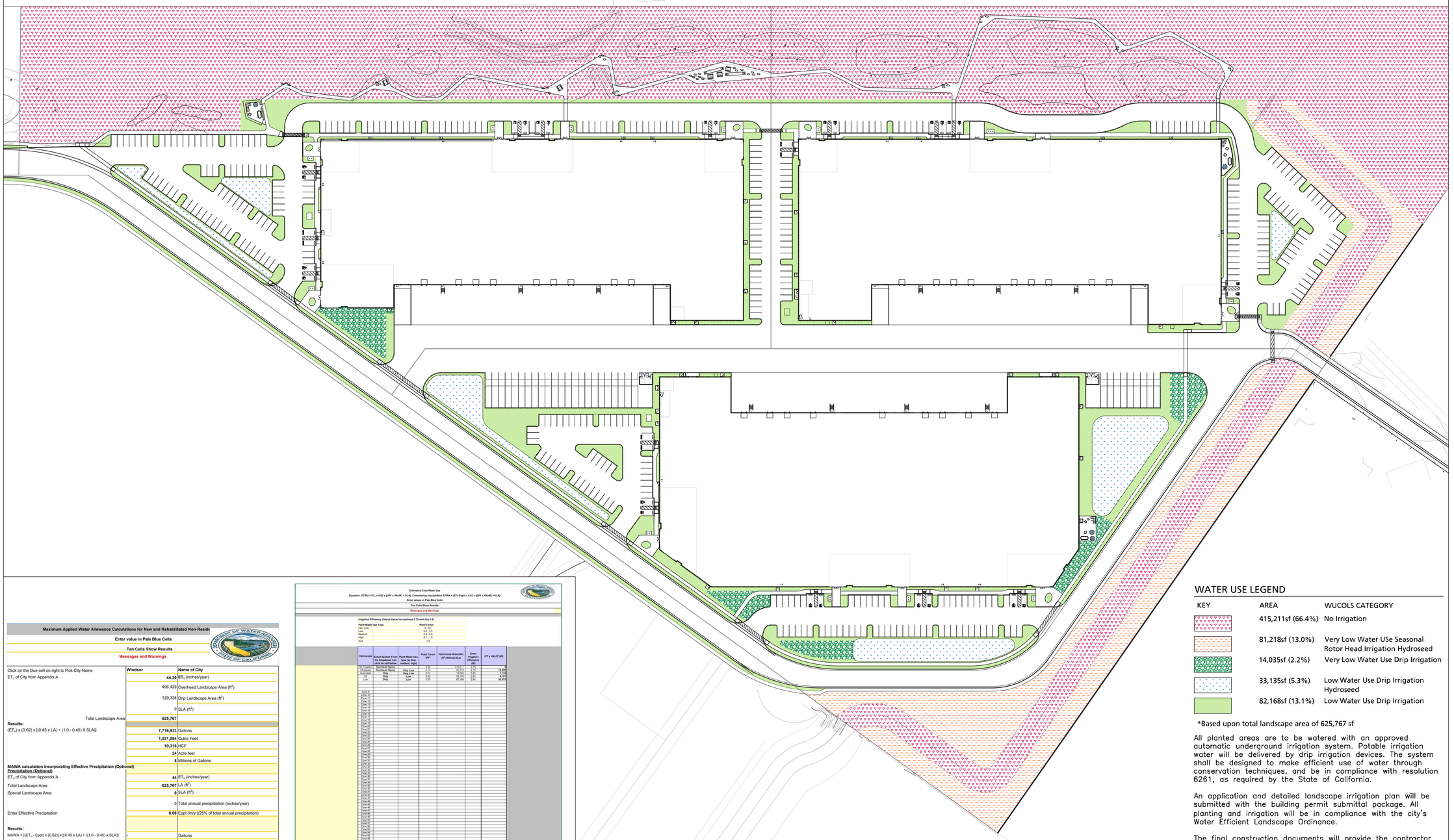
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SEAL

SCHEMATIC PLANTING PLAN

PROJECT NO. 21-153
SHEET NO. L2.01
DATE: 10/06/2022
SCALE:
ISSUE: -

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WATER USE LEGEND

KEY	AREA	WUCOLS CATEGORY
	415,211sf (66.4%)	No Irrigation
	81,218sf (13.0%)	Very Low Water USe Seasonal Rotor Head Irrigation Hydroseed
	14,035sf (2.2%)	Very Low Water Use Drip Irrigation
	33,135sf (5.3%)	Low Water Use Drip Irrigation Hydroseed
	82,168sf (13.1%)	Low Water Use Drip Irrigation

*Based upon total landscape area of 625,767 sf

All planted areas are to be watered with an approved automatic underground irrigation system. Potable irrigation water will be delivered by drip irrigation devices. The system shall be designed to make efficient use of water through conservation techniques, and be in compliance with resolution 6261, as required by the State of California.

An application and detailed landscape irrigation plan will be submitted with the building permit submittal package. All planting and irrigation will be in compliance with the city's Water Efficient Landscape Ordinance.

The final construction documents will provide the contractor with an understanding of the design intent for the maintenance of the planting areas regarding care and pruning of the site. The maintenance contractor shall furnish all labor, equipment, materials and supervision required to properly maintain the landscaped areas in an attractive condition and as described in the project maintenance specifications.

SCALE: 1" = 60'-0"

0' 30' 60' 120'

North

Maximum Applied Water Allowance Calculations for New and Rehabilitated Non-Residential Landscapes

Enter value in Pale Blue Cells

Tan Cells Show Results

Messages and Warnings

Click on the blue cell on right to Pick City Name	Windsor	Name of City
ET_o of City from Appendix A	44.20	ET_o (inches/year)
	496,429	Overhead Landscape Area (ft^2)
	129,338	Drip Landscape Area (ft^2)
	0	SLA (ft^2)
Total Landscape Area	625,767	
Results:		
(ET_o) x (0.62) x [(0.45 x LA) + (1.0 - 0.45) X SLA)]	7,716,833	Gallons
	1,031,594	Cubic Feet
	10,316	HCF
	24	Acre-feet
	8	Millions of Gallons
MAWA calculation incorporating Effective Precipitation (Optional)		
ET_o of City from Appendix A	44	ET_o (inches/year)
Total Landscape Area	625,767	LA (ft^2)
Special Landscape Area	0	SLA (ft^2)
	0	Total annual precipitation (inches/year)
Enter Effective Precipitation	0.00	Eppt (in/yr)(25% of total annual precipitation)
Results:		
MAWA = [$(ET_o$ - Eppt) x (0.62)[(x [(0.45 x LA) + ((1.0 - 0.45) x SLA)]	-	Gallons
	-	Cubic Feet
	-	HCF
	-	Acre-feet
	-	Millions of Gallons

Estimated Total Water Use

Equation: ETWU = ET_o x 0.62 x [(PF x HA/IE) + SLA]; Considering precipitation ETWA = (ETo-Eppt) x 0.62 x [(PF x HA/IE) +SLA]

Enter values in Pale Blue Cells

Tan Cells Show Results

Messages and Warnings

Irrigation Efficiency Default Value for overhead 0.75 and drip 0.81

Plant Water Use Type	Plant Factor
Very Low	0 - 0.1
Low	0.2 - 0.3
Medium	0.4 - 0.6
High	0.7 - 1.0
SLA	1.0

Hydrozone	Select System From the Dropdown List click on cell below	Plant Water Use Type (n) Over, medium, high	Plant Factor (PF)	Hydrozone Area (HA) (ft^2) Without SLA	Enter Irrigation Efficiency (IE)	(PF x HA (ft^2)/IE
No Irrigation	Overhead Spray		0.00	415,211	0.75	-
01Seasonal	Overhead Spray	Very Low	0.10	81,218	0.75	10,830
02Drought	Drip	Very Low	0.10	14,035	0.81	1,733
03	Drip	Low	0.30	33,135	0.81	8,197
Low	Drip	Low	0.30	82,168	0.81	30,431
						-
Zone 9						-
Zone 10						-
Zone 11						-
Zone 12						-
Zone 13						-
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Zone 92						-
Zone 93						-
Zone 94						-
Zone 95						-
Zone 96						-
Zone 97						-
Zone 98						-
Zone 99						-
Zone 100						85,076
		SLA		0		0
		Sum		625,767		

Results		
MAWA =	ETWU =	1,462,219 Gallons 197,226 Cubic Feet 1,974.96 HCF 4.56 Acre-feet 1.46 Millions of Gallons

ETWU complies with MAWA

GENERAL NOTES:

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SEAL

SCHEMATIC IRRIGATION HYDROZONE PLAN

PROJECT NO. 21-153

SHEET NO. L3.01

DATE: 10/06/2022

SCALE:

ISSUE: -

REVISIONS

NO	DESCRIPTION	DATE

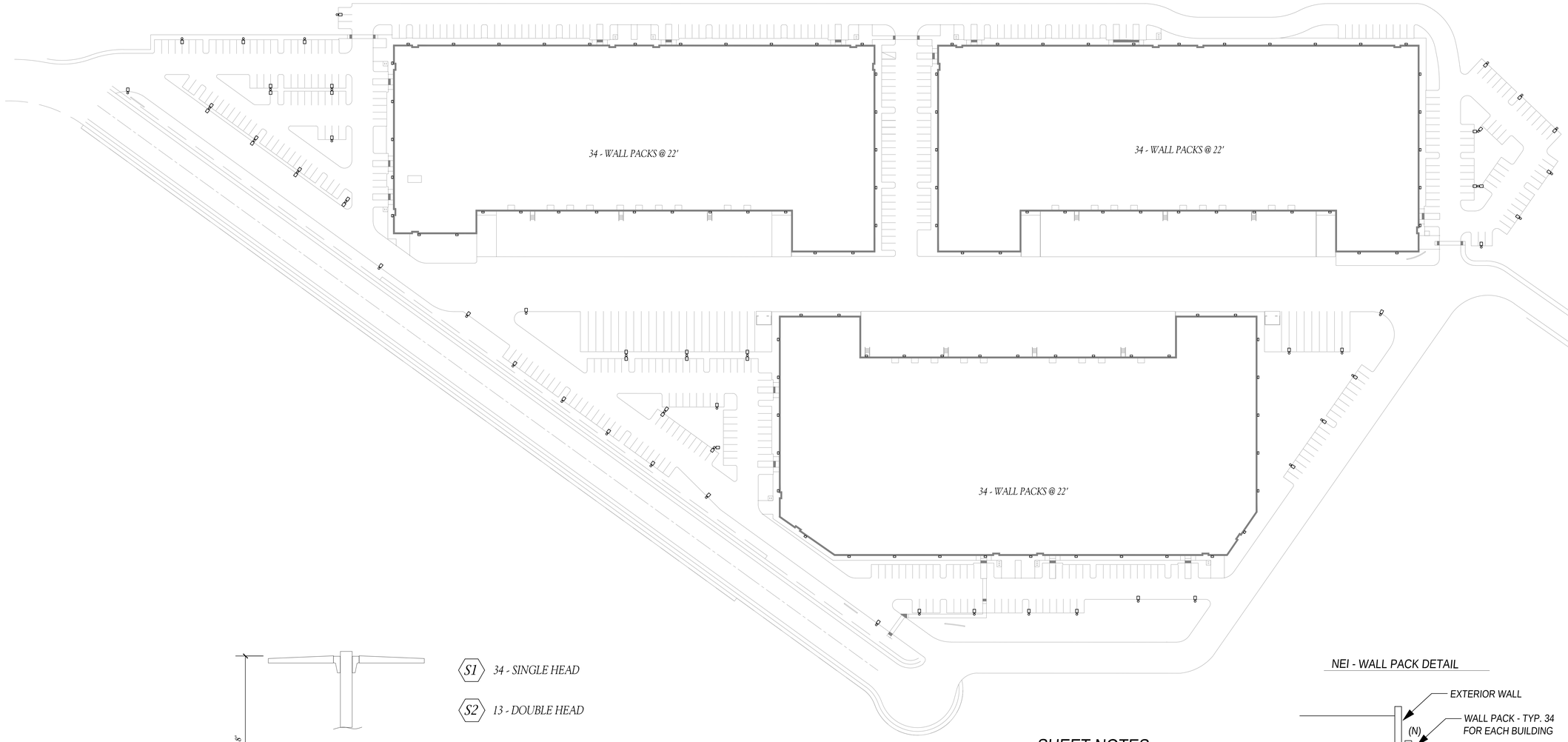
Shiloh Business Park
790 Shiloh Road
Windsor, CA

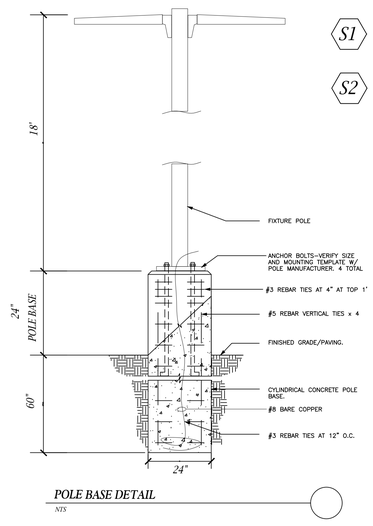
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CONSTRUCTION INCORPORATED
690 GIBRALTAR DRIVE
MILPITAS, CALIFORNIA 95035
(408) 942-8200 Lic. #399163

THE Guzzardo Partnership, INC.
Landscape Architects | Land Planners
Pier 9, The Embarcadero, Suite 115
San Francisco, CA 94111 | www.tgp-inc.com

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POLE BASE DETAIL
NTS

S1 34 - SINGLE HEAD

S2 13 - DOUBLE HEAD

SHEET NOTES

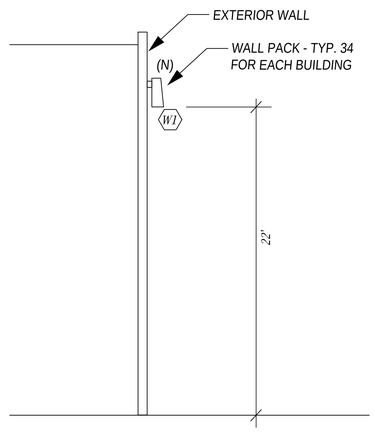
1. CONFIRM LOCATION OF POLE BASES & WALL PACKS WITH CIVIL AND ARCH. DRAWINGS

FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMP	MANUFACTURER AND CATALOG NUMBER	MOUNTING	INPUT WATTS AND VOLTAGE	FIXTURE
S1	SINGLE HEAD LIGHT POLE	LED	LUMARK-PFPRV-1-C25-T3-18'-PER7 (MOTION SENSOR)	SURFACE 18' POLE	96/277V	34
S2	DOUBLE HEAD LIGHT POLE	LED	SAME AS ABOVE WITH 2 HEADS	SURFACE 18' POLE	192/277V	13
W1	WALL PACK	LED	SAME AS ABOVE - PFPRV WALL PACK SERIES	SURFACE	96/277V	102

* EM PROVIDE WITH EMERGENCY BATTERY BACKUP

NEI - WALL PACK DETAIL



COPY TO FIELD TBD

COPY TO PLAN GRID TBD

NEI
NORTHERN ELECTRIC INC.
3190 REGIONAL PARKWAY
SANTA ROSA, CA 95403
PHONE (707) 571-2265
FAX (707) 571-2266

SEAL

NORTHERN ELECTRIC INC.
DATE:
STATE LICENSE #A37655

EXP. 3-31-23

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SHILOH BUSINESS PARK

TBD PRUITT AVE
WINDSOR, CA

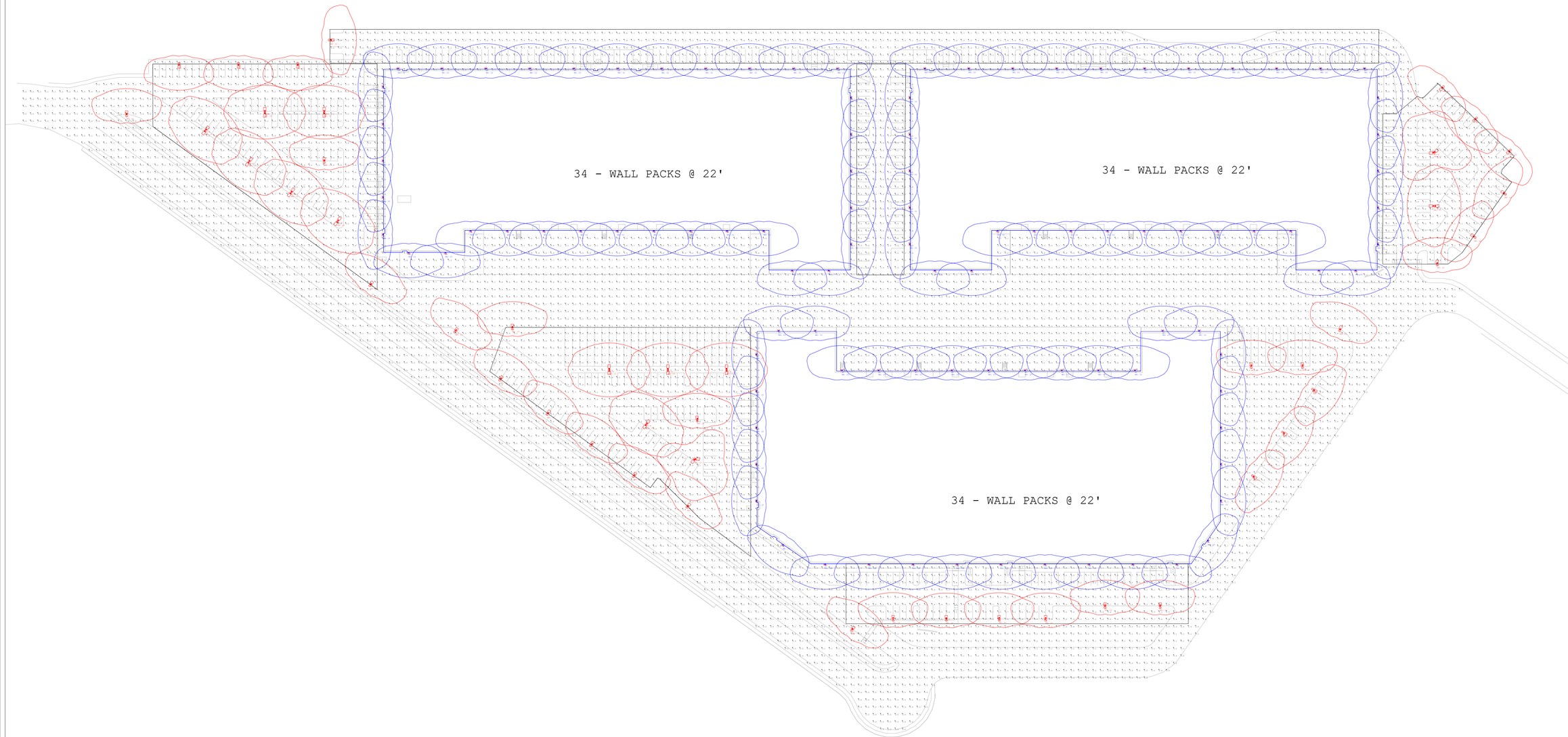
REVISIONS

MARK	DATE	DESCRIPTION
	TBD	PERMIT SET

DRAWN BY: MG
DATE: 6/15/22
SCALE: 1"=60'

SHEET TITLE
LIGHTING FOR PARKING LOT & BUILDING WALLPACKS

SHEET NUMBER
E1.1



Scale: 1 inch= 70 Ft.

All values shown are maintained horizontal Footcandles at grade level.
The lighting calculations provided in this report approximate the light levels expected within the space as defined and are based on the information provided to Cal Lighting Please verify the data to assure the accuracy of the report. Cal Lighting is not responsible for light output of lamps and ballasts, or design variables.

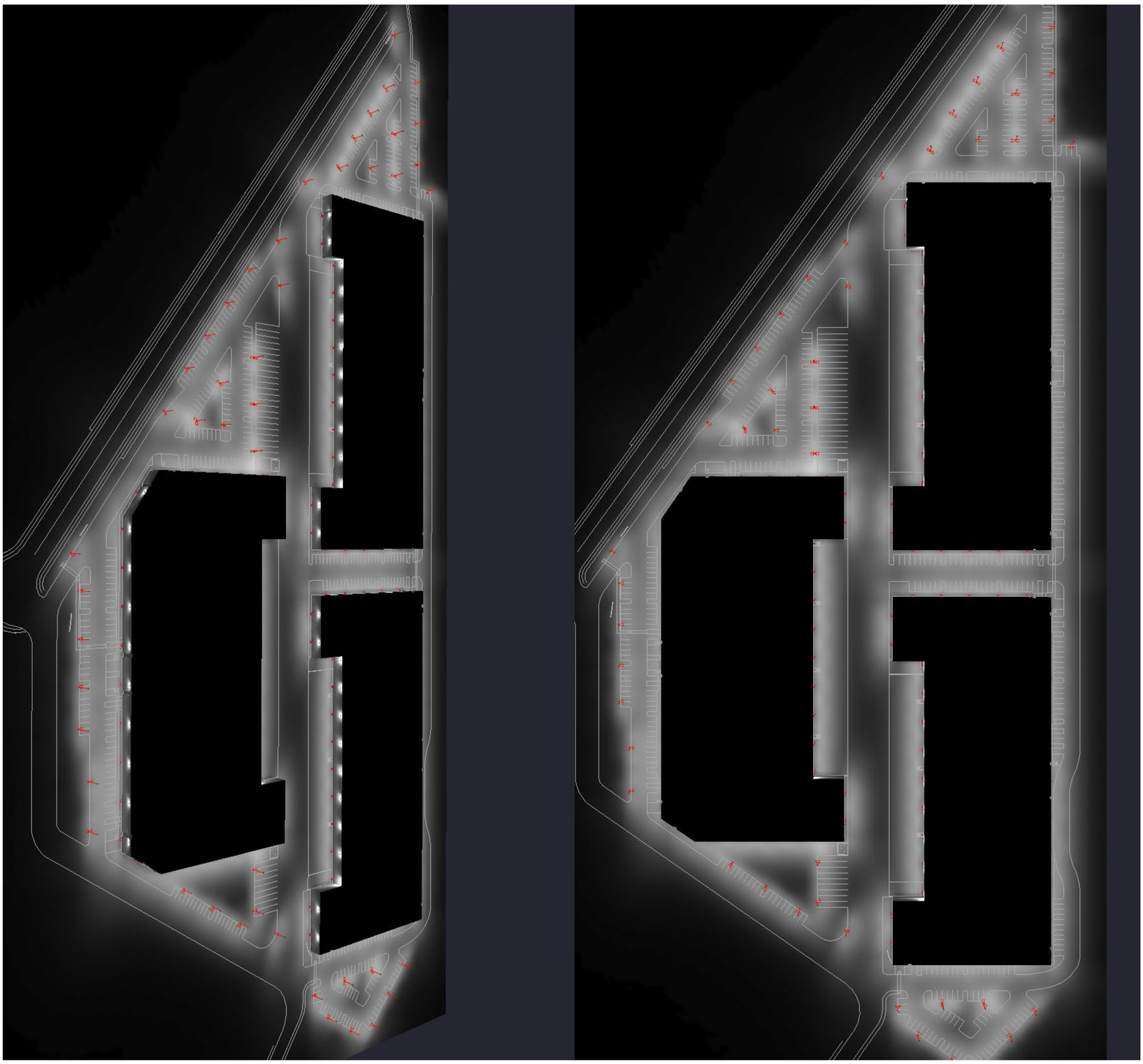
CAL LIGHTING

#	Date	Comments

Revisions

Drawn By: Tania Goldstein
Checked By:
Date:6/16/2022
Scale:

SHILOH BUSINESS



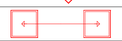
Page 2 of 3

SHILOH BUSINESS

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Date:6/16/2022
Scale:

Revisions	#	Date	Comments

CAL LIGHTING

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Lum. Lumens	LLF	LLD	LDD	BF	Description
	34	S1	SINGLE	13183	0.900	1.000	0.900	1.000	PRV-C25-D-UNV-T3-BZ
	2	S2-A	2 @ 90 DEGREES	13183	0.900	1.000	0.900	1.000	PRV-C25-D-UNV-T3-BZ
	11	S2-B	BACK-BACK	13183	0.900	1.000	0.900	1.000	PRV-C25-D-UNV-T3-BZ
	102	W1	SINGLE	13183	0.900	1.000	0.900	1.000	PRV-C25-D-UNV-T3-BZ-WALL PACK

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CENTER PARKING AREA BTWN N BLDGS	Illuminance	Fc	3.45	5.3	1.4	2.46	3.79
EAST NORTH PARKING AREA	Illuminance	Fc	3.47	6.6	1.1	3.15	6.00
NORTH PARKING AREA	Illuminance	Fc	2.35	4.6	0.5	4.70	9.20
SOUTH PARKING AREA	Illuminance	Fc	3.53	5.1	0.3	11.77	17.00
WEST NORTH PARKING AREA	Illuminance	Fc	3.47	7.3	0.6	5.78	12.17
WEST SOUTH PARKING AREA	Illuminance	Fc	3.06	9.3	0.4	7.65	23.25

CAL LIGHTING

#	Date	Comments

Revisions

Drawn By: Tania Goldstein
Checked By:
Date:6/16/2022
Scale:

SHILOH BUSINESS

James P. Allen & Associates

Dedicated to the Preservation of Trees

Shiloh Business Park
790 Shiloh Road, Windsor CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

Mitigation Maintenance and Monitoring Program

Prepared for

Dr. Terry Huffman, PhD
Huffman-Broadway Group, Inc.

Prepared by

James P. Allen
ASCA Registered Consulting Arborist #390
ISA Board Certified Master Arborist #WC-0625B

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November 1, 2022

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Tree Inventory Methodology...…….…...Pages 10 through 13

Required Procedures…….…….…….…….Pages 14 through 16

Mitigation Maintenance and Monitoring Program… ……....…Pages 16 through 18

Tree Preservation Specifications.…….…….....Page 20

ATTACHMENTS

- Tree Resource Inventory
- Construction Impact Analysis Tree Location Map
  - Sheets ARB 1.A through 1.W
- Tree Protection Plan Location Map
  - Sheets ARB 2.A through 2.J
- Mitigation Tree Planting Location Map
  - Prepared by The Guzzardo Partnership, INC.

ASSIGNMENT/SCOPE OF SERVICES

The permitting of the Shiloh Business Park is in process for a 45-acre parcel at 790 Shiloh Road in the town of Windsor CA, APN 059-271-095.

The area proposed for construction is populated with both young and mature native and non-native tree species, some of which may meet "Protected" status as defined by Town of Windsor Zoning Ordinance Chapter 27.36-Tree Preservation and Protection. In order to construct the project in a manner that ensures tree health/stability, minimizes tree removal and protects tree resources on this site during construction, the following tasks have been completed at the request of Dr. Terry Huffman of the Huffman-Broadway Group Inc. (HBG):

- Performed a Preliminary Tree Resource Analysis:
  - Located, numerically tagged and cataloged 215 trees/tree groups with trunk diameters > 4 diameter inches growing within and adjacent to *The Project Extents*
    - Shrubs were not inventoried
  - Identified tree species
  - Measured trunk diameter, canopy height and radial extents
  - Identified trees that meet "Protected" status as defined by the Town of Windsor Zoning Ordinance Chapter 27.36-Tree Preservation and Protection
  - Rated individual tree health from 1 (Poor/Dead) to 5 (Good)
  - Rated individual tree structure from 1 (Poor) to 4 (Good)
  - Provided all findings in the form of a Preliminary Tree Resource Analysis Report along with a Tree Location Map delivered electronically in pdf format on February 4, 2022
- Conducted a Construction Impact Assessment
  - Received and reviewed map files and project descriptions from the project biologist, engineer and developer
  - Defined necessary tree removal/retention based on overall tree condition and construction related impacts
  - Participated in discussions and site meetings with the project engineer, biologist and property owner(s)
  - Provide Critical Root Zone extents for trees to be preserved if any
- Created a Tree Protection Plan for trees suitable for retention
  - Determine necessary tree maintenance requirements and pre-construction treatments for preserved trees
- Quantify tree replacement requirements for "Protected" trees removed due to construction impacts if any following
  - Review project landscape plan
- Define and document a Mitigation Maintenance and Monitoring Program
- Provided all findings in the form of a Tree Resource Analysis/Construction Impact Assessment/Tree Protection Plan Report along with a Tree Location Map delivered electronically in pdf format

NOTE: This analysis is limited to the above-described tasks. The findings presented in this report are intended for the sole use of the Town of Windsor in evaluating the proposed project impacts to tree resources. These findings are for informational purposes only; they are not intended to represent the interpretation of any State, Federal or County law or ordinance pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

SUMMARY

Two-hundred fifteen trees/tree groups growing within or adjacent to the project boundary have been assessed and the known impacts resulting from the proposed construction defined at this time have been evaluated.

Of the 215 trees/tree groups assessed, 66 trees met "Protected" criteria as defined by the Town of Windsor Zoning Ordinance Chapter 27.36-Tree Preservation and Protection. Thirty-two (32) of the trees inventoried are dead including 13 Monterey pine and 19 coast redwood trees.

To construct the improvements as currently defined, the removal of 65 trees is necessary of which 22 met "Protected" criteria and require mitigation.

Six (6) dead trees growing within Conservation Easements and beyond known grading limits are recommended for removal due to their condition and the risk they present to the redefined use of this parcel.

Compensation for tree removal required in order to complete the project will include:

- Preservation and Protection of 137 existing trees/tree groups
  - 44 of the trees to be preserved meet "Protected" criteria
- Implementation of Special Treatments to be defined by the Project Arborist once grade stakes are placed
- A Mitigation Tree Planting Program for 22 "Protected" trees proposed for removal representing 168.9 diameter mitigation inches as required by Windsor Town Code Section 27.36.61 TREE MITIGATION
  - Sixty-four (64) nursery grown trees will be planted as components of the planned landscape to be maintained in perpetuity:
    - Twenty-one (21), 48"box
    - Forty-three (43), 24" box

To ensure the survivability and proper growth of the replacement trees a five-year Maintenance and Monitoring Program (MM&P) has been defined with success criteria to meet an 80% survival rate.

Site inspections will be performed by the Project Arborist[1] at necessary intervals. Monitoring reports will be submitted to the Town of Windsor Planning and Building Departments at requested intervals.

[1] **Project Arborist:** The Consulting Arborist as an authorized representative of the owner and Town, with the responsibility of periodic inspection of the project, contractor and subcontractors and contractor's equipment to determine compliance with the project specifications, the Town of Windsor tree preservation requirements and the cited professional standards.

BACKGROUND

I was contacted by Dr. Terry Huffman of the Huffman-Broadway Group Inc. (HBG) in December of 2021. Dr. Huffman asked of my interest and availability to assess the construction impacts to tree resources on this project. He provided background materials and verbally described the project. I reviewed the documents, expressed interest in providing service, executed a service contract and began site inspections in January of 2021.

I prepared and submitted a Preliminary Tree Resource Assessment to the project team on February 3, 2022. Over the course of the next 8 months the project was designed to avoid conservation easements, wetlands and significant tree resources.

On October 5 Adobe Associates Inc. provided surveyed tree locations along with an Opportunities and Constraints map files to complete the Construction Impact Analysis. The final grading plan and Soils report were not available for my review.

Additional site inspections were performed during the month of October. Sixty-three trees growing on neighboring properties along the Southern Project boundary and proposed Emergency Vehicle Access Road (EVA) were added to the inventory and assessed.

The Project Team shifted the EVA to decrease impacts to tree resources on the neighboring Sonoma Country School and Sonoma County Employees Retirement Association (SCERA) properties.

Impacts to tree resources resulting from the construction of buildings, roads and Airport Creek re-alignment were assessed. Necessary site improvements; Limits of Grading, soil stabilization, drainage structures and utility line placement will not be known until the grading plan is finalized and field staking representing cut/fill and disturbance limits are survey located and set in the field by the project survey team.

There is a possibility that tree classification and recommended procedures will change once the exact positions of the proposed improvements are known. Necessary changes will be defined in the field by the Project Arborist and implemented by the builder as Conditions of Project Approval.

A landscape plan prepared by The Guzzardo Partnership dated October 6, 2022, was provided in order to determine the quantity, container size and species of trees proposed for mitigation tree planting. This plan is attached as *Mitigation Tree Planting Location Map, Prepared by The Guzzardo Partnership, INC.*.

OBSERVATIONS

Site Description

The proposed project is approximately 45-acres of fairly-level land which is currently the site of Ahlborn Fence and Steel Inc and a large hay field. The site is bound by Pruitt Avenue to the North, a conservation easement and State Highway 101 to the East, industrial properties and the FedEx Ground Facility to the Southeast, and vineyard and the Sonoma Country Day School to the South.

A series of soil berms and mounds line the western edge of the conservation easement where many tree resources grow. A drainage channel enters the Northern section of the conservation easement from a culvert beneath Highway 101. This channel bisects the narrow, panhandle section of the project, flowing in the Northern direction. A man-made soil berm lines the Western edge of this channel bordering the existing access road.

Several wetland areas are the East of the Conservation Easement. Soil moisture levels within and adjacent to the Conservation Easement Area are very high.

An Emergency Vehicle Access Road is proposed through an easement bordering Sonoma Day School and SCERA which will connect Pruitt Avenue to Aviation Boulevard in the Airport Business Center

Tree Descriptions

Tree species growing within and adjacent to project boundaries are comprised of:

- acacia*, (Acacia* sp.*)*
    - 15 trees growing on FedEx Ground Property to the Southwest, beyond project impact zones
- alder, (*Alnus* sp.*)*
    - 3 trees growing on SCERA property
- apple, (*Malus* sp.*)*
    - 3 trees
- blue oak, (*Quercus douglasii)*
    - 4 trees
- coast live oak, (*Quercus agrifolia)*
    - 39 trees
- coast redwood (*Sequoia sempervirens)*
    - 37 trees
    - 16 are dead
- locust (*Gleditsia sp.)*
    - 2 trees
- London plane, *(Platanus x acerfolia)*
    - 6 trees growing on SCERA property
- Monterey pine, (*Pinus radiata)*
    - 20
    - 13 are dead

Tree Descriptions, continued

- mulberry, (*Morus* sp.*)*
    - 3 trees
- olive, (*Olea sp.)*
    - 1 tree growing on Sonoma Country School property
- pin oak, (*Quercus palustris)*
    - 2 trees growing on SCERA property
- plum, (*Prunus sp.)*
    - 1 tree
- poplar, (*Populus* sp.)
    - 1 tree
- photinia, (*Photinia* sp.)
    - 1 tree
- Trident maple, (*Acer buergerainum)*
    - 29 trees
- valley oak, (*Quercus lobata)*
    - 37 trees
- walnut, (*Juglans* sp.)
    - 3 trees
- willow *(Salix* sp.*)*
    - 8 trees/tree groups
    - Approximately 38 individual trees

Oak tree species (*Quercus)* sp. represents the majority of tree resources on this site. Eighty coast live, valley and blue oaks represent 40% of the inventoried tree resources.



This species is in the best condition; highest level of vigor and structural composition of those growing on the site.

Tree #45, a significant valley oak is depicted in the photo at left.

Coast redwood and Monterey pine species have not performed well. Thirty-two of the forty-three trees of these species growing within project boundaries have died, representing 74% of the total pine and redwood tree population. Many of the pines and redwood trees that are still alive are severely distressed and within the Mortality Spiral; the sequence of events describing a change in tree health from vigorous to stressed to declining in health and mortality.





The majority of the dead and declining coast redwoods, pictured above right grow within the Conservation Easement boundary.

Many trees have serious structurally weak conditions that have been in place since they were planted, validating that the nursery stock procured was of very poor quality and unsuitable for planting. Several trees have poor trunk/stem attachments: codominant stems with included bark, a system typical of those prone to failure. Codominant stems are by definition a structural weakness.

They consist of stems that are of similar size that originate from the same position on the trunk. In cases where the bark ridge turns inward the union between the two stems is much weaker. These types of attachments with included bark do not form connective tissues between the stems. The stems push against one another as they develop, literally growing themselves apart.



Canopy weight exerts additional stresses on the weak attachment point(s). Weak unions of this type are hazardous; they can open and crack when stresses are applied to the upper crown of the tree. These conditions are typical of systems prone to failure and can create high risk conditions in the landscape.



Approximately 38 willow *(Salix)* sp. trees line the banks of the drainage channel. Growth is dense and intertwined with blackberry vines limiting visual and physical access. Many of the willow trees were assessed as groups with trunk diameters estimated. Where physical access to tree trunks was limited, numbered tags were nailed to a nearby wooden stake driven into the ground. See inset in photo above.



A line of 29 Trident maple trees grow adjacent to project boundaries on the Sonoma Country Day School property.

Each of these trees is in a fair state of health with significant structural problems, stem girdling roots , cankers and mechanical wounds on the lower trunk sections.

If project grading limits extend into the Critical Root Zones, pre-construction root pruning will be necessary.

Trees lining the Eastern edge of the proposed EVA Road Easement stand on neighboring properties. Fourteen small coast redwoods, 8 coast live oaks and one Valley oak grow on the Sonoma Country School property. The EVA road was shifted to the West by the project design team to provide maximum distance from these trees while maintaining Easement constraints. Pre-construction root pruning will be performed to decrease potential impacts to tree health and structure. Canopy clearance pruning will be required on Trees #195, pictured below to allow vehicle access.





Three alders, 6 London plane and 2 pin oak trees stand on the SCERA property to the East of the proposed EVA road.

The EVA road was shifted to the West by the project design team to avoid all impacts to these trees.

Tree protection structures will be installed during construction to assure there is no damage caused by construction activities.

TREE INVENTORY METHODOLOGY

Each tree/tree group was visually assessed from the root crown through the foliar canopy extents. The attached inventory lists information on trees growing within and directly adjacent to project boundaries.

The tree inventory lists the assigned number, species, trunk diameter, tree health, structure and preservation suitability ratings, Critical Root Zone extents, supplemental observations, required procedures and whether the tree meets "Protected" criteria.

Tree/Tree Group, Assigned Number, Round numbered metal tags were affixed to each tree trunk. Where physical access to tree trunks was limited (Trees/Tree Groups #134 through 144) numbered tags were nailed to a nearby wooden stake driven into the ground. Tree locations are documented on the attached *Tree Location Map*.

Species, identified by both common and botanical names.

Diameter is the width of the trunk measured at 4.5 feet above natural grade (ground level). For trees that were unable to be measured at 4.5 feet above natural grade, measurement heights are provided.

Health, Structure and Preservation Suitability Inventory ratings are based on the following criteria:

Tree health and structure are separate issues that are related since both are revealed by tree anatomy. A tree's vascular system is confined in a thin layer of tissue between the bark and wood layers. This thin layer is responsible for transport of nutrients and water between the root system and the foliar canopy. When this tissue layer is functioning properly a tree has the ability to produce foliage (leaves). As long as the tree maintains a connected vascular system it may appear to be in good health.

When conditions conducive to decay are present, fungi, bacteria or poor compartmentalization, wood strength is degraded. As decay advances, the tree's ability to continue standing is compromised. Thus, a tree can appear to be in good health, but have poor structure.

Health ratings were assigned using the following guidelines:

- **Excellent health (5)** health and vigor are exceptional, no pest, disease, or distress symptoms
- **Good health (4)** health and vigor are average, no significant or specific distress symptoms, no significant pest or disease
- **Fair health (3)** health and vigor are somewhat compromised, distress is visible, pest or disease may be present and affecting health, problems are generally correctable
- **Marginal health (2)** health and vigor are significantly compromised, distress is highly visible and present to the degree that survivability is in question
- **Poor health (1)** decline has progressed beyond the point of being able to return to a healthy condition again, long-term survival is not expected. This designation includes dead trees.

Structural rating were assigned using the following guidelines:

- **Good structure (4)** some minor structural problems may be present which do not require corrective action
- **Moderate structure (3)** normal, typical, structural issues present, which can be corrected with pruning
- **Marginal structure (2)** serious structural problems are present which may or may not be correctable with pruning, cabling, bracing, etc.
- **Poor structure (1)** hazardous structural condition which cannot be effectively corrected with pruning or other measures, may require removal depending on location and the presence of target

Suitability for Preservation: This rating evaluates tree health, structure, species characteristics, age and potential longevity.

Trees with a "**good**" rating have adequate health and structure with the ability to tolerate moderate impacts and thrive for their safe, useful life expectancy.

A "**fair**" rating indicates health or structural problems have the ability to be corrected. They will require more monitoring and intense management with an expectation that their lifespan will be shortened by construction impacts.

Trees with a "**poor**" rating possess health or structural defects that cannot be corrected through treatment. Trees with poor suitability can be expected to continue to decline regardless of remedies provided. Species characteristics may not be compatible with redefined use of the area. Species which are non-native and unusually aggressive are considered to have a poor suitability rating.

Critical Root Zone: Individual tree root systems provide anchorage, absorption of water/minerals, storage of food reserves and synthesis of certain organic materials necessary for tree health and stability. The Critical Root Zone (CRZ) is the species-specific amount of roots necessary to continue to supply these elements essential for each tree to stand upright and maintain vigor. This distance reflects the minimum footage measurement from the trunk required for the protection of the tree's root zone. Construction activities proposed within these areas are subject to specific review and the implementation of recommended special treatments.

Mitigation Requirements/Percentage/Diameter Inches

Mitigation requirements were determined as stated in Town of Windsor Zoning Ordinance Chapter 27.36.61, Tree Mitigation, copied below

- All protected trees, determined by the project arborist to be in good (4) or excellent (5) health, and/or with moderate (3) to good (4) structure, shall be replaced on a one-to-one trunk diameter basis.

Mitigation Requirements/Percentage/Diameter Inches, continued

- All protected trees, determined by the project arborist to have fair (3) or marginal (2) health, and/or with marginal (2) structure, shall be replaced on a two-to-one trunk diameter basis.

- All protected trees, determined by the project arborist to have poor (1) health or poor (1)structure, are not required to be replaced.

A percentage rating of 100, 50 or zero was assigned each "protected" tree proposed for removal. **The "mitigation diameter inches" were calculated to be 168.9**. See attached *Tree Inventory Spreadsheet*

Description of Construction Impacts

This section describes what procedures are proposed near the individual tree. The influences the proposed construction activities will have on the tree are classified as **None Known, Low, Moderate** or **High.** These classifications are defined as follows:

NONE KNOWN, the tree is not near the impact area of the proposed construction.

LOW, adverse effects from the proposed construction activities are minimal.

MODERATE, this level of impacts will result in loss in tree vigor and/or stability. Recommended procedures must be implemented to decrease these impacts.

HIGH, requiring tree removal or the understanding that premature tree mortality can be anticipated. Mitigation is required for "Protected" trees subject to this level of impacts.

Site inspections and review of the plans as presented identified construction impacts to individual trees. The construction of this project as presented requires the following procedures:

- **Building clearance** is needed where branches of trees encroach upon parking areas, sidewalks or structures. Branches will need to be pruned to gain required clearance.

- **Grading for site stabilization, road, parking lot and building construction as well as trenching for foundation, retaining wall, drainage, Airport Creek re-alignment and utility line construction.** These procedures require alteration of natural grade in the form of cut and/or fill (described below) at the defined "Limits of Grading". Roots shattered during this process provide openings for opportunistic decay causing organisms degrading tree support systems and vigor.

- **Alteration of natural grade**
  - Cuts, lowering of natural grade, require the removal of soil until the desired elevation is reached. A cut within the trees Critical Root Zone can remove non-woody and woody roots. Non-woody (absorbing) roots are responsible for transporting moisture and nutrients necessary for maintaining tree health. More significant cuts remove woody roots that provide structural support, compromising the tree's ability to stand upright.

- Fill, increasing natural grade, often requires an initial cut to "knit in" and stabilize the material. This material is applied in layers and compacted in the process. Compaction breaks down soil structure by removing air and adding moisture. Anaerobic conditions may develop, promoting decay. Absorbing roots can suffocate from lack of oxygen. Structural roots may be compromised as a result of the decay.

- **Drainage structures and Utility line placement.** Necessary drainage structures and utility lines are to be consciously placed to avoid the Critical Root Zone of the preserved trees or brought to the attention of the Project Arborist to allow for preconstruction root severance along placement lines.
- **Planned Landscape Installation** typically requires the import of topsoil, rototilling the top 8 inches of native soils, digging planting holes, trenching for irrigation lines and increased water supply for establishing new plantings. Increased disturbance in the Critical Root Zone and elevated water levels will stress mature trees. It is recommended that landscape features planned within Critical Root Zones avoid the above-described procedures.

Observations: Comments and descriptions of individual tree conditions which are not covered by the rating system.

Protected Tree Definition

The determination as to whether the individual tree met "Protected" criteria was determined through review of the Town *of Windsor Zoning Ordinance Chapter 27.36-Tree Preservation and Protection*.

27.36.040 - Protected Trees

A. The following native oak tree species, six inch or greater:
- Black Oak (*Quercus kelloggii)*
- Valley Oak (*Quercus lobata*)
- Blue Oak (*Quercus douglasii)*
- Interior Live Oak (*Quercus wislizenii*)
- Coast Live Oak (*Quercus agrifolia)*
- Oracle Oak (*Quercus x morehus*)
- Oregon Oak (*Quercus garryana*)
- Chase Oak (Quercus x chaseii)

B. The following additional tree species:
- California Buckeye (*Aesculus californica)* six inch or greater
- California Bay (*Umbellularia californica)* twelve inch or greater

Size is trunk diameter measured at a height of 4.5 feet from surrounding grade. Multiple trunk trees must possess at least one trunk with the above diameter (based on species) to be considered protected. (Smaller trees may also be protected under special circumstances. On projects where Planning Commission/Town Council approval is not required, determination will be made at the direction of the Planning Director.)

REQUIRED PROCEDURES

Tree Removal due to Construction Impacts

Sixty-five (65) trees will need to be removed to construct the project as projected. Twenty-two (22) of the trees proposed for removal due to construction impacts meet "Protected" criteria and require replacement. Trees proposed for removal are within or directly adjacent to disturbance limits. Trees to be removed are identified in the attached spreadsheet and listed as follows:

- "Protected" Trees to Be Removed due to Construction Impacts (22)
  Trees #8, 9, 10, 12, 13, 16, 21, 21A, 48, 49, 50, 51, 56, 90, 94, 115, 116, 117, 120, 123, 125 and 197
- Non-Protected Trees to Be Removed due to Construction Impacts (14)
  Trees #11, 14, 17, 18, 20, 44, 47, 54, 55, 57, 58, 59, 93 and 114
- Dead Trees to Be Removed due to Construction Impacts (29)
  Trees #1-7, 15, 19, 38-43, 52, 53, 87, 91, 92, 95, 105, 106, 112, 118, 119, 121, 122 and 124

Tree Removal due to Condition

- Six (6) dead trees growing within Conservation Easements and beyond known grading limits are recommended for removal Due to their Condition.
  Trees #21B, 21D, 21E, 21F, 64 and 65

Tree locations are documented on the attached *Construction Impact Assessment/Tree Location Map File, ARB 1.A through W.*

Trees are to be removed in a controlled, sectional manner to avoid damaging surrounding trees to be preserved and adjacent properties. Tree removal should be scheduled in a manner respecting biotic constraints and bird nesting season.

Shiloh Business Park Project
Construction Impact Analysis
Tree Removal Summary Table
November 1, 2022

Number of trees inventoried	Number of trees inventoried that meet "Protected" criteria	Number of trees proposed for removal due to construction impacts	Trees proposed for removal due to construction impacts that meet "Protected" criteria	Total Mitigation Diameter Inches required for tree replacement or In-Lieu fee
215	66	65	22	168.9

SPECIAL TREATMENTS

Special Treatment locations are documented on the attached Tree Location/Preservation Map File "ARB 2.A through 2.K".

Tree Pruning

Vertical clearance pruning is required for Tree #195 to allow vehicle access along the proposed EVA road.

A qualified certified arborist, using the following industry guidelines should be contracted to perform all tree pruning.

- American National Standards Institute A300 for Tree Care Operations-
  Tree, Shrub and Other Woody Plant Maintenance-Standard Practices.
  - (Part 1)-2017 Pruning
- International Society of Arboriculture: Best Management Practices
- American National Standards Institute Z133.1-1994 for Tree Care Operations- Pruning, Trimming, Repairing, Maintaining, and Removing Trees and Cutting Brush-Safety Requirements

- **Decrease Grading Limits where possible;** If grading limits encroach on the Critical Root Zones of **Trees #145 through 173**, Pre-Grading Root Severance will be necessary.

- **Pre-Grading Root Severance: Required for Trees #174 through 196**
  A "Ditchwitch" type trencher with sharp cutting teeth will prune roots along the Limits of Grading to minimum depths of three feet under the direction of the Project Arborist. This machine can be used when the "Final Line of Disturbance" is near the perimeter of the Critical Root Zone following these procedures:
  - Establish a "final line of disturbance" with field staking. This line represents the furthest distance from the tree trunk that will allow the proposed construction.
  - Trench to a minimum three-foot depth along this established line.
  - Prune roots after trenching using the techniques defined below.

  A backhoe type machine may be required near several trees to be preserved on this site for preconstruction root severance treatments if the distance between these trees and the grading limit cannot be decreased. This procedure is defined below:
  - Establish a "final line of disturbance" with field staking. This line represents the furthest distance from the tree trunk that will allow the proposed construction.
  - Determine the depth of the cut required.
  - Begin digging 8 to 10 feet from the established line in a "spoke in wheel" pattern, using the tree trunk as the hub.
  - Dig toward the tree trunk to determine where roots are located to the required depth.
  - Begin pruning roots using the techniques defined below.
  - Upon reaching the final line of disturbance make the final root pruning cuts.

SPECIAL TREATMENTS, continued

- **Root Pruning**
  Once the trencher has severed roots and grading equipment has removed soils from the root severance trench, roots are to be pruned cleanly leaving bark intact without shattering wood fibers. All root pruning should be performed by skilled labor. The following tools should be used:
    - Hand-pruners/Loppers
    - Handsaw
    - Reciprocating saw
    - Chainsaw

When completed, the pruned portions should be covered with burlap or similar material and kept moist until backfilled.

Monitor Stability

Trees #60, 61 and 66 are stand within the Conservation Easement to the West. They are within proximity to the limits of grading. Tree health and/or stability may be diminished as a result of the root loss. They should be monitored by a qualified arborist regularly during the months following grading to determine changes in condition and the need for further treatments or possibly removal.

Additional Special Treatments:

Determinations will be made by the Project Arborist once grade stakes have been placed. Additional Special Treatments may include but not be limited to:

- Canopy Clearance Pruning
- Mulching
- Supplemental Irrigation
- Alternative Construction Methods

TREE REMOVAL MITIGATION

Compensation for tree removal required in order to complete the project will include:

- Preservation and Protection of 137 existing trees
    - 44 of the trees to be preserved meet “Protected” criteria
- Implementation of Special Treatments to be defined by the Project Arborist once grade stakes are placed
- A Mitigation Planting Program for 22 “Protected” trees proposed for removal representing 168.9 diameter mitigation inches as required by
    - Sixty-four (64) nursery grown trees will be planted as components of the planned landscape to be maintained in perpetuity:
        - Twenty-one (21), 48”box
        - Forty-three (43), 24” box

TREE REMOVAL MITIGATION, continued

Mitigation tree species, quantities and container sizes were determined in compliance with Windsor Town Code Section 27.36.61 TREE MITIGATION copied below:

a. In-Kind Replacement: If the location of replacement tree planting will remain as a natural area suitable for the healthy and long-term growth of native trees, replacement of protected trees should occur in-kind. That is, a native tree species shall be replaced with the same native tree species. If the location of replacement tree planting will be part of an irrigated, ornamental landscape area, replacement of protected trees may occur with a water tolerant oak tree species as identified by the project arborist. If an oak tree species cannot be used the project arborist may recommend a high-value ornamental tree species (as designated by a 70% species rating in the *Species Classification and Group Assignment Handbook,* which is an official publication of The Western Chapter of the International Society of Arboriculture).

Replacement trees shall be a minimum 24-inch box size. If less than 6 inches are required, any combination of box sizes may be utilized. Where more than 6 inches of total replacement trunk diameter are required, the following minimum ratios of replacement tree sizes must be incorporated:

- 50% minimum must be a 48-inch box.
- 50% may be any combination of 24-inch and 36-inch boxes

Replacement tree ratios were applied as follows to meet the required 168.9 Mitigation Diameter :

- 24-inch box replacement tree = 2-inch replacement trunk diameter
  - Forty-three (43), 24”box representing 86 replacement inches
    - 9, Fraxinus americana 'Autumn Purple' (Species Rating of 70%)
    - 23, Tilia cordata, “Greenspire” (Species Rating of 90%)
    - 11, Ulmus parvifolia “Dynasty (Species Rating of 70%)
- 36-inch box replacement tree = 3-inch trunk replacement diameter
- 48-inch box replacement tree = 4-inch trunk replacement diameter
  - Twenty-one (21), 48”box representing 84 replacement inches
    - 2, Fraxinus americana 'Autumn Purple' (Species Rating of 70%)
    - 9, Quercus agrifolia (Species Rating of 90%)
    - 3, Tilia cordata, “Greenspire” (Species Rating of 90%)
    - 7, Ulmus parvifolia “Dynasty (Species Rating of 70%)

A total of 170 diameter inches will be planted as mitigation for 22 “Protected” trees removed.

Replacement trees shall be a minimum 24-inch box size. If less than 6 inches are required, any combination of box sizes may be utilized. Where more than 6 inches of total replacement trunk diameter are required, the following minimum ratios of replacement tree sizes must be incorporated:

- 50% minimum must be a 48-inch box.
- 50% may be any combination of 24-inch and 36-inch boxes

Replacement tree nursery stock selected for dominant species should be standard (single trunk).

Trees planted should be well formed without co-dominant, poorly attached stems. Trees should be disease free and absent of swirling or girdling roots.

Qualified professionals adhering to the following guidelines should plant the replacement trees:

- Prepare the planting site by excavating 3 times the width and 2 inches less than the exact depth of the nursery container.
- Prune any visible matted or circling roots to remove or straighten them. Cut the root ball vertically on opposite sides at least half the distance to the trunk.
- Free roots from the root ball breaking away some of the soil to provide better contact between the root ball and the backfill soil.
- Backfill with native soil.
- After backfilling a two to four-inch layer of tree chip mulch should be applied to the soil layer. Chips should not be applied within 12 inches of the trunk.
- Stakes for support, should be driven on opposite sides of the root ball and driven into the soil. The tree can be secured to the stakes using "Arbortape" or by using the "ReadyStake" system.

Supplemental Irrigation should be provided the new trees by means of a temporary "drip" emitter system for a period of two (2) years. This system should be designed, installed and maintained by a qualified professional to maintain appropriate moisture levels.

Maintenance and Monitoring Program Criteria

To ensure the survivability and proper growth of the replacement trees success criteria will be defined to meet a 80% survival rate and implemented as follows.

- A qualified professional will monitor the newly planted trees at one (1) month intervals for the first year of growth and every 3 months thereafter for an additional four-year period
- Tree health and growth rates will be assessed
- Trees suffering poor growth rates or declining health will be identified
- Invigoration treatments will be provided
- Dead trees or trees in an irreversible state of decline will be replaced
- At the end of the five-year period the status of the new plantings will be assessed to make certain that success criteria have been met and all replacement trees planted are performing well

TREE PRESERVATION AND PROTECTION

Tree Preservation Specifications, found on Page 20 of this document should be adhered to

Tree Preservation Structures should be constructed of the following materials as field specified by the Project Arborist.

- Chain link, 72 inches, in height secured to metal stakes driven at least 18 inches into the soil.
- Temporary orange snow fencing attached to "T" posts driven into the ground
- Silt fencing
- Rice straw bales

Tree Preservation Structure locations are documented on the attached Tree Location/Preservation Map File "ARB 2.A through 2.K".

Monitoring of the project will be the responsibility of the Project Arborist. Site inspections will take place at the following intervals:

- Following on-site placement of grade stakes
- During tree removal operations
- During preconstruction root severance
- After Tree Preservation fencing locations have been staked
- Following Tree Protection fencing installation and prior to the commencement of grading
- During all grading activities within Critical Root Zones
- As necessary during the grading activities to ensure compliance with all conditions of project approval

To ensure the protection of the trees remaining on this site it is imperative that the recommendations detailed within this document are implemented.

Questions regarding this report may be directed to my office.

Respectfully submitted,

James P. Allen

James P. Allen
ASCA Registered Consulting Arborist #390
Certified Urban Forester #120
ISA Board Certified Master Arborist #WC-0625B
ISA Qualified Tree Risk Assessor



Tree Preservation Specifications

Shiloh Business Park
APN 051-271-095

These guidelines should be printed on all pages of the development plans. Contractors and sub-contractors should be aware of tree protection guidelines and restrictions. Contracts should incorporate tree protection language that includes "damage to trees will be appraised using the Guide to Plant Appraisal 10th Edition and result in mitigation costs and monetary fines assessed".

1. **Preconstruction meeting with the Project Arborist:** A meeting with the Project Arborist, Project Manager and all contractors involved with the project should take place prior to demolition All tree preservation specifications will be reviewed and discussed.
2. **Field decisions:** The Project Arborist, Soils Engineer and Grading Contractor will work together to determine the most effective construction methods required to preserve and protect trees.
3. **Tree Preservation Zone (TPZ) establishment:** TPZ's should be established as indicated on the attached map. The TPZ's should be delineated by chain link fencing, temporary orange snow fencing, rice straw bales or silt fencing to be defined by the Project Arborist. The fencing will be installed prior to the onset of grading under the supervision of the Project Arborist and should not be moved.
4. **Restrictions within the Tree Preservation Zone (TPZ):** No storage of construction materials, debris or excess soil will be allowed within the TPZ. Parking of vehicles or construction equipment in this area is prohibited. Solvents, liquids or phytotoxic materials of any type should never be stored or disposed of within the any TPZ and should only be disposed of as prescribed by law.
5. **Grade Alterations:** Maintain the natural grade around all trees to be preserved. If tree roots are encountered during the construction process, the Project Arborist will be notified immediately. Exposed roots will be immediately covered with moistened burlap (or similar material) until the Project Arborist makes a determination as to required mitigation methods and extent of damage.
6. **Trenching requirements:** Any areas of where trenching is proposed will be evaluated with the Project Arborist and the Contractor prior to excavation or construction.
7. **Tree canopy alterations:** Unauthorized pruning of any tree on this site will not be allowed. Tree canopy alterations will be performed to the specifications established by the Project Arborist.
8. **Supplemental irrigation:** Irrigation should be provided using "soaker" hoses or similar method of slow delivery. Supplemental irrigation requirements should be determined by the Project Arborist and will be required prior to and after completion of the grading.
9. **Mulch Layer:** A 4–6-inch layer of tree chip mulch should be applied within the Tree Preservation Zones (TPZ). Maintain a 12-inch distance from tree trunks that is free of chips or organic material or excess soil accumulation.

Tree Resource Inventory Attachment

James P. Allen & Associates

SHILOH BUSINESS PARK
790 Shiloh Road, Windsor, CA
APN 059-271-095

DATE: November 1 , 2022

Dedicated to the Preservation of Trees

TREE RESOURCE INVENTORY/
CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
1	**Monterey pine** *Pinus radiata*	28.5	58	14	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead tree growing at Project Entry point • **Remove Due To Construction Impacts** • No
2	**Monterey pine** *Pinus radiata*	19.1 @ 24" Above Grade	40	8	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead tree growing at Project Entry point • **Remove Due To Construction Impacts** • No
3	**Monterey pine** *Pinus radiata*	29.3 @ 36" Above Grade	50	14	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead tree growing at Project Entry point • **Remove Due To Construction Impacts** • No
4	**Monterey pine** *Pinus radiata*	12.6	45	7	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead tree growing at Project Entry point • **Remove Due To Construction Impacts** • No
5	**Monterey pine** *Pinus radiata*	25.5	30	6	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead tree growing at Project Entry point • **Remove Due To Construction Impacts** • No
6	**Monterey pine** *Pinus radiata*	27.8	50	9	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead tree growing at Project Entry point • **Remove Due To Construction Impacts** • No
7	**Monterey pine** *Pinus radiata*	Double Trunk 14.7 & 17.2	40	12	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead tree growing at Project Entry point • **Remove Due To Construction Impacts** • No
8	**coast live oak** *Quercus agrifolia*	10.8	25	10	4	4	Good	14	**HIGH/ Within Proposed Entry Road**	**Yes/ 100%/ 10.8**	• Grows at edge of drainage channel Verical fractures in lower trunk Pruned for access road clearance • **Remove Due To Construction Impacts** • Yes
9	**coast live oak** *Quercus agrifolia*	6	12	7	4	2	Poor	10	**HIGH/ Within Proposed Entry Road**	**Yes/ 50%/ 3**	• Trunk bows to the East Suppressed to the North and West Heading cuts • **Remove Due To Construction Impacts** • Yes

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
10	**valley oak** *Quercus lobata*	27.1 @ 18" Above Grade	60	24	4	1	Poor	24	**HIGH/ Within Proposed Entry Road**	**Yes/ 50%/ 13.55**	• Divides into 3 poorly attached secondary trunks at 24" above grade Dead and dying branches • **Remove Due To Construction Impacts** • Yes
11	**Monterey pine** *Pinus radiata*	19.2	30	10	2	2	Poor	22	**HIGH/ Within Proposed Entry Road**	**No**	• Lower trunk surrounded by Poison Oak Pruned for utility line clearance Dead and Dying branches • **Remove Due To Construction Impacts** • No
12	**valley oak** *Quercus lobata*	Double Trunk 5 & 6.5	25	12	4	2	Poor	14	**HIGH/ Within Proposed Entry Road**	**Yes/ 50%/ 5.5**	• Poor trunk/stem attachments • **Remove Due To Construction Impacts** • Yes
13	**valley oak** *Quercus lobata*	9.3	30	10	4	3	Good	14	**HIGH/ Within Proposed Entry Road**	**Yes/ 100%/ 9.3**	• Slight lean to the South • **Remove Due To Construction Impacts** • Yes
14	**Monterey pine** *Pinus radiata*	18.1	30	18	2	3	Poor	20	**HIGH/ Within Proposed Entry Road**	**No**	• Lower branches have been removed Poor trunk/stem attachments Evidence of Red Turpentine Beetle Pine Pitch Canker symptoms • **Remove Due To Construction Impacts** • No
15	**Monterey pine** *Pinus radiata*	14.5	40	16	1	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Dead • **Remove Due To Construction Impacts** • No
16	**valley oak** *Quercus lobata*	Double Trunk 7.6 & 6.8	25	16	4	2	Poor	16	**HIGH/ Within Proposed Entry Road**	**Yes/ 50%/ 7.2**	• Poor trunk/stem attachments • **Remove Due To Construction Impacts** • Yes

* Inaccessible; Trunk Diameter Was Estimated

James P. Allen & Associates

SHILOH BUSINESS PARK
790 Shiloh Road, Windsor, CA
APN 059-271-095

DATE: November 1 , 2022

Dedicated to the Preservation of Trees

TREE RESOURCE INVENTORY/
CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
17	**Monterey pine** *Pinus radiata*	Double Trunk 12.4 & 9.9	30	16	2	1	Poor	N/A	**HIGH/ Within Proposed Entry Road**	**No**	• Poor trunk/stem attachments Sequoia Pitch Moth symptoms Leans to the South • **Remove Due To Construction Impacts** • No
18	**valley oak** *Quercus lobata*	4.8	20	10	5	4	Good	8	**HIGH/ Within Proposed Loading Dock**	**No**	• Small, suppressed tree • **Remove Due To Construction Impacts** • No
19	**Monterey pine** *Pinus radiata*	22.5	60	16	1	1	Poor	N/A	**HIGH/ Within Proposed Loading Dock**	**No**	• Dead • **Remove Due To Construction Impacts** • No
20	**Monterey pine** *Pinus radiata*	26.5 @ 12" Above Grade	60	20	2	1	Poor	24	**HIGH/ Within Proposed Loading Dock**	**No**	• Poor trunk/stem attachments Evidence of Red turpentine Beetle attacks Sequoia Pitch Moth symptoms • **Remove Due To Construction Impacts** • No
21	**valley oak** *Quercus lobata*	6.6	20	6	4	3	Good	8	**HIGH/ Within Proposed Access**	**Yes/ 100%/ 6.6**	• Grows along Eastern drainage channel • **Remove Due To Construction Impacts** • Yes
21A	**valley oak** *Quercus lobata*	8	18	9	4	3	Good	8	**HIGH/ Within Proposed Access Road/ Airport CreeK Re-align**	**Yes/ 100%/ 8**	• Grows along Eastern drainage channel improvements Poor trunk/stem attachments • **Remove Due To Construction Impacts** • Yes
21B	**coast redwood** *Sequoia sempervirens*	2.5	N/A	N/A	N/A	N/A	N/A	N/A	**HIGH/ Proximity to Proposed Airport CreeK Re-align**	**No**	• Dead tree Grows along Eastern drainage channel • **Remove Due To Condition** • No

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21C	**valley oak** *Quercus lobata*	5.5	6	18	4	3	Good	8	**HIGH/ within Proposed Airport CreeK Re-align**	**No**	• Grows along Eastern drainage channel • **Remove Due To Construction Impacts** • No
21D	**coast redwood** *Sequoia sempervirens*	2.1	N/A	N/A	N/A	N/A	N/A	N/A	**HIGH/ within Proposed Airport CreeK Re-align**	**No**	• Dead tree Grows along Eastern drainage channel • **Remove Due To Condition** • No
21E	**coast redwood** *Sequoia sempervirens*	2	N/A	N/A	N/A	N/A	N/A	N/A	**HIGH/ within Proposed Airport CreeK Re-align**	**No**	• Dead tree Grows along Eastern drainage channel • **Remove Due To Condition** • No
21F	**coast redwood** *Sequoia sempervirens*	4.3	N/A	N/A	N/A	N/A	N/A	N/A	**HIGH/ within Proposed Airport CreeK Re-align**	**No**	• Dead tree Grows along Eastern drainage channel • **Remove Due To Condition** • No
22	**acacia** *Acacia* sp.	13	25	12	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Poor trunk/stem attachments • **Preserve and Protect** • No
23	**acacia** *Acacia* sp.	8	15	8	4	4	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Small suppressed tree • **Preserve and Protect** • No
24	**acacia** *Acacia* sp.	6 @ 12" Above Grade	22	8	4	3	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Poor trunk/stem attachments • **Preserve and Protect** • No
25	**acacia** *Acacia* sp.	7.2 @ Grade	12	8	4	1	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South • **Preserve and Protect** • No

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26	**acacia** *Acacia* sp.	6 @ 12" Above Grade	15	8	4	3	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Basal sprouts • **Preserve and Protect** • No
27	**acacia** *Acacia* sp.	10.1	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Poor trunk/stem attachments • **Preserve and Protect** • No
27	**acacia** *Acacia* sp.	7.8	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Poor trunk/stem attachments • **Preserve and Protect** • No
28	**acacia** *Acacia* sp.	8	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Tall suppressed tree • **Preserve and Protect** • No
29	**acacia** *Acacia* sp.	13	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Poor trunk/stem attachments • **Preserve and Protect** • No
30	**acacia** *Acacia* sp.	8	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Tall suppressed tree • **Preserve and Protect** • No
31	**acacia** *Acacia* sp.	17	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Poor trunk/stem attachments • **Preserve and Protect** • No
32	**acacia** *Acacia* sp.	11.8	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South May be outside of project impact areas Poor trunk/stem attachments • **Preserve and Protect** • No

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33	**acacia** *Acacia* sp.	14	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Poor trunk/stem attachments Lower branches have been removed • **Preserve and Protect** • No
34	**acacia** *Acacia* sp.	11.7	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Lower branches have been removed • **Preserve and Protect** • No
35	**acacia** *Acacia* sp.	10.7	30	10	4	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South May be outside of project impact areas Lower branches have been removed • **Preserve and Protect** • No
36	**coast live oak** *Quercus agrifolia* .	9.2	25	10	2	2	Good	12	**NONE KNOWN**	**No**	• Grows on FedEx Property to the South Low vigor Apical decline Poortrunk/stem attachments • **Preserve and Protect** • Yes
38	**Monterey pine** *Pinus radiata*	16.5 @ 6" Above Grade	25	14	2	1	Poor	18	**HIGH/ Within Proposed Building**	**No**	• Dead • **Remove due to Construction Impacts** • No
39	**Monterey pine** *Pinus radiata*	16.8	35	10	1	1	Poor	N/A	**HIGH/ Within Proposed Building**	**No**	• Dead • **Remove due to Construction Impacts** • No
40	**Monterey pine** *Pinus radiata*	12.5	18	12	1	1	Poor	N/A	**HIGH/ Within Proposed Building**	**No**	• Dead • **Remove due to Construction Impacts** • Yes

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
41	**Monterey pine** *Pinus radiata*	13.5	22	12	1	1	Poor	N/A	**HIGH/ Within Proposed Building**	**No**	• Dead • **Remove due to Construction Impacts** • No
42	**Monterey pine** *Pinus radiata*	12.3	7	4	1	1	Poor	N/A	**HIGH/ Within Proposed Building**	**No**	• Dead • **Remove due to Construction Impacts** • No
43	**Monterey pine** *Pinus radiata*	17.6	30	15	1	1	Poor	N/A	**HIGH/ Within Proposed Loading Dock**	**No**	• Dead • **Remove due to Construction Impacts** • No
44	**Monterey pine** *Pinus radiata*	19.6	32	22	1	1	Poor	22	**HIGH/ Within Proposed Building**	**No**	• Evidence of Red Turpentine Beetle attacks Sequoia Pitch Moth symptoms • **Remove due to Construction Impacts** • No
45	**valley oak** *Quercus lobata*	22.2	55	36	4	2	Good	32	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
46	**valley oak** *Quercus lobata*	5.1 @ 36" Above grade	15	6	4	2	Good	9	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
47	**locust** *Gleditsia sp.*	Triple Trunk 2.7, 4.1, & 3.6	15	9	3	1	Poor	6	**HIGH/ Within Proposed Road**	**No**	• Poor trunk/stem attachments Suppressed to the North and East • **Remove due to Construction Impacts** • No
48	**valley oak** *Quercus lobata*	Double Trunk 7.2 & 6.4	18	12	4	2	Poor	12	**HIGH/ Within Proposed Road**	**Yes/ 100%/ 7.2**	• Nursery stake remains attached Poor trunk/stem attachments • **Remove due to Construction Impacts** • Yes
49	**valley oak** *Quercus lobata*	11	25	16	4	3	Fair	14	**HIGH/ Within Proposed Road**	**Yes/ 100%/ 5.5**	• Poor trunk/stem attachments • **Remove due to Construction Impacts** • Yes

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50	**valley oak** *Quercus lobata*	7	35	8	3	2	Poor	12	**HIGH/ Within Proposed Road**	**Yes/ 50%/ 3.5**	• Suppressed to the North and east Poor trunk/stem attachments • **Remove due to Construction Impacts** • Yes
51	**valley oak** *Quercus lobata*	13	55	18	3	3	Fair	14	**HIGH/ Within Proposed Road**	**Yes/ 100%/ 13**	• Poor trunk/stem attachments • **Remove due to Construction Impacts** • Yes
52	**coast redwood** *Sequoia sempervirens*	12.8	18	12	1	2	Poor	10	**HIGH/ Within Proposed Road**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
53	**coast redwood** *Sequoia sempervirens*	23.9	20	22	1	1	Poor	N/A	**HIGH/ Within Proposed Road**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
54	**apple** *Malus sp.*	6.2	30	12	3	1	Poor	8	**HIGH/ Within Proposed Road**	**No**	• Poor trunk/stem attachments • **Remove due to Construction Impacts** • No
55	**valley oak** *Quercus lobata*	4.2	15	8	3	2	Poor	6	**HIGH/ Within Proposed Road**	**No**	• Trunk bows to the West • **Remove due to Construction Impacts** • No
56	**valley oak** *Quercus lobata*	6.5	32	10	3	2	Poor	12	**HIGH/ Within Proposed Road**	**Yes/ 50%/ 3.2**	• Tall suppressed tree • **Remove due to Construction Impacts** • Yes
57	**valley oak** *Quercus lobata*	4.9	26	9	3	2	Poor	8	**HIGH/ Within Proposed Road**	**No**	• Tall suppressed tree • **Remove due to Construction Impacts** • No
58	**apple** *Malus sp.*	16.2 @ Ground Level	25	31	1	1	Poor	8	**HIGH/ Within Proposed Road**	**No**	• Poor trunk/stem attachments Failed **stem** Large diameter dead stems and branches • **Unknown At This Time** • No

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59	**valley oak** *Quercus lobata*	Triple Trunk 4.5, 5.1 & 3.1	24	12	2	2	Poor	12	**HIGH/ Within Proposed Road**	**No**	• Poor trunk/stem attachments Dead branches • **Remove due to Construction Impacts** • No
60	**valley oak** *Quercus lobata*	15.4	40	22	4	2	Poor	16	**HIGH/ Within 4' of Proposed Road**	**No**	• Poor trunk/stem attachments • **Preserve and Protect Monitor Stability** • Yes
61	**valley oak** *Quercus lobata*	9	30	18	4	3	Poor	12	**HIGH/ Within 8' of Proposed Road**	**No**	• Leans dramatically to the East • **Preserve and Protect Monitor Stability** • Yes
62	**valley oak** *Quercus lobata*	7.2	20	9	4	3	Fair	10	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
63	**valley oak** *Quercus lobata*	6.2	30	8	3	2	Poor	10	**NONE KNOWN**	**No**	• Tall supppressed tree to the North and West • **Preserve and Protect** • Yes
64	**coast redwood** *Sequoia sempervirens*	22.3	30	22	1	1	Poor	N/A	**HIGH/ Within striking distance of Proposed Road**	**No**	• Dead tree • **Remove Due To Condition** • Yes
65	**coast redwood** *Sequoia sempervirens*	16.5	30	6	1	1	Poor	N/A	**HIGH/ Within striking distance of Proposed Road**	**No**	• Dead tree • **Remove Due To Condition** • No
66	**plum** *Prunus sp.*	6.2	25	9	2	1	Poor	8	**HIGH/ Within striking distance of Proposed Road**	**No**	• Poor trunk/stem attachments Failed stem • **Preserve and Protect Monitor Stability** • No
67	**coast live oak** *Quercus agrifolia*	Triple Trunk 8.7, 7.6 & 7.4	25	22	2	1	Poor	12	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Decay in basal area • **Preserve and Protect** • Yes

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68	**valley oak** *Quercus lobata*	8.7	30	17	3	3	Fair	12	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Suppressed to the West • **Preserve and Protect** • Yes
69	**valley oak** *Quercus lobata*	Triple Trunk 8.7, 8.3 & 8.2	55	35	3	1	Poor	18	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Large diameter dead branches • **Preserve and Protect** • Yes
70	**coast redwood** *Sequoia sempervirens*	19.8	35	15	2	4	Poor	20	**NONE KNOWN**	**No**	• Low vigor Distressed • **Preserve and Protect** • No
71	**locust** *Gleditsia sp.*	Double Trunk 6.9 & 4.1	32	9	3	3	Fair	12	**NONE KNOWN**	**No**	• Trunk swoops to the West Dead branches • **Preserve and Protect** • No
72	**coast redwood** *Sequoia sempervirens*	11.4	20	14	2	2	Poor	14	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Dead top • **Preserve and Protect** • Yes
73	**coast live oak** *Quercus agrifolia*	Double Trunk 18.5 & 15.3	30	22	3	1	Poor	22	**NONE KNOWN**	**No**	• Failed stem Poor trunk/stem attachments Decay column developing at point of failure •**Preserve and Protect** • Yes
74	**valley oak** *Quercus lobata*	Double Trunk 9.2 & 10.1 @ 24" Above grade	35	14	3	1	Poor	22	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
75	**coast live oak** *Quercus agrifolia*	25.8 @ 36" Above Grade	40	29	4	2	Fair	28	**NONE KNOWN**	**No**	• Poor trunk/stem attachments **HIGH FAILURE POTENTIAL** • **Preserve and Protect** • Yes

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James P. Allen & Associates

SHILOH BUSINESS PARK
790 Shiloh Road, Windsor, CA
APN 059-271-095

DATE: November 1 , 2022

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76	**coast redwood** *Sequoia sempervirens*	15.5	30	9	1	1	Poor	N/A	**NONE KNOWN**	**No**	• Dead tree • **Preserve and Protect** • No
77	**coast live oak** *Quercus agrifolia*	4.5	18	6	4	2	Fair	8	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Suppressed to the West • **Preserve and Protect** • No
78	**coast live oak** *Quercus agrifolia*	Double Trunk 9.5 & 9.3	40	14	4	2	Fair	14	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
79	**valley oak** *Quercus lobata*	Double Trunk 5.2 & 6.1	35	22	3	2	Poor	12	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Over weighted/extended branching Leans to the North and East • **Preserve and Protect** • Yes
80	**valley oak** *Quercus lobata*	9.2	40	8	3	3	Fair	12	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
81	**coast live oak** *Quercus agrifolia*	4.3	18	6	4	3	Fair	8	**NONE KNOWN**	**No**	• Leans to the North Poor trunk/stem attachments • **Preserve and Protect** • No
82	**blue oak** *Quercus douglasii*	Triple Trunk 7.2, 8.8 & 6.5	30	25	3	2	Fair	14	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
83	**blue oak** *Quercus douglasii*	Four Trunks 6, 6.8, 5 & 5.3	30	15	3	2	Fair	14	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Suppressed to the East • **Preserve and Protect** • Yes
84	**mulberry** *Morus* sp.	8.6	18	16	4	3	Fair	8	**NONE KNOWN**	**No**	• Nursery stake remains attached Decay in main stem • **Preserve and Protect** • No

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85	**valley oak** *Quercus lobata*	Double Trunk 6.8 & 5.2	25	9	4	2	Poor	12	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
86	**coast redwood** *Sequoia sempervirens*	15.2	20	8	1	1	Poor	N/A	**NONE KNOWN**	**No**	• Dead tree • **Preserve and Protect** • No
87	**coast redwood** *Sequoia sempervirens*	17.4	25	9	1	1	Poor	N/A	**HIGH/ Within Proposed Pathway**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
88	**mulberry** *Morus* sp.	9.8	15	12	4	3	Good	12	**LOW/ Within 12' of Proposed Pathway**	**No**	• Nursery stake still attached • **Preserve and Protect** • No
89	**mulberry** *Morus* sp.	10.8	22	18	5	3	Fair	12	**NONE KNOWN**	**No**	• Asymetrical canopy • **Preserve and Protect** • No
90	**coast live oak** *Quercus agrifolia*	13	35	22	4	3	Fair	18	**HIGH/ Within Proposed Road**	**Yes/ 100%/ 13**	• Suppressed to the North and West Adequate branch attachments Vertical fractures in trunk • **Remove due to Construction Impacts** • Yes
91	**coast redwood** *Sequoia sempervirens*	20.5	35	14	1	1	Poor	N/A	**HIGH/ Within Proposed Road**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
92	**coast redwood** *Sequoia sempervirens*	29.6	45	18	1	1	Poor	N/A	**HIGH/ Within Proposed Road**	**No**	• Dead tree • **Remove due to Construction Impacts** • Yes
93	**coast live oak** *Quercus agrifolia*	4.1	25	4	3	2	Poor	8	**1**	**No**	• Tall suppressed tree Poor trunk taper • **Remove due to Construction Impacts** • No

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James P. Allen & Associates

SHILOH BUSINESS PARK
790 Shiloh Road, Windsor, CA
APN 059-271-095

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94	**valley oak** *Quercus lobata*	Triple Trunk 5.8, 4 & 6.3	25	16	3	2	Poor	12	**HIGH/ Within 6' of Proposed Grading**	**Yes/ 50%/ 8.55**	• Poor trunk/stem attachments Leans to the West • **Remove due to Construction Impacts** • Yes
95	**coast redwood** *Sequoia sempervirens*	25.5	30	13	1	2	Poor	N/A	**HIGH/ Within striking distance of Proposed Path**	**No**	• 90% dead • **Remove due to Construction Impacts** • No
96	**coast live oak** *Quercus agrifolia*	Double Trunk 7.6 & 9.8	25	14	4	3	Fair	12	**MODERATE/ Within 3' of Proposed Pathway**	**No**	• Leans to the North • **Preserve and Protect** **Special Treatment Area** • Yes
97	**photinia** *Photinia* sp.	Double Trunk 5 & 5.1	20	17	4	3	Fair	12	**MODERATE/ Proximity to Proposed Pathway**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • No
98	**valley oak** *Quercus lobata*	5.3	28	6	3	2	Poor	12	**NONE KNOWN**	**No**	• Tall suppressed tree • **Preserve and Protect** • No
99	**coast redwood** *Sequoia sempervirens*	Double Trunk 27.2 & 14.1	40	19	1	1	Poor	N/A	**NONE KNOWN**	**No**	• Dead tree • **Preserve and Protect** • No
100	**coast live oak** *Quercus agrifolia*	6.2	28	8	4	2	Poor	9	**NONE KNOWN**	**No**	• Canker in lower trunk, North Side Poor trunk/stem attachments Suppressed tree • **Preserve and Protect** • Yes
101	**coast live oak** *Quercus agrifolia*	Triple Trunk 5, 3.9 & 3.2	20	9	3	2	Poor	10	**NONE KNOWN**	**No**	• Suppressed tree Leans to the North Poor trunk/stem attachments • **Preserve and Protect** • No

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
102	**coast redwood** *Sequoia sempervirens*	Four Trunks 4.2, 3.6, 8.2 & 5.1	25	9	1	1	Poor	N/A	**NONE KNOWN**	**No**	• Dead tree • **Preserve and Protect** • No
103	**coast live oak** *Quercus agrifolia*	Triple Trunk 4.2, 2.7 & 3.1	18	7	3	2	Fair	8	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Leans to the North • **Preserve and Protect** • No
104	**coast live oak** *Quercus agrifolia*	7.3	30	9	3	2	Poor	10	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Tall suppressed tree • **Preserve and Protect** • Yes
105	**coast redwood** *Sequoia sempervirens*	16.2	35	12	1	1	Poor	N/A	**HIGH/ Dead tree within striking distance of Proposed Road**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
106	**coast redwood** *Sequoia sempervirens*	17.2	35	9	1	1	Poor	N/A	**HIGH/ Dead tree within striking distance of Proposed Sidewalk**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
107	**coast live oak** *Quercus agrifolia*	Double Trunk 26.2 & 15.9	75	44	5	1	Poor	32	**NONE KNOWN**	**No**	• Poor trunk/stem attachments, Extreme! • **Preserve and Protect** • Yes
108	**coast live oak** *Quercus agrifolia*	4	15	5	4	2	Poor	8	**NONE KNOWN**	**No**	• Suppressed to the Southeast • **Preserve and Protect** • No

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
109	**blue oak** *Quercus douglasii*	17	80	30	4	4	Good	26	**NONE KNOWN**	**No**	• Slightly suppressed to the West • **Preserve and Protect** • Yes
110	**blue oak** *Quercus douglasii*	21.6	75	28	4	4	Good	28	**NONE KNOWN**	**No**	• Poison oak encircles lower trunk Slight lean to the West • **Preserve and Protect** • Yes
111	**valley oak** *Quercus lobata*	7.9	20	12	4	3	Fair	12	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • **Preserve and Protect** • Yes
112	**coast redwood** *Sequoia sempervirens*	Four Trunks 12.2, 6.4, 8.3 & 16.5	45	12	1	1	Poor	N/A	**HIGH/ Dead tree within striking distance of Proposed Sidewalk and Road**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
113	**coast live oak** *Quercus agrifolia*	7.5	22	18	4	2	Fair	10	**NONE KNOWN**	**No**	• Poor trunk/stem attachments • Unknown At This Time • Yes
114	**coast live oak** *Quercus agrifolia*	Double Trunk 3.5 & 3.9	16	7	4	2	Poor	8	**HIGH/ Proximity to Proposed Grading**	**No**	• Poor trunk/stem attachments • **Remove due to Construction Impacts** • No
115	**coast live oak** *Quercus agrifolia*	8.6	35	10	2	2	Poor	10	**HIGH/ Proximity to Proposed Grading**	**Yes/ 50%/ 4.3**	• Poor trunk/stem attachments Exudation at trunk fractures in basal area Possible Phytophthora ramorum, the causal agent of Sudden Oak Death • **Remove due to Construction Impacts** • Yes

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
116	**coast live oak** *Quercus agrifolia*	7.4	35	6	3	2	Poor	12	**HIGH/ Proximity to Proposed Grading**	**Yes/ 50%/ 3.7**	• Slight lean to the North and West • **Remove due to Construction Impacts** • Yes
117	**coast live oak** *Quercus agrifolia*	6.2	30	7	4	2	Poor	10	**HIGH/ Proximity to Proposed Grading**	**Yes/ 50%/ 3.1**	• Tall supppressed tree with minimum taper • **Preserve and Protect** • Yes
118	**coast redwood** *Sequoia sempervirens*	15.6	45	8	1	1	Poor	N/A	**HIGH/ Dead tree within striking distance of Proposed Sidewalk**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
119	**coast redwood** *Sequoia sempervirens*	17.1	45	7	1	1	Poor	N/A	**HIGH/ Dead tree within striking distance of Proposed Sidewalk**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
120	**coast live oak** *Quercus agrifolia*	Double Trunk 7 & 6.2	30	12	2	2	Poor	12	**HIGH/ Proximity to Proposed Sidewalk**	**Yes/ 50%/ 6.6**	• Exudation at trunk fractures in basal area Possible Phytophthora ramorum infection, the causal agent of Sudden Oak Death • **Remove due to Construction Impacts** • Yes
121	**coast redwood** *Sequoia sempervirens*	13.2	35	8	1	1	Poor	N/A	**HIGH/ Dead tree within striking distance of Proposed Sidewalk**		• Dead tree • **Remove due to Construction Impacts** • No
122	**coast live oak** *Quercus agrifolia*	6.6	30	7	1	1	1	N/A	**HIGH/ Dead tree within Proposed Sidewalk**	**No**	• Dead tree Exudation at trunk fractures in basal area Possible Phytophthora ramorum infection, the causal agent of Sudden Oak Death • **Remove due to Construction Impacts** • Yes

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
123	**coast live oak** *Quercus agrifolia*	9.5	30	12	3	2	Poor	18	**HIGH/ Within Proposed Sidewalk**	**Yes/ 50%/ 4.75**	• Dramatic lean to the West Potential for uprooting • **Remove due to Construction Impacts** • Yes
124	**coast redwood** *Sequoia sempervirens*	14.1	18	7	1	1	Poor	N/A	**HIGH/ Dead tree within striking distance of Proposed Sidewalk**	**No**	• Dead tree • **Remove due to Construction Impacts** • No
125	**coast live oak** *Quercus agrifolia*	Double Trunk 6.5 & 6.6	35	10	3	3	Poor	12	**HIGH/ Within Proposed Sidewalk**	**Yes/ 50%/ 6.55**	• Dramatic lean to the East Potential for uprooting • **Remove due to Construction Impacts** • Yes
126	**coast live oak** *Quercus agrifolia*	20.8 @ 6" Above Grade	30	24	4	2	Poor	22	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Nursery stake remains attached • **Preserve and Protect** • Yes
127	**valley oak** *Quercus lobata*	12.2	50	18	4	2	Fair	!4	**NONE KNOWN**	**No**	• Suppressed to the West Dead branches • **Preserve and Protect** • Yes
128	**valley oak** *Quercus lobata*	14.3	50	18	3	3	Fair	16	**NONE KNOWN**	**No**	• Divides into 2 secondary trunks at 4' above grade Adequate trunk/stem attachments Dead branches • **Preserve and Protect** • Yes
129	**valley oak** *Quercus lobata*	Double Trunk 16.2 & 12.2	50	24	4	3	Fair	22	**NONE KNOWN**	**No**	• Adequate trunk/stem attachmentss Dead branches • **Preserve and Protect** • Yes
130	**coast live oak** *Quercus agrifolia*	22.5 @ 36" Above Grade	445	22	5	2	Poor	22	**NONE KNOWN**	**No**	• Very poor trunk/stem attachments • **Preserve and Protect** • Yes

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
131	**walnut** *Juglans* sp.	Triple Trunk 8.2, 6.4 & 5.8	25	18	3	2	Poor	10	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Grows on the Western bank of drainage channel • **Preserve and Protect** • No
132	**willow** *Salix sp.*	Multi Trunk	25	32	2	1	Poor	12	**NONE KNOWN**	**No**	• Fallen/Uprooted Within flow of drainage channel • **Preserve and Protect** • No
133	**poplar** *Populus sp.*	10.8	42	19	4	3	Fair	12	**NONE KNOWN**	**No**	• Grows on Eastern bank of drainage channel, near flow line • **Preserve and Protect** • No
134	**willow** *Salix sp.*	4 to 12*	20	43	3	2	Poor	43	**NONE KNOWN**	**No**	• Dense group of 8-12 willows on Eastern bank of drainage channel Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No
135	**willow** *Salix sp.*	4 to 12*	20	43	3	2	Poor	43	**NONE KNOWN**	**No**	• Dense group of 8-12 willows on Eastern bank of drainage channel Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No
136	**walnut** *Juglans* sp.	Double Trunk 7.2 & 6.1	23	14	3	3	Fair	10	**NONE KNOWN**	**No**	• Poor trunk/stem attachments Grows on the Western bank of drainage channel • **Preserve and Protect** • No
137	**willow** *Salix sp.*	Large Multi Trunk*	25	38	2	2	Poor	18	**NONE KNOWN**	**No**	• Grows on eroded Western bank of drainage channel Undermined root structure Poor trunk/stem attachments Dead, Dying and Broken branches Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
138	**valley oak** *Quercus lobata*	27*	40	52	4	3	Good	22	**NONE KNOWN**	**No**	• Grows on steep, eroded Western bank of drainage channel Trunk grows in horizontally over channel, parallel to Eastern bank slope Adequate trunk/stem attachments • **Preserve and Protect** • Yes
139	**willow** *Salix sp.*	4 to 12*	35	28	3	2	Poor	18	**NONE KNOWN**	**No**	• Group of approximately 10 trunks with common root structure growing on Western bank near flow line Undermined root structure Poor trunk/stem attachments Dead, Dying and Broken branches Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No
140	**walnut** *Juglans sp.*	2.4 to 6.2	15	22	3	2	Poor	10	**NONE KNOWN**	**No**	• Dense group of approximately 12 saplings with common root structure growing on Western bank near flow line Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No
141	**apple** *Malus sp.*	Large Multi Trunk*	23	24	2	2	Poor	16	**NONE KNOWN**	**No**	• Senescent apple tree Poor trunk/stem attachments Dead, Dying and Broken branches Lower canopy intertwined with blackberry brambles limiting access • **Preserve and Protect** • No
142	**willow** *Salix sp.*	Large Multi Trunk*	20	42	2	2	Poor	12	**NONE KNOWN**	**No**	• Group of two large multi trunk trees growing on Western bank of drainage channel Poor trunk/stem attachments Dead, Dying and Broken branches Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
143	**willow** *Salix sp.*	4 to 12*	20	43	3	2	Poor	43	**NONE KNOWN**	**No**	• Dense group of approximately 3 to 5 willows on Eastern bank of drainage channel Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No
144	**willow** *Salix sp.*	4 to 12*	20	43	3	2	Poor	43	**NONE KNOWN**	**No**	• Dense group of approximately 6 to 8 willows on Eastern bank of drainage channel Surrounded by blackberry brambles limiting access • **Preserve and Protect** • No
145	**Trident maple** *Acer buergerainum*	9.5	20	10	5	2	Good	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Mechanical wound on East side of lower trunk Canker on Southeast side of uppper trunk Poor trunk/stem attachments • **Preserve and Protect** **Special Treatment Area** • No
146	**Trident maple** *Acer buergerainum*	8.1	20	10	5	3	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South • **Preserve and Protect** **Special Treatment Area** • No
147	**Trident maple** *Acer buergerainum*	7.4	20	10	5	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
148	**Trident maple** *Acer buergerainum*	7.9	20	10	5	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Exposed surface roots • **Preserve and Protect** **Special Treatment Area** • No

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
149	**Trident maple** *Acer buergerainum*	7.9	20	10	5	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Exposed surface roots Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
150	**Trident maple** *Acer buergerainum*	7.7	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Exposed surface roots Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
151	**Trident maple** *Acer buergerainum*	8.4	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Mechanical wound on South side of lower trunk Exposed surface roots Stem girdling roots Thinning canopy • **Preserve and Protect** **Special Treatment Area** • No
152	**Trident maple** *Acer buergerainum*	2.3	12	5	5	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Nursery stake damage • **Preserve and Protect** **Special Treatment Area** • No
153	**Trident maple** *Acer buergerainum*	7.3	20	10	5	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Decay in basal area Exposed surface roots Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
154	**Trident maple** *Acer buergerainum*	7.6	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Exposed surface roots Poor trunk/stem attachments • **Preserve and Protect** **Special Treatment Area** • No
155	**Trident maple** *Acer buergerainum*	7.5	20	8	3	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Mechanical wound on Northeast side of lower trunk Exposed surface roots Stem girdling roots Thinning canopy • **Preserve and Protect** **Special Treatment Area** • No
156	**Trident maple** *Acer buergerainum*	7.3	20	5	5	4	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South • **Preserve and Protect** **Special Treatment Area** • No
157	**Trident maple** *Acer buergerainum*	7.7	25	12	5	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots Poor trunk/stem attachments • **Preserve and Protect** **Special Treatment Area** • No
158	**Trident maple** *Acer buergerainum*	7.2	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots Poor trunk/stem attachments • **Preserve and Protect** **Special Treatment Area** • No
159	**Trident maple** *Acer buergerainum*	7.6	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots Exposed surface roots • **Preserve and Protect** **Special Treatment Area** • No

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SHILOH BUSINESS PARK
790 Shiloh Road, Windsor, CA
APN 059-271-095

DATE: November 1 , 2022

TREE RESOURCE INVENTORY/
CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
160	**Trident maple** *Acer buergerainum*	7.3	20	12	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Exposed surface roots • **Preserve and Protect** **Special Treatment Area** • No
161	**Trident maple** *Acer buergerainum*	7.1	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
162	**Trident maple** *Acer buergerainum*	7.2	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
163	**Trident maple** *Acer buergerainum*	7.6	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots Exposed surface roots • **Preserve and Protect** **Special Treatment Area** • No
164	**Trident maple** *Acer buergerainum*	7.3	20	10	4	3	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South • **Preserve and Protect** **Special Treatment Area** • No
165	**Trident maple** *Acer buergerainum*	7.9	20	10	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Mechanical wound, Southeast side of lower trunk • **Preserve and Protect** **Special Treatment Area** • No

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
166	**Trident maple** *Acer buergerainum*	7.5	22	15	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Mechanical wound on Southeast side of lower trunk Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
167	**Trident maple** *Acer buergerainum*	8.1	20	15	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
168	**Trident maple** *Acer buergerainum*	8.3	22	15	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots Exposed surface roots • **Preserve and Protect** **Special Treatment Area** • No
169	**Trident maple** *Acer buergerainum*	9.8	22	20	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots Canopy suppressed to the North • **Preserve and Protect** **Special Treatment Area** • No
170	**Trident maple** *Acer buergerainum*	7.5	20	16	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Stem girdling roots • **Preserve and Protect** **Special Treatment Area** • No
171	**Trident maple** *Acer buergerainum*	7.2	12	14	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Topped at 12' above grade • **Preserve and Protect** **Special Treatment Area** • No

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TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
172	**Trident maple** *Acer buergerainum*	7.3	20	16	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Topped at 12' above grade • **Preserve and Protect Special Treatment Area** • No
173	**Trident maple** *Acer buergerainum*	6.4	14	16	4	2	Fair	8	**LOW/ Proximity to Proposed Grading**	**No**	• Stands on neighboring Property to the South Topped at 12' above grade • **Preserve and Protect Special Treatment Area** • No
174	**coast redwood** *Sequoia sempervirens*	3.2	12	6	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback • **Preserve and Protect Special Treatment Area Pre Construction Root Pruning** • No
175	**coast redwood** *Sequoia sempervirens*	5	15	6	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Nursery stake still in place • **Preserve and Protect Special Treatment Area Pre Construction Root Pruning** • No
176	**coast redwood** *Sequoia sempervirens*	2	8	4	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback • **Preserve and Protect Special Treatment Area Pre Construction Root Pruning** • No

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
177	**coast redwood** *Sequoia sempervirens*	3.8	12	4	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No
178	**coast redwood** *Sequoia sempervirens*	4.5	15	6	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No
179	**coast redwood** *Sequoia sempervirens*	5.1	15	6	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No
180	**coast redwood** *Sequoia sempervirens*	4.6	15	4	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No
181	**coast redwood** *Sequoia sempervirens*	3.4	10	5	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback Nursery stake still in place • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
182	**coast live oak** *Quercus agrifolia*	9.7	25	10	4	3	Good	10	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Mechanical wound on North side of lower trunk • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes
183	**coast redwood** *Sequoia sempervirens*	4.7	15	6	5	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No
184	**coast redwood** *Sequoia sempervirens*	4.5	15	6	5	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No
185	**valley oak** *Quercus lobata*	8.5 @ 36" above grade	30	12	2	3	Poor	12	**MODERATE/ Proximity to Poposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Thinning canopy Poor trunk/stem attachments • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes
186	**coast redwood** *Sequoia sempervirens*	4	12	5	4	4	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (± Feet)	CANOPY RADIUS (± Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
187	**coast redwood** *Sequoia sempervirens*	4.8	15	6	5	3	Good	5	**LOW/ Proximity to Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Broken branches • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • No
188	**coast live oak** *Quercus agrifolia*	8.4	18	12	5	3	Good	8	**LOW/ 9' from Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Broken Branches Asymetrical canopy • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes
189	**coast live oak** *Quercus agrifolia*	11.6	18	12	5	4	Good	12	**MODERATE/ Within 10' of Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Trunk bows to the North • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes
190	**coast live oak** *Quercus agrifolia*	15.6	30	22	5	2	Good	16	**MODERATE/ Within 11' of Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Poor trunk/stem attachments • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes
191	**coast live oak** *Quercus agrifolia*	21.5	35	22	5	3	Good	18	**MODERATE/ Within 10' of Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Radial expansion fractures • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes

* Inaccessible; Trunk Diameter Was Estimated

James P. Allen & Associates

SHILOH BUSINESS PARK
790 Shiloh Road, Windsor, CA
APN 059-271-095

DATE: November 1 , 2022

Dedicated to the Preservation of Trees

TREE RESOURCE INVENTORY/
CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
192	**coast live oak** *Quercus agrifolia*	14	30	15	5	3	Good	14	**LOW/ Within 15' of Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Poor trunk/stem attachments • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes
193	**coast live oak** *Quercus agrifolia*	14.7	30	16	4	3	Good	14	**LOW/ Within 15' of Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Thinning canopy • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** • Yes
194	**coast live oak** *Quercus agrifolia*	19.6	35	18	4	1	Poor	18	**MODERATE/ Within 15' of Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Vertical fracture in lower trunk **HIGH FAILURE POTENTIAL** • **Preserve and Protect** **Special Treatment Area** **Pre Construction Root Pruning** **Monitor Stability** • Yes
195	**coast live oak** *Quercus agrifolia*	14.7	28	21	4	2	Good	16	**MODERATE/ Within 10' of Proposed Southern EVA Road**		• Stands on neighboring Property to the South adjacent to proposed EVA road Trunk bows to the South Poor trunk/stem attachments Over-weighted branches to the west Low vertical clearance Requires clearance pruning • **Preserve and Protect** **Special Treatment Area** • Yes

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
196	**coast live oak** *Quercus agrifolia*	17.6	35	18	4	2	Good	18	**MODERATE/ Within 5' of Proposed Southern EVA Road**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Poor trunk/stem attachments Radial expansion fractures • **Preserve and Protect** **Special Treatment Area** • Yes
196A	**olive** *Olea sp.*	15.5 @ 12" Above Grade	35	18	4	2	Good	6	**NONE KNOWN**	**No**	• Stands on neighboring Property to the South adjacent to proposed EVA road Minor branch tip dieback • **Preserve and Protect** **Special Treatment Area** • No
197	**valley oak** *Quercus lobata*	16.5	35	45	5	4	Good	18	**HIGH/ Within Southern EVA Road**	**Yes/ 100%/ 16.5**	• Stands on neighboring Vineyard Property to the Southwest, adjacent to proposed EVA road Lower branching has been removed • **Preserve and Protect** **Remove due to Construction Impacts** • Yes
198	**alder** *Alnus sp.*	13	35	16	4	3	Good	12	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Exposed surface roots Stem girdling roots • **Preserve and Protect** • No
199	**alder** *Alnus sp.*	8.8	35	16	4	3	Good	12	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Exposed surface roots • **Preserve and Protect** • No
200	**alder** *Alnus sp.*	10.7	35	16	4	3	Good	12	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Exposed surface roots Stem girdling roots • **Preserve and Protect** • No

* Inaccessible; Trunk Diameter Was Estimated

TREE RESOURCE INVENTORY/ CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
201	**London plane** *Platanus x acerfolia*	14	35	16	4	3	Good	16	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Exposed surface roots • **Preserve and Protect** • No
202	**London plane** *Platanus x acerfolia*	12.1	35	16	4	3	Good	14	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Exposed surface roots • **Preserve and Protect** • No
203	**London plane** *Platanus x acerfolia*	11.5	35	16	4	3	Good	14	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Small diameter dead branches • **Preserve and Protect** • No
204	**London plane** *Platanus x acerfolia*	10.9	35	16	4	3	Good	14	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Small diameter dead branches • **Preserve and Protect** • No
205	**London plane** *Platanus x acerfolia*	11.4	35	16	4	3	Good	14	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Exposed surface roots Slightly suppressed to the West Small diameter dead branches • **Preserve and Protect** • No
206	**London plane** *Platanus x acerfolia*	17.6	35	16	4	3	Good	18	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Exposed supporting roots • **Preserve and Protect** • No
207	**pin oak** *Quercus palustris*	11.6	35	16	4	3	Good	14	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Suppressed tree • **Preserve and Protect** • No

* Inaccessible; Trunk Diameter Was Estimated

SHILOH BUSINESS PARK
790 Shiloh Road, Windsor, CA
APN 059-271-095

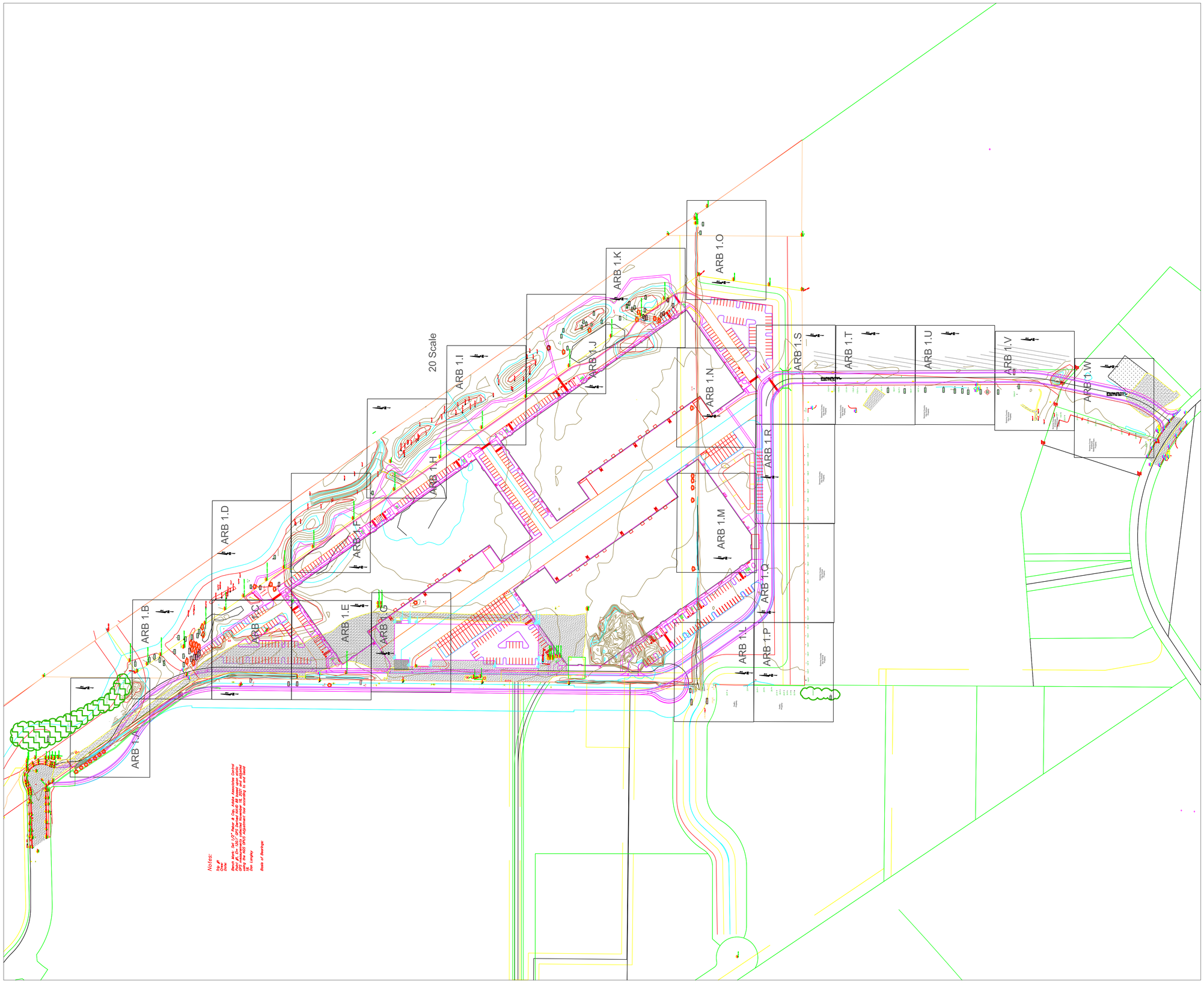
DATE: November 1 , 2022

TREE RESOURCE INVENTORY/
CONSTRUCTION IMPACT ASSESSMENT

TREE/ TREE GROUP #	SPECIES	TRUNK DIAMETER @ 4.5ft ABOVE NATURAL GRADE (INCHES)	HEIGHT (+ Feet)	CANOPY RADIUS (+ Feet)	HEALTH 1 = Poor/Dead 5 = Good	STRUCTURE 1 = Poor 4 = Good	PRESERVATION SUITABILITY	CRITICAL ROOT ZONE (CRZ) Radial Footage	Impacts LEVEL/ Description	Mitigation Required/ Yes/No Percentage/ Inches	• OBSERVATIONS • REQUIRED PROCEDURES • MEETS "PROTECTED" CRITERIA Yes/No
208	**pin oak** *Quercus palustris*	18.7	35	16	4	3	Good	20	**NONE KNOWN**	**No**	• Stands on Sonoma County Employee Retirement Assn. (SCERA) Property to the South Stem girdling roots Poor trunk/stem attachments • **Preserve and Protect** • No

* Inaccessible; Trunk Diameter Was Estimated

Construction Impact Analysis Tree Location Map
Sheets ARB 1.A through 1.W



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

Entire Site at 120 Scale

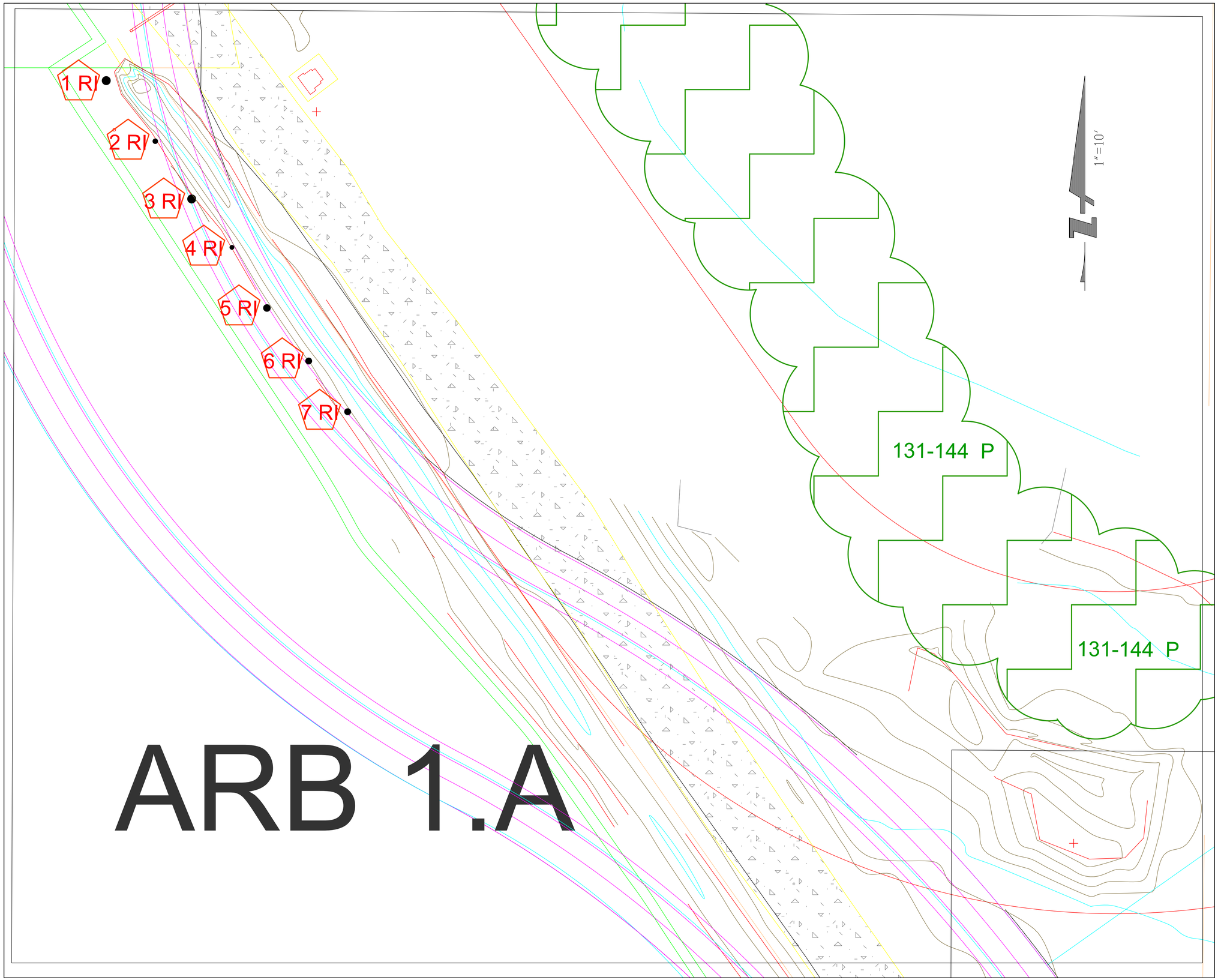
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

James P. Allen & Associates
119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1 of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.A at 10 Scale
Trees/Tree Groups #1-7 & 131-144

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1A of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 1.B

Map Key / Legend

- Survey Located Tree Trunk Position
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- 7 — Indicates Dead Tree

1"=10'

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.B at 10 Scale
Trees #98-130

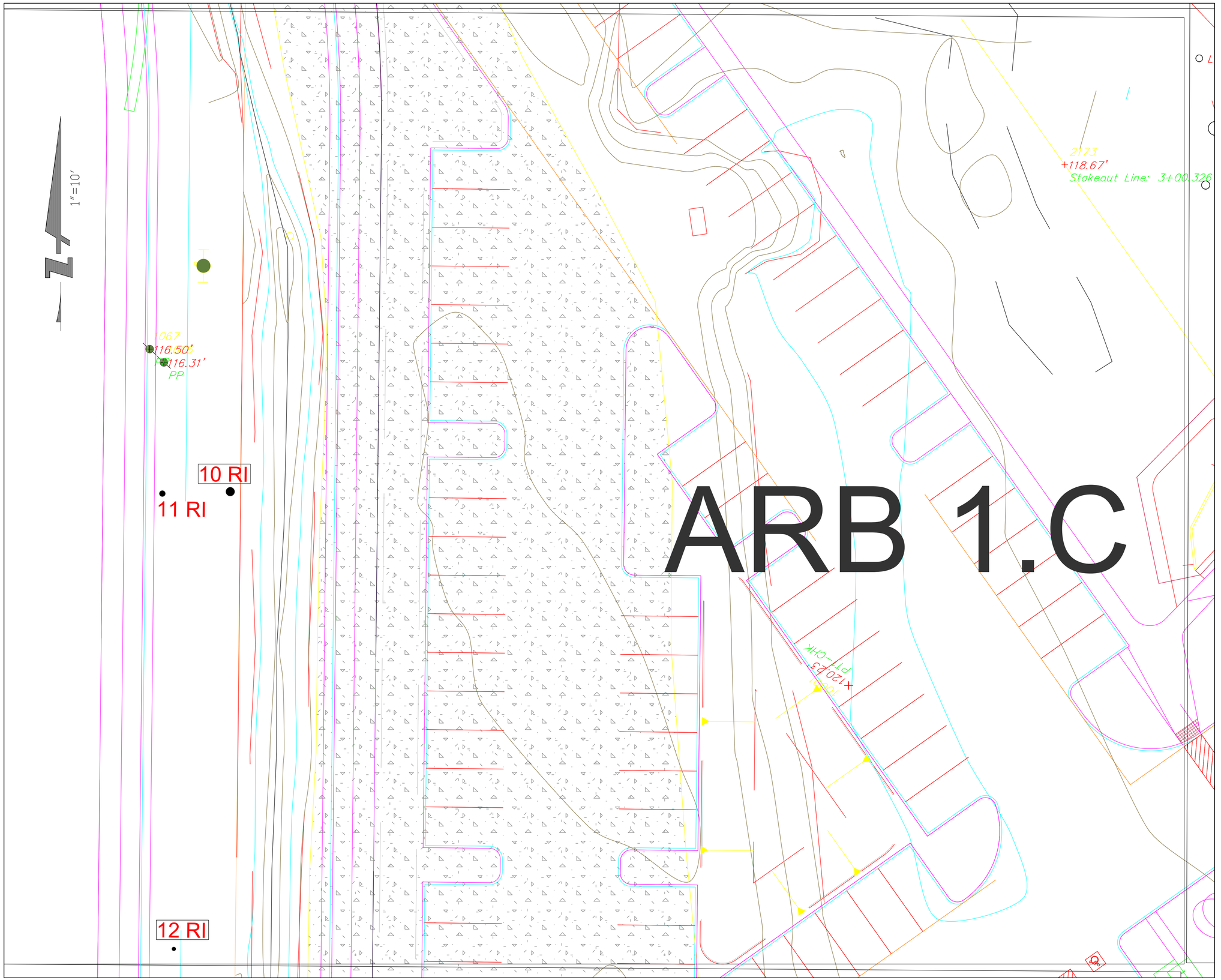
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1B of 27

Date: 02/04/22
Revision: 11/1/22
Revision: xx/xx/xx



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
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- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.C at 10 Scale
Trees #10, 11 & 12

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1C27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 1.D

1"=20'

Lo 20" Clstr
Lo 14" 2F
Oak 6"
Tree 10" Clstr
Fir 40" 2F
00.326 L 0.028722
Fir 24" Clstr
Lo 16" 2F
Tree 8" 2F
Fir 28"
Tree 8"
Tree 12" Clstr
Lo 8" 2F
Oak 12"
2171
+117.96'
Stakeout Line: 3+63.391 R 0.011537
97 P
96 P
95 RI
94 RI
93 RI
2168
+121.49'
Stakeout Line: 4+41.729 C 0.002996
92 RI
91 RI
90 RI
89 P
2169
+118.55'
Stakeout Line: 5+01.604 C 0.001285

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
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- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- 7 — Indicates Dead Tree
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.D at 10 Scale
Trees #89-97

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

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1D of 27

Date: 02/04/22
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13 RI

Bol–3"

14 RI

15 RI

16 RI

17 RI

1064
15.74'
PP

7456
115.69'
GUY

1826
116.89'
SIGN–STLPOST–EMERGENCY–EVACUATION–AREA

ARB 1.E

1"=10'

Map Key / Legend

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- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.E at 10 Scale
Trees #13-17

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

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1E OF 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

Oak 20" 2F
Lo 8"
Oak 18"
Oak 10" 2F
Oak 8"
2170
+113.36'
Stakeout Line: 6+01.182 L 0.012149
Tree 12"
Lo 8"
Lo 8"
Oak 20"
Oak 14"
Oak 6"
2168
+114.79'
Stakeout Line: 11+79.493 L 0.032889
114
115
1"=10'
ARB 1.F

Map Key / Legend

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- RC — Remove due to Tree Condition
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Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.F at 10 Scale
No Trees

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1F of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 1.G

1" = 10'

1038
1874.41'
PP

1041
118.68'
BLD-COR

1042
118.32'
BLD-COR

1040
118.44'
BLD-POPOUT-COR

1039
118.60'
SSCO

1043
1864.99'
BLD-POPOUT-COR

1282
118.74'
BLD-POPOUT-COR

1760
118.60'
BLDG-OPENING

1279
118.20'
BLD-POPOUT-COR

1280
118.56'
BLDG-OPENING

1758
117.72'
STUMP

1757
117.39'
STUMP

1756
117.50'
STUMP

18 RI

19 RI

20 RI

Map Key / Legend

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Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.G at 10 Scale
Trees 18, 19 & 20

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

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1G of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

88 P

Oak 8" 2F

10018
+118.15'
PT18=CHK

2165
+114.56'
Stakeout Line: 10+39.194 L 0.058791

Rdwd 32" Clstr

Lo 8"

Rdwd 26" 2F

Rdwd 12"

Lo 14"

Tree 8"

Snag 12"

Lo 10"

Rdwd 34" 2F

Lo 10"

Vo 16"

Oak 8"

Tree 12"

Snag 10"

Tree 16" Clstr

ARB 1.H

2164
+114.17'
Stakeout Line: 8+82.591 R 0.029644

1"=10'

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.H at 10 Scale
Tree #88

Shiloh Business Park
790 Shiloh Road
Windsor, CA

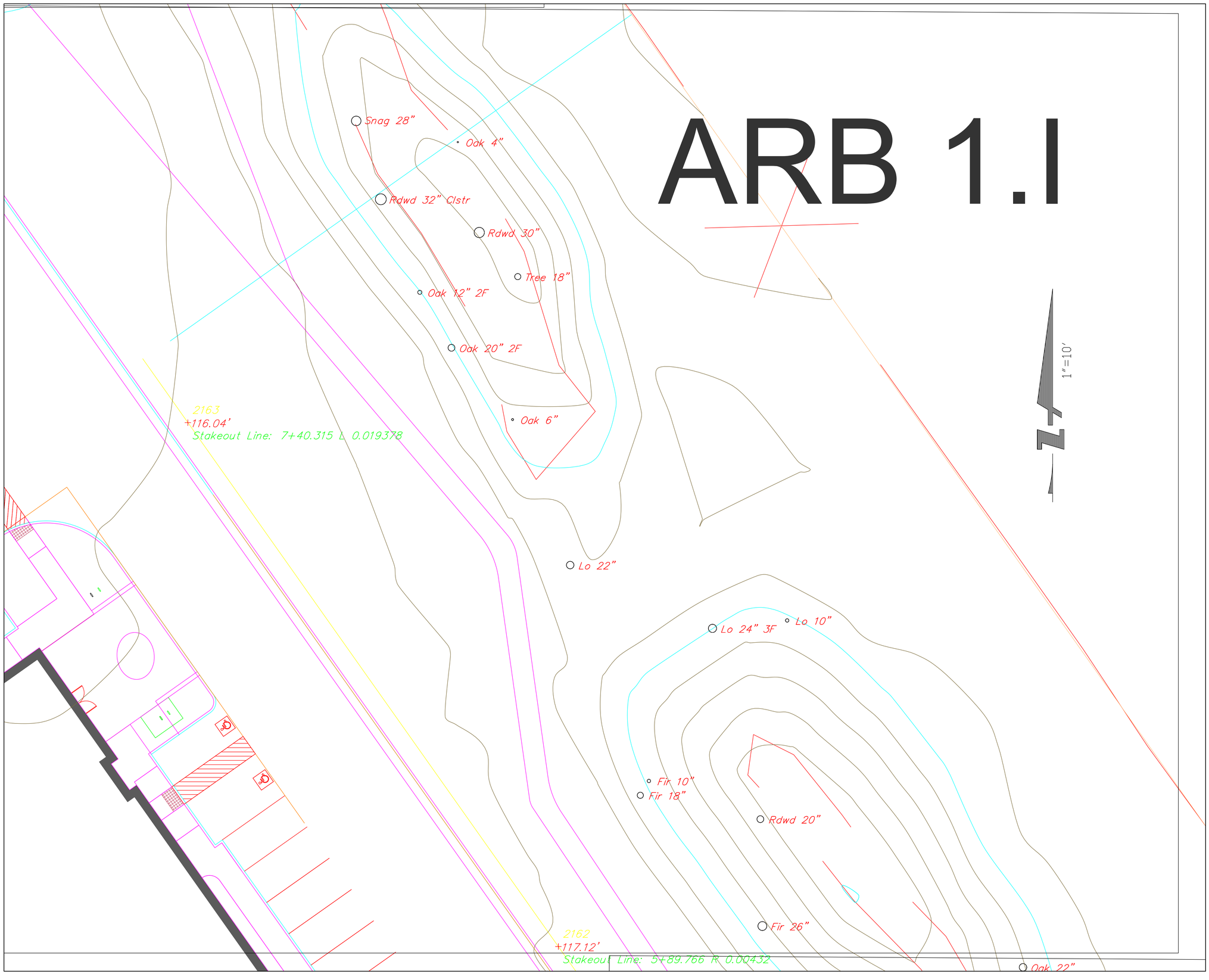
Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1H of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 1.I



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.I at 10 Scale

No Trees Inventoried by Arborist

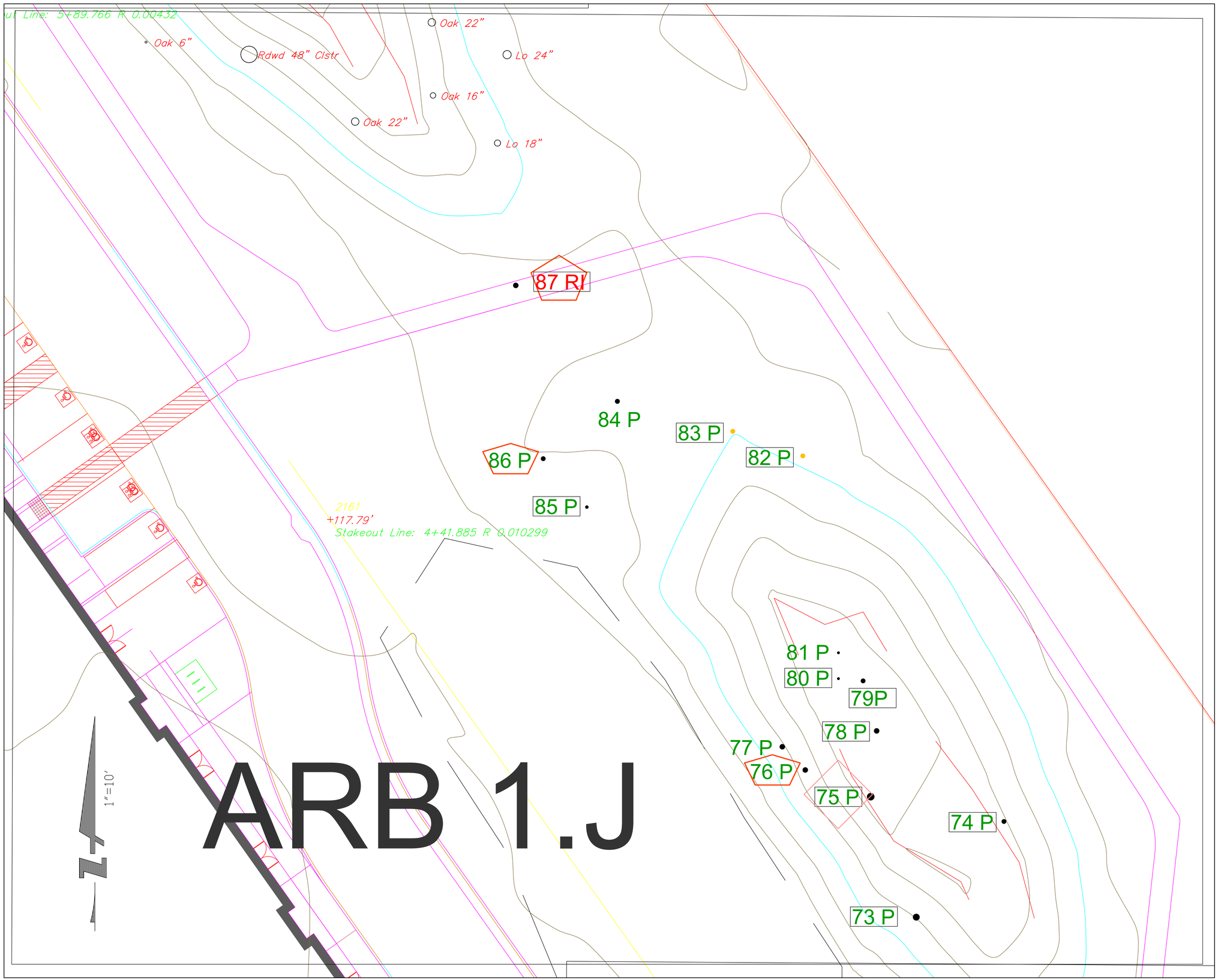
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

11 of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.J at 10 Scale
Trees # 73 through 87

Shiloh Business Park
790 Shiloh Road
Windsor, CA

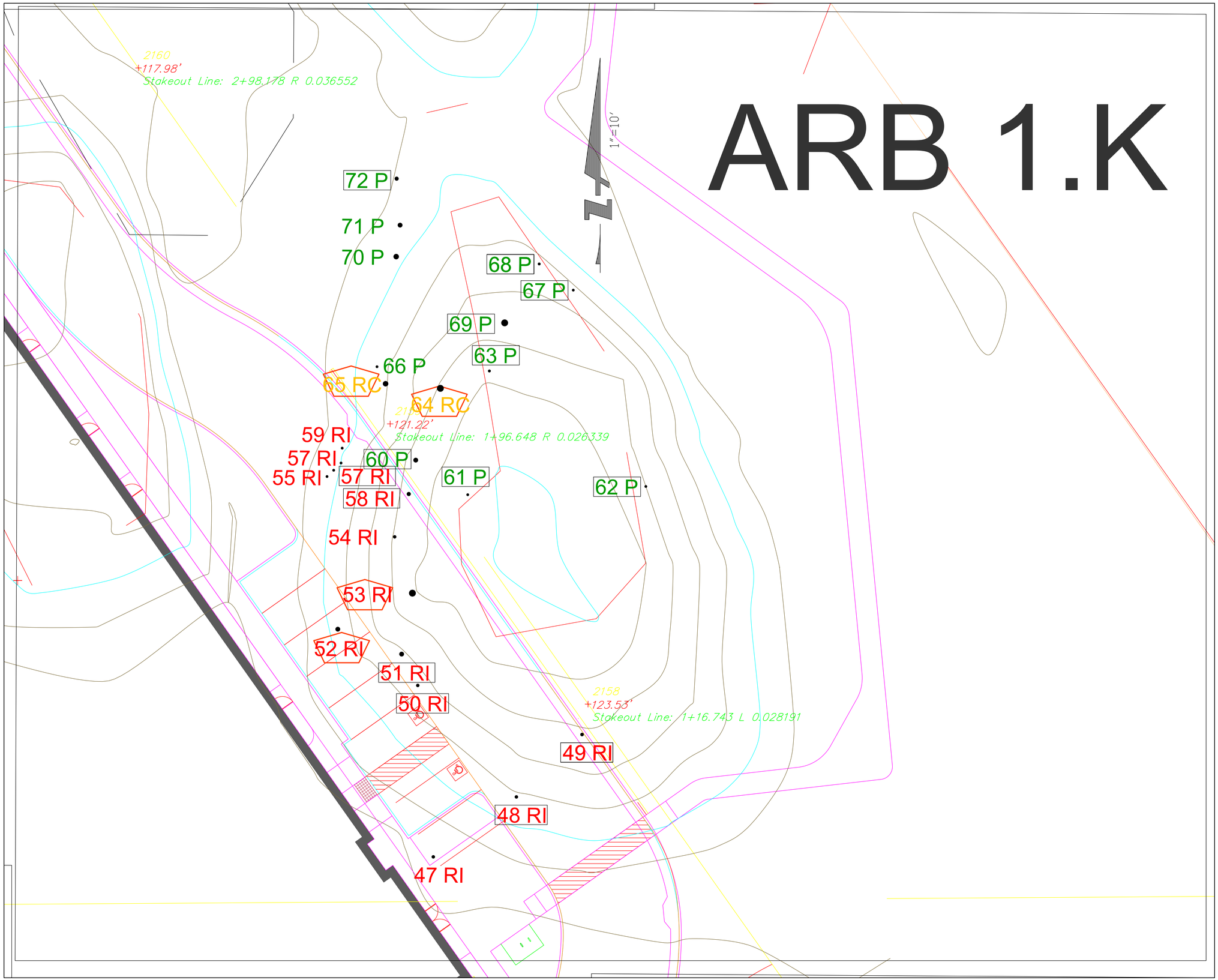
Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1J 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 1.K



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.K at 10 Scale
Trees # 49 through 72

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1K of 27

Date: 02/04/22
Revision: 11/1/22
Revision: 10/17/22

21A RI

21 RI

21B RC Snag 4"

21C RI

21D RC

21E RC

21F RC

22 P

FedEx
Property

23 P

1"=10'

ARB 1.L

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.L at 10 Scale
Trees # 21 through 23

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1L of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

38 RI

39 RI

40 RI

41 RI

42RI

ARB 1.M

1"=10'

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/ Construction Impact Assessment/ Tree Protection Plan

ARB 1.M at 10 Scale
Trees #38 through 42

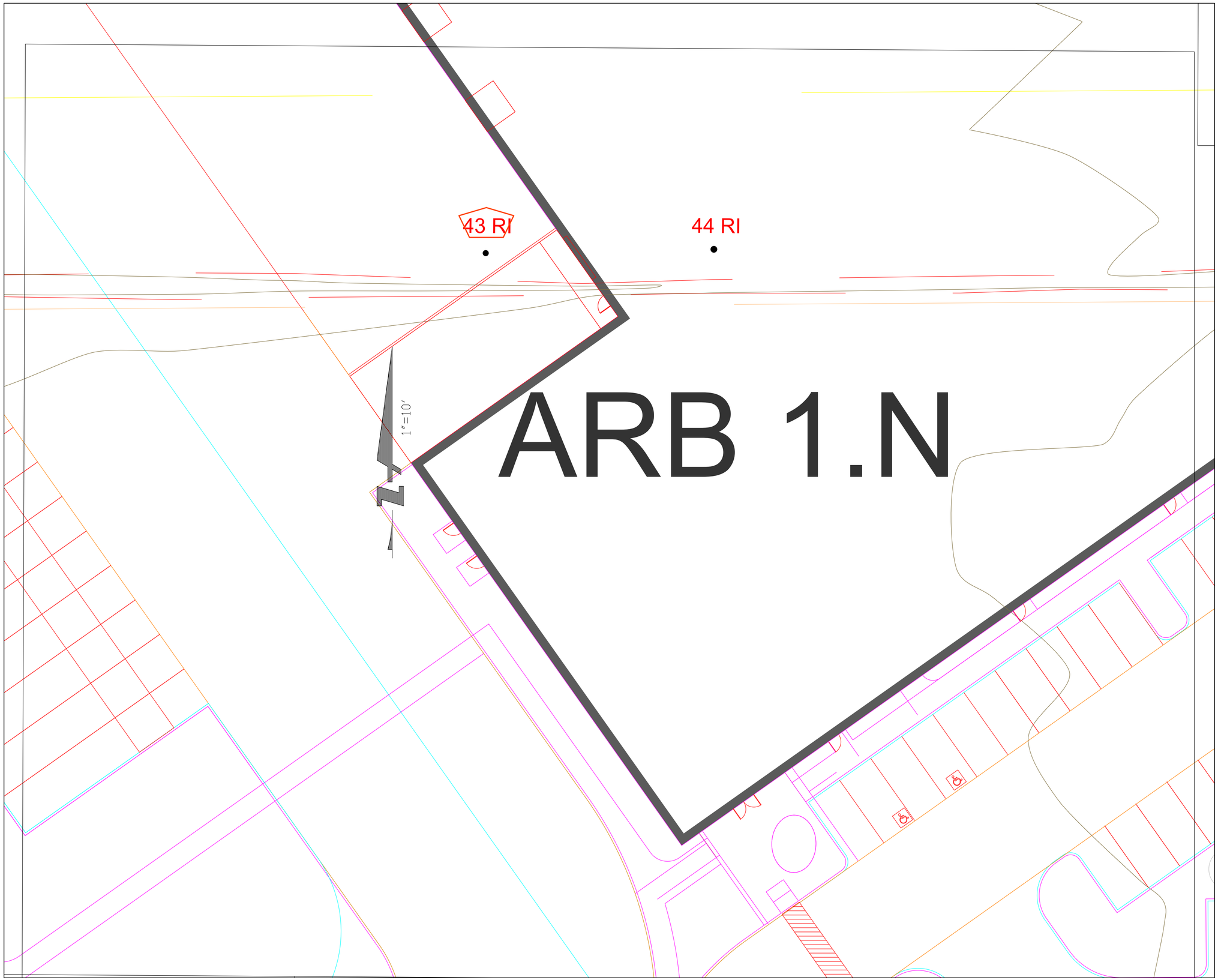
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1M OF 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.N at 10 Scale
Trees #43 & 44

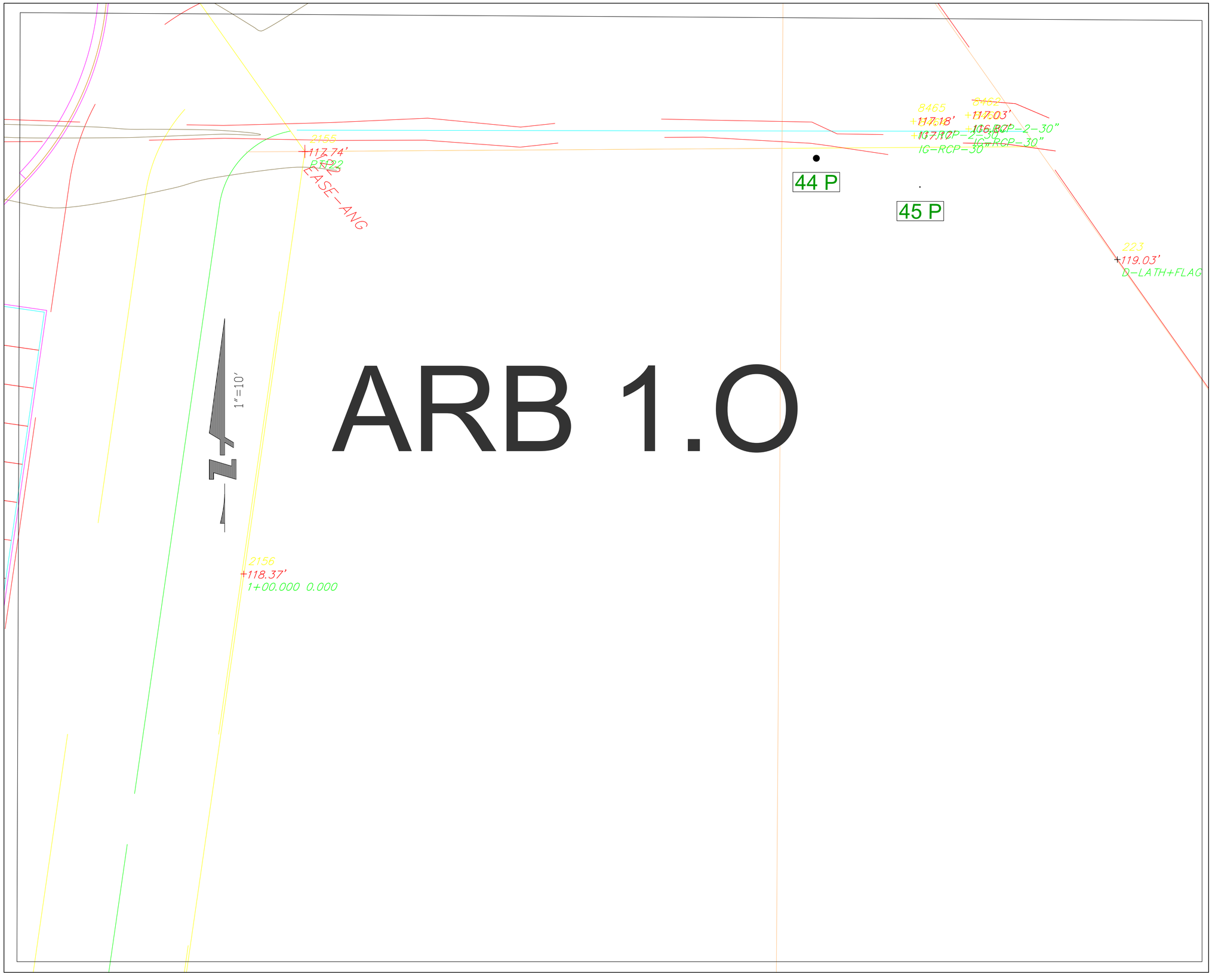
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1N27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.O at 10 Scale
Trees #45 & 46

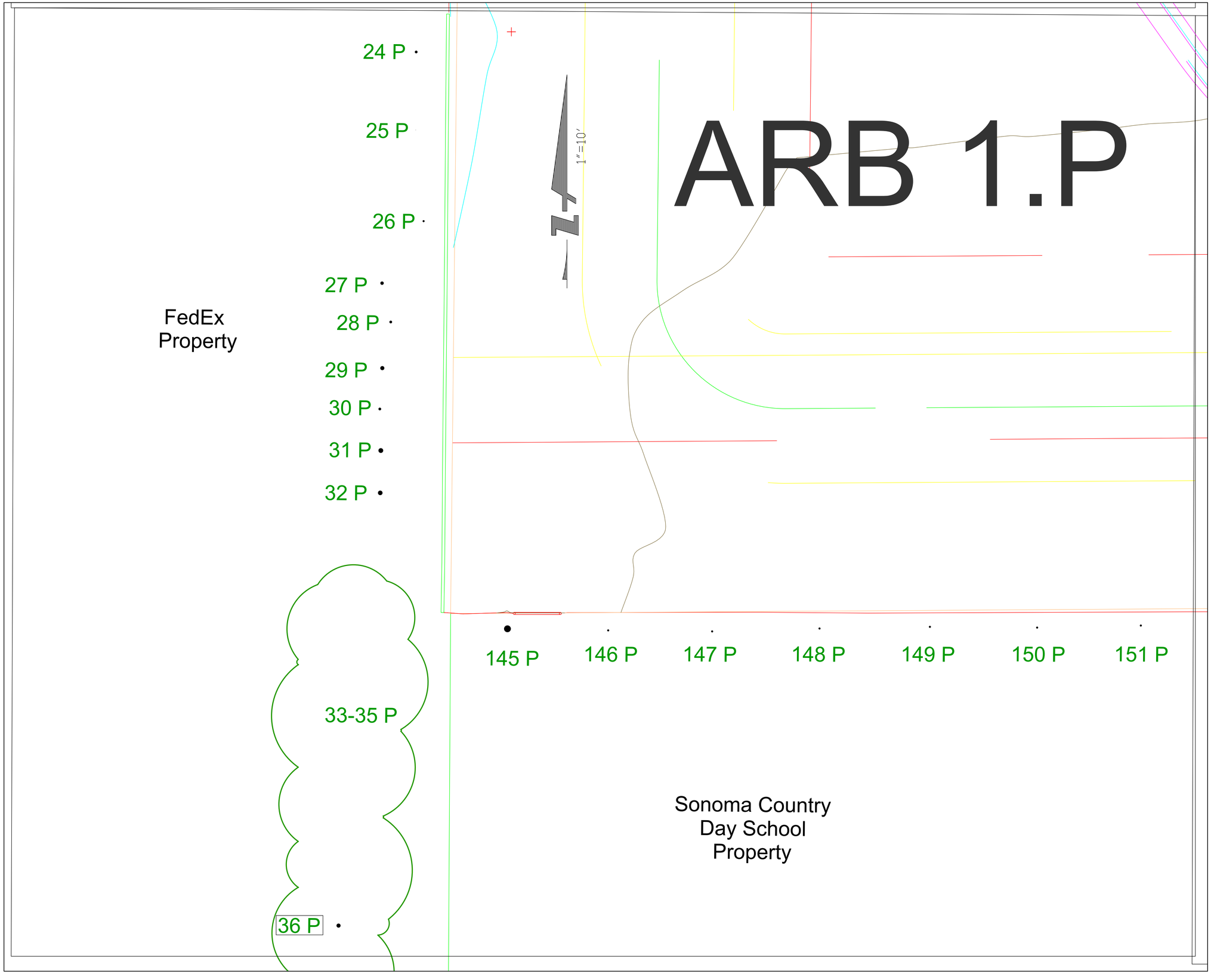
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

10 of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.P at 10 Scale
Trees #24 through 36 & 145 through 151

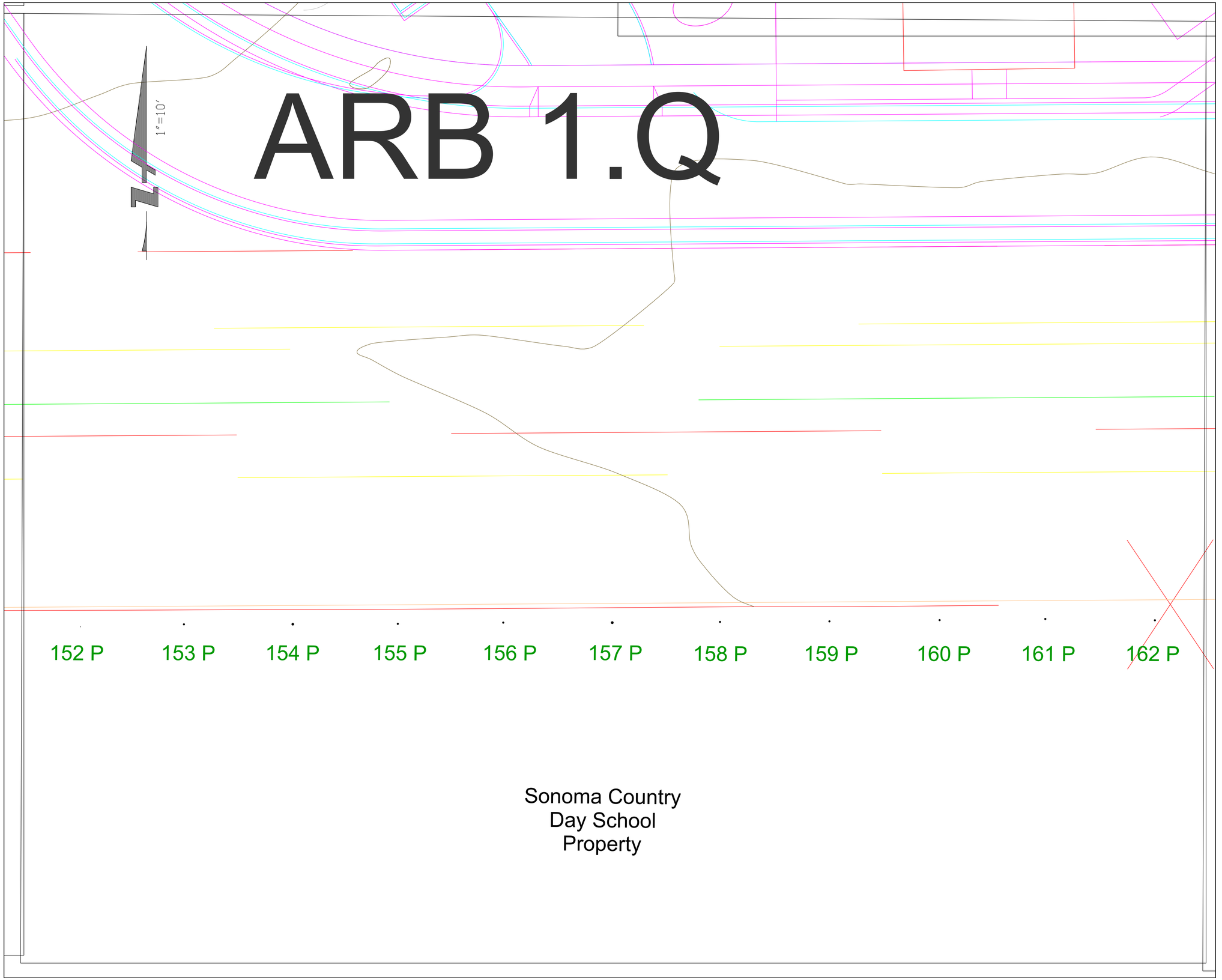
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1P OF 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.Q at 10 Scale
Trees #152 through 162

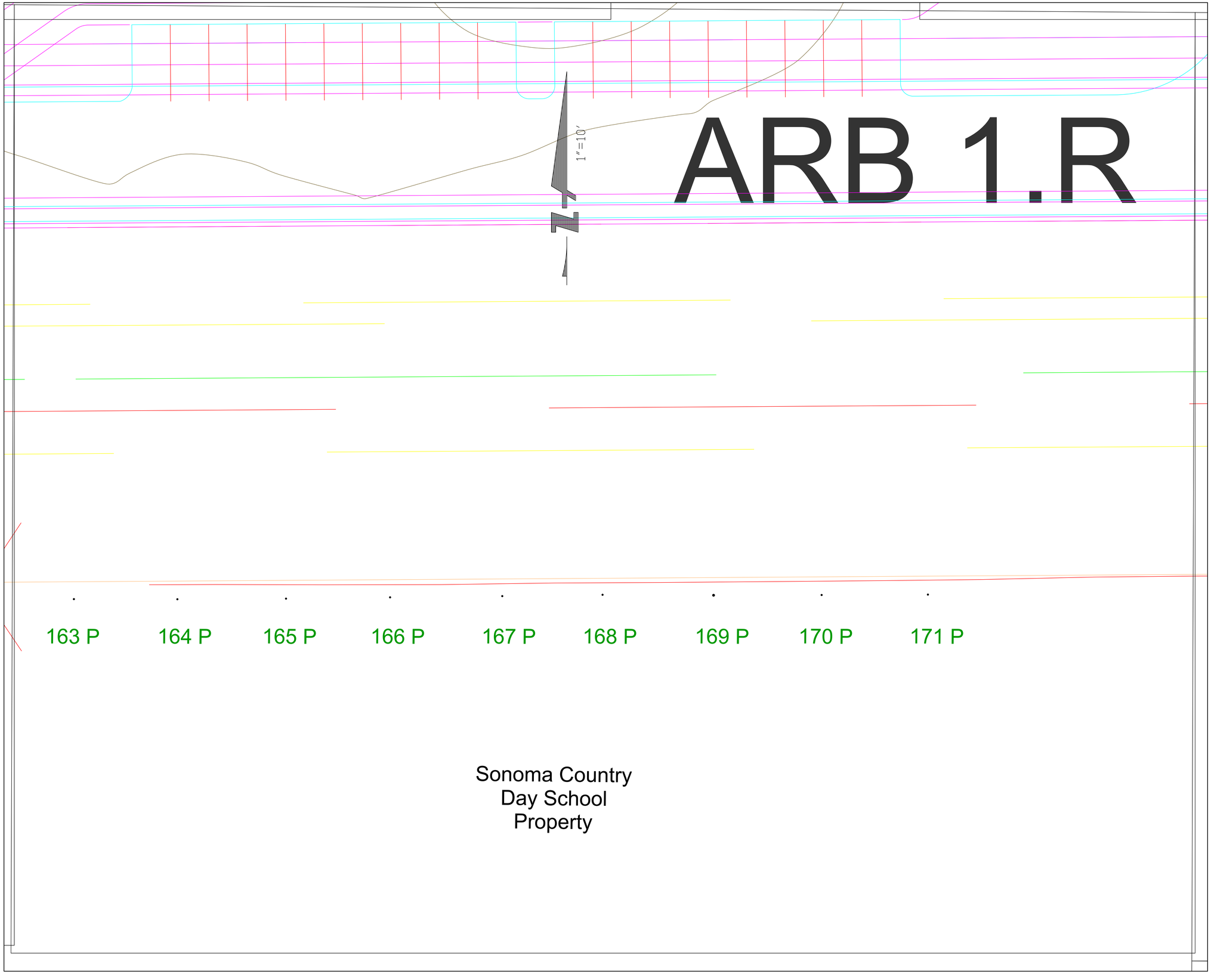
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1Q OF 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.R at 10 Scale
Trees #163 through 171

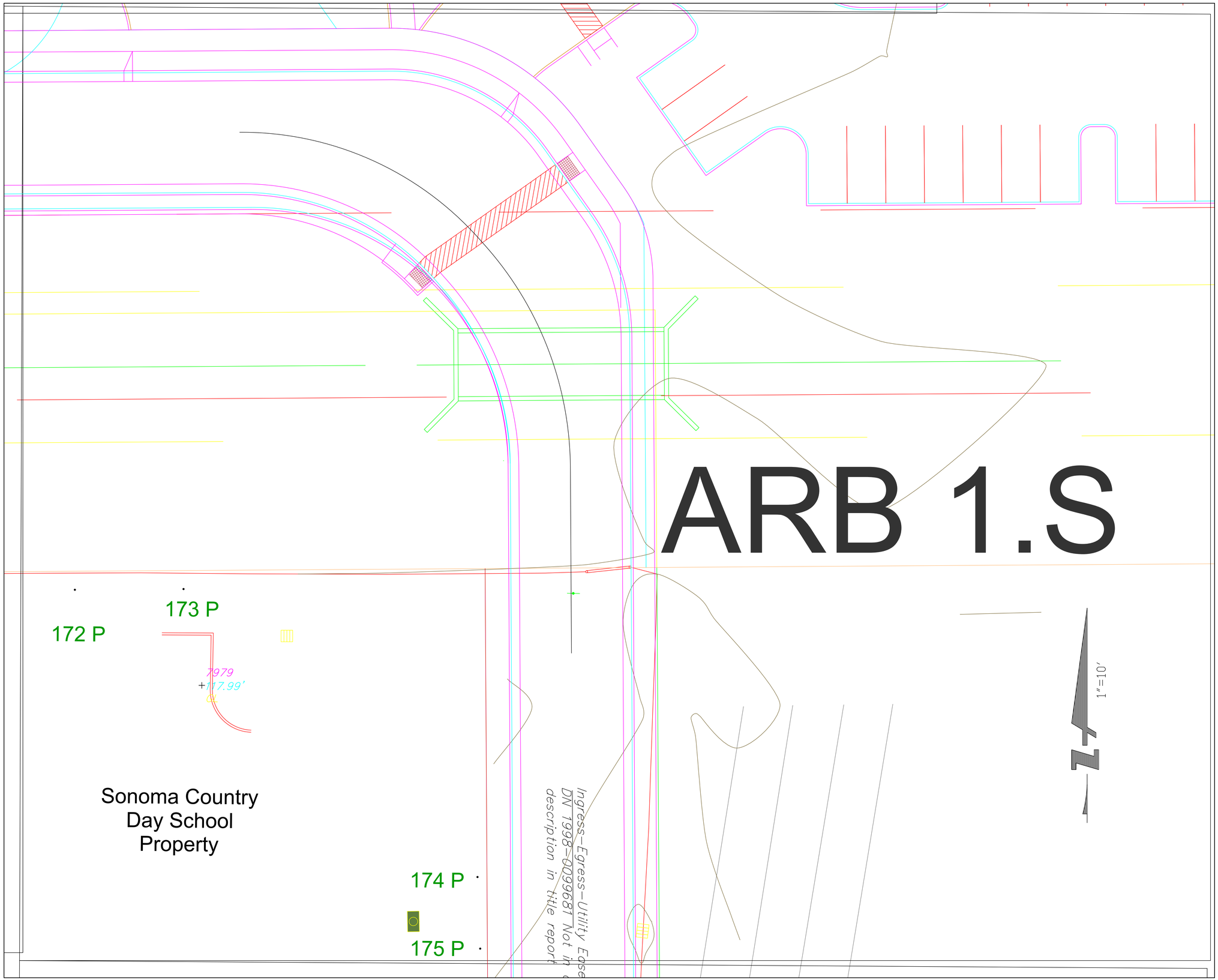
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1R OF 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.S at 10 Scale
Trees #172 through 175

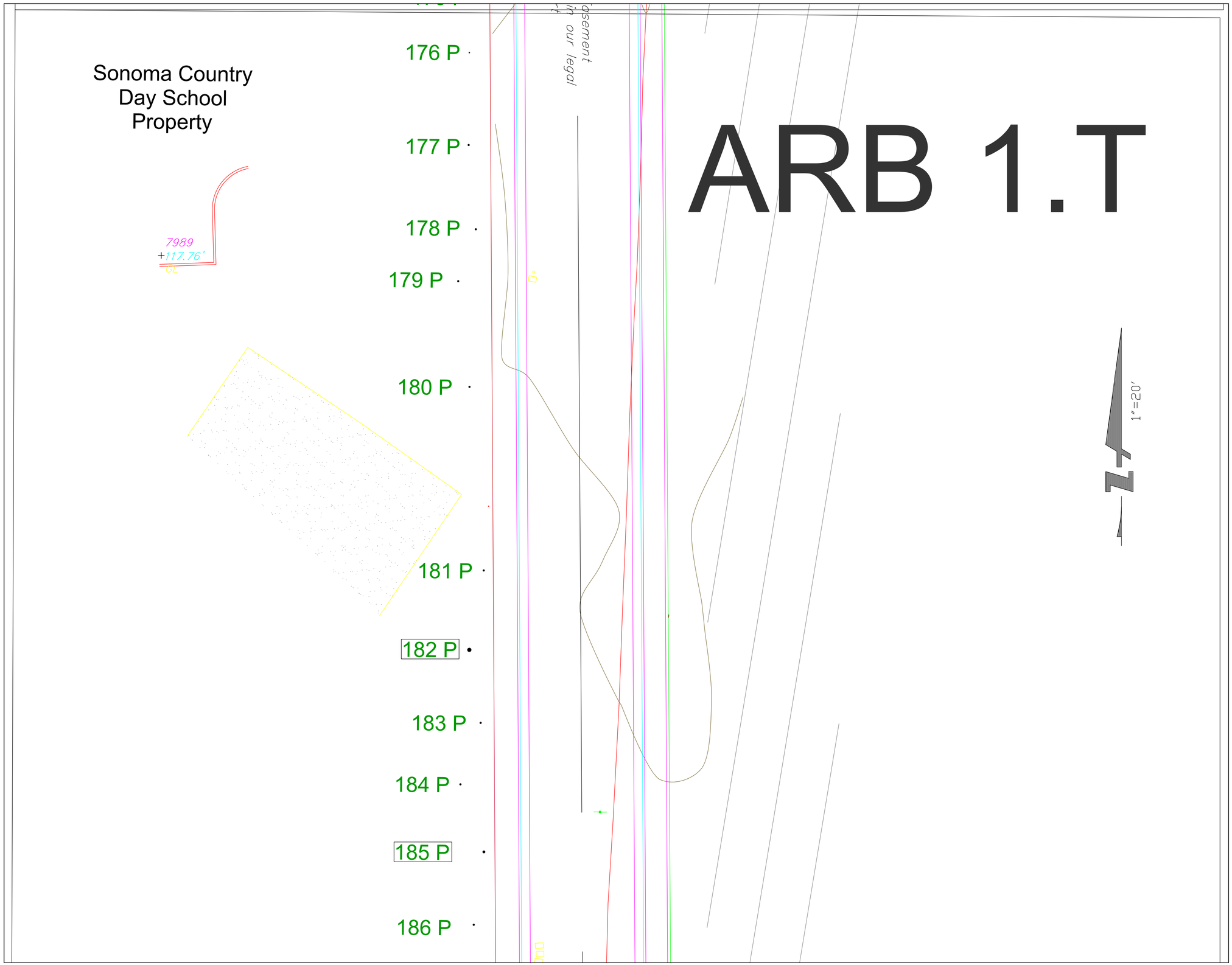
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1S OF 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 — Assigned Tree Number
- Tree Group
- 8 — Protected Species per Town of Windsor Code
- Preserve and Protect
- RI — Remove due to Construction Impacts
- RC — Remove due to Tree Condition
- 7 — Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.S-V at 20 Scale
Trees #174 through 201

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1T of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

Sonoma Country
Day School
Property

ARB 1.U

187 P

188 P

189 P

190 P

191 P

192 P

193 P

194 P

8008
–1881.92’
SHED–COR

8004
119.86’
SHED–COR

8007
119.51’
SHED–COR

1”=10’

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.U at 10 Scale
Trees #187 through 194

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1U of 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 1.V

Sonoma Country
Day School
Property

195 P

195A P

196 P

197 RI

Oak 14"

Oak 16"

Oak 16"

Oak 12"

Sonoma County
Employee
Retirement Assn.
Property

Tree 6"

198 P

199 P

200 P

10004
+0.00
Calc

10003
+0.00
Calc

1"=10'

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.V at 10 Scale
Trees #195 through 200

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1V27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 1.W

Sonoma County
Employee
Retirement Assn.
Property

201 P •
202 P •
203 P •
204 P •
205 P •
206 P •
207 P •
208 P •

10002
+0.00
Calc

Ingress-Egress-Utility Easement
DN 1998-0099681 Not in our legal
description in title report

8227
+116.86'
GL

8205
+116.21'
GL

1"=10'

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- Tree Group
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- RI Remove due to Construction Impacts
- RC Remove due to Tree Condition
- 7 Indicates Dead Tree

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Resource Analysis/
Construction Impact Assessment/
Tree Protection Plan

ARB 1.W at 10 Scale
Trees Not Inventoried by Arborist

Shiloh Business Park
790 Shiloh Road
Windsor, CA

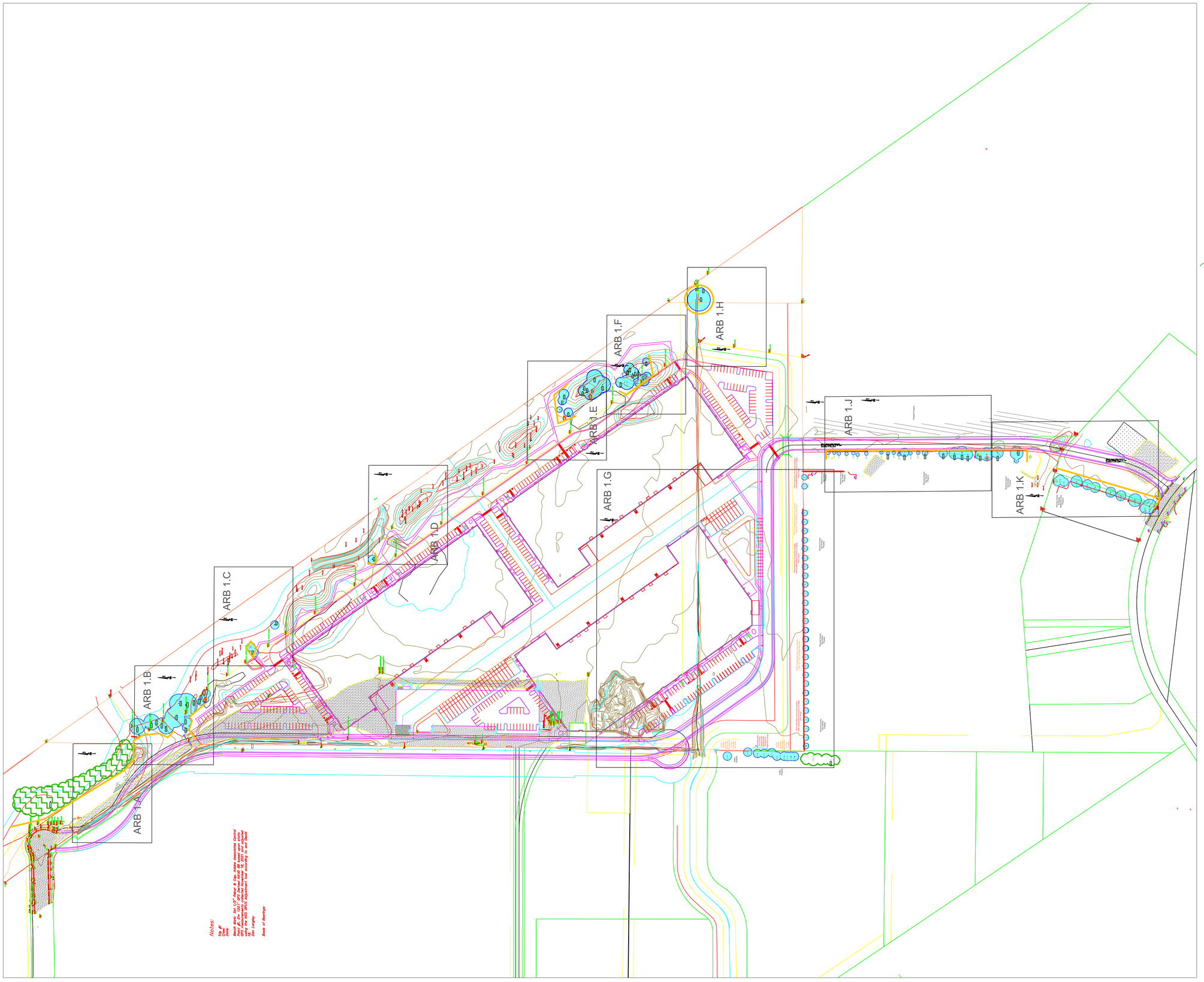
Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

1W 27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

Tree Protection Plan Location Map
Sheets ARB 2.A through 2.J



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

Entire Site at 120 Scale

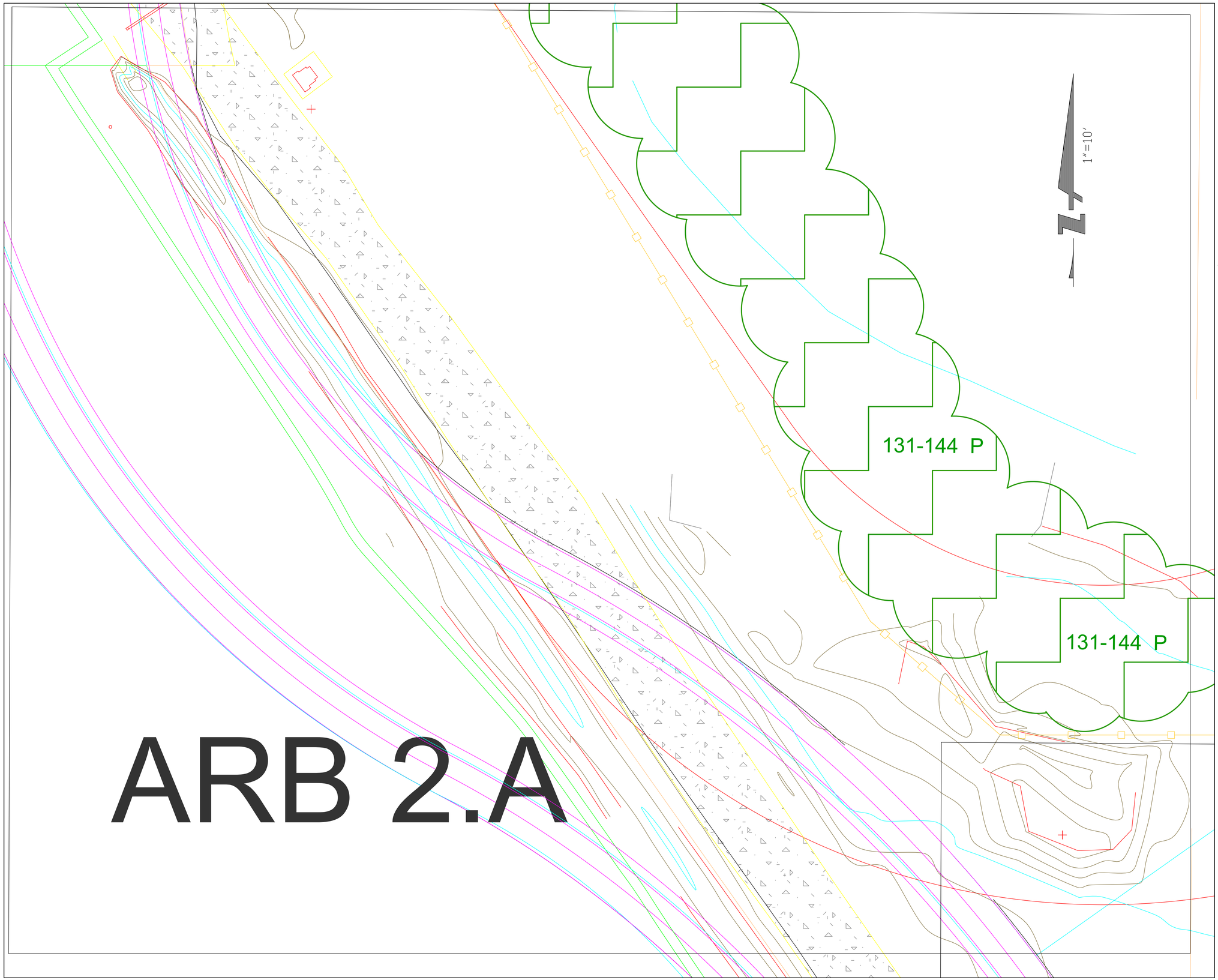
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

James P. Allen & Associates
119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2 of 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code

Preserve and Protect

- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.A at 10 Scale
Trees/Tree Groups #131-144

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2A of 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 2.B

130 P
129 P
128 P
127 P
126 P
110 P
109 P
108 P
107 P
104 P
113 P
111 P
101 P
100 P
102 P
103 P
99 P
98 P

123 PT123 +120.37'
217 +119.54' Stakeout Line: 0+34.021 C 0.000251
216 +118.07' Stakeout Line: 0+80.319 R 0.037782
7352 116.95' GUY
215 116.84' PP+LT
7351 117.03' GUY
2172 +118.08' Stakeout Line: 2+32.071 R 0.058985
Lo 14" Clstr
Tree 8" Clstr
Lo 18" 2F
Tree 22" Clstr

1"=10'

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code

Preserve and Protect

- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning

Canopy Clearance Pruning Required

790 Shiloh Road
Windsor, CA

Tree Protection Plan

ARB 2.B at 10 Scale
Trees #98-130

Shiloh Business Park
790 Shiloh Road
Windsor, CA

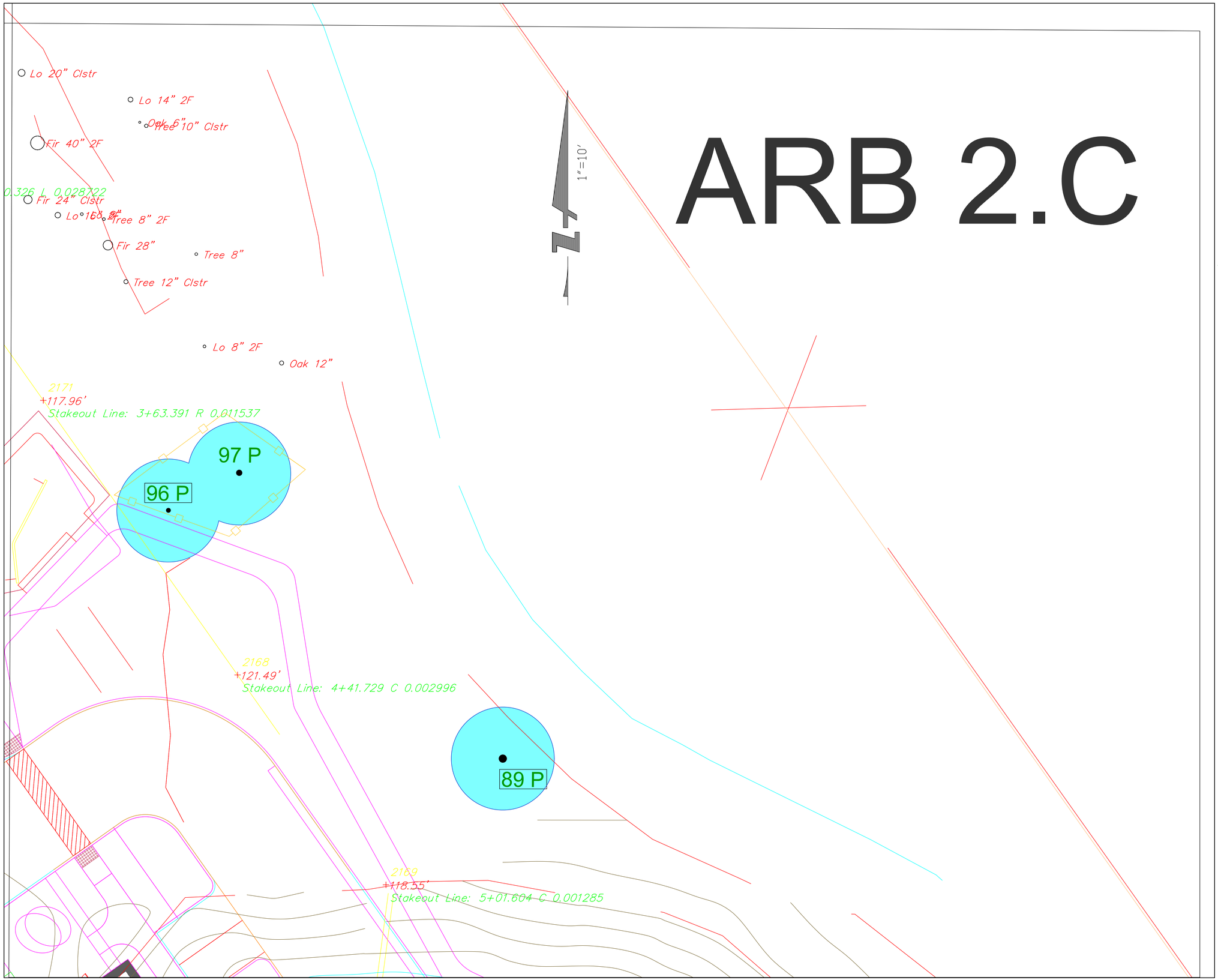
Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2B of 10

Date: 02/04/22
Revision: 11/1/22
Revision: xx/xx/xx

ARB 2.C



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.C at 10 Scale
Trees #89, 96 & 97

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2C of 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

88 P

Oak 8" 2F

10018
+118.15'
PT18-CHK

2165
+114.56'
Stakeout Line: 10+39.194 L 0.058791

Rdwd 32" Clstr

Lo 8"
Rdwd 26" 2F

Rdwd 12"

Lg 14"
Tree 8"

Snag 12"

Lo 10"

Rdwd 34" 2F
Lo 10"

Vo 16"

Oak 8"

Tree 12"

Snag 10"

Tree 16" Clstr

ARB 2.D

2164
+114.17'
Stakeout Line: 8+82.591 R 0.029644

1"=10'

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.D at 10 Scale
Tree #88

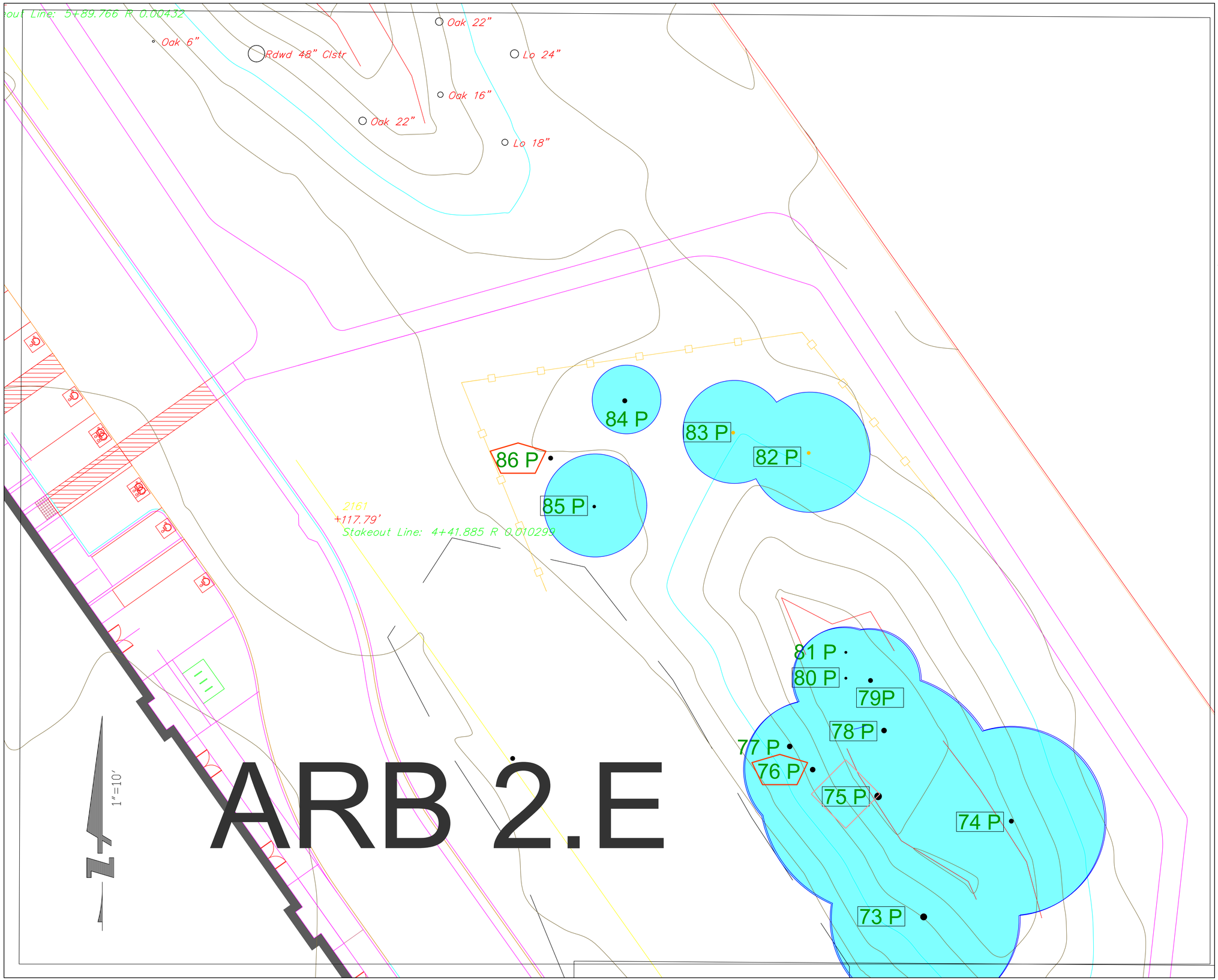
Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2D 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.E at 10 Scale
Trees #73-84

Shiloh Business Park
790 Shiloh Road
Windsor, CA

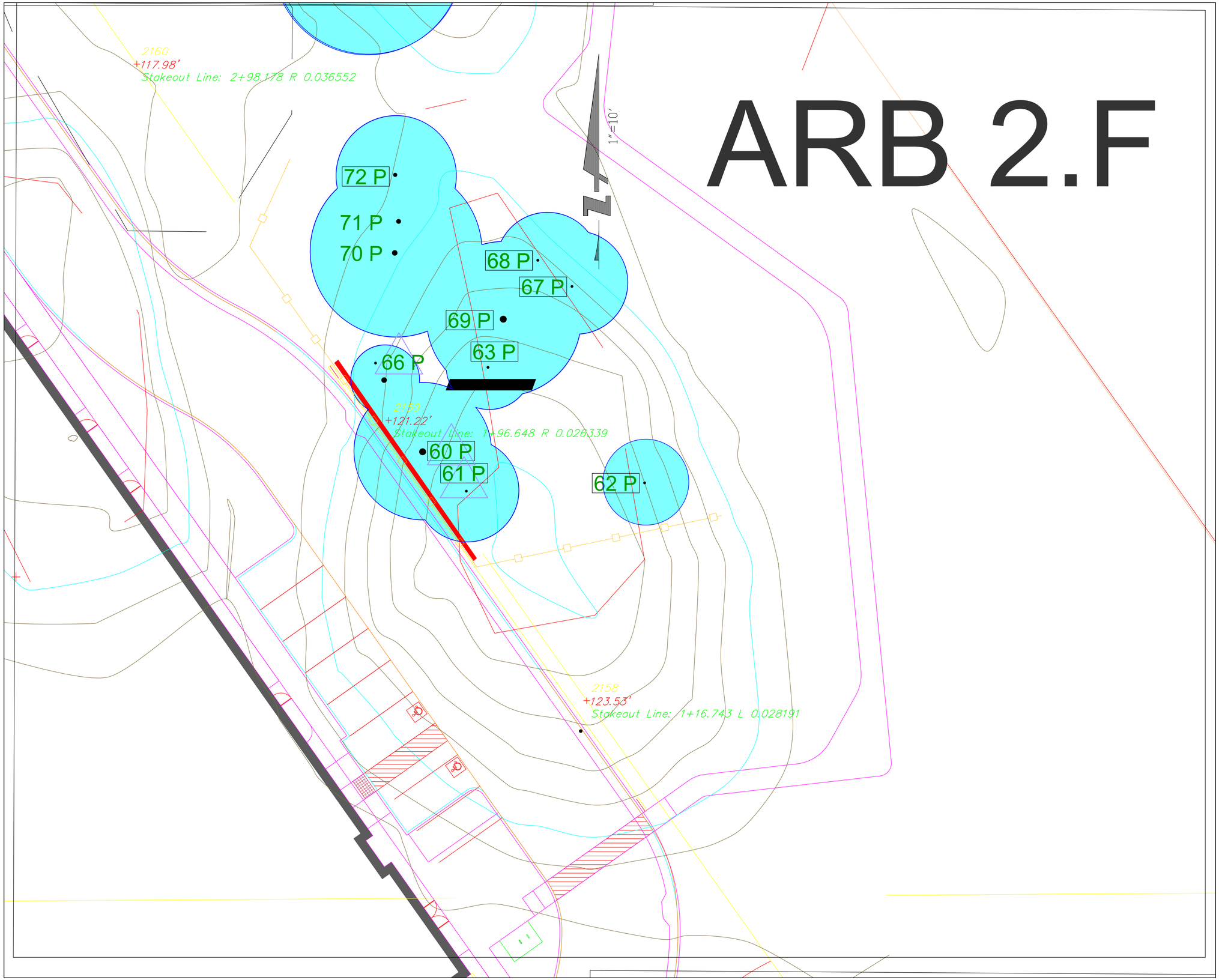
Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2E of 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 2.F



Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.F at 10 Scale

Trees #60-72

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2F of 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 2.G

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.G at 30 Scale
Trees #21 - 36, 145-173

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2GO27

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

NOTE: Existing Boundary Fence May Be Used As A Tree Protection Structure

FedEx Property

22 P
23 P
24 P
25 P
26 P
27 P
28 P
29 P
30 P
31 P
32 P

+ Pre-construction root pruning required when grading limits encroach on Critical Root Zones

NOTE: Existing Boundary Fence May Be Used As A Tree Protection Structure

Pre-construction root pruning required when grading limits encroach on Critical Root Zones

NOTE: Existing Boundary Fence May Be Used As A Tree Protection Structure

145 P 146 P 147 P 148 P 149 P 150 P 151 P 152 P 153 P 154 P 155 P 156 P 157 P 158 P 159 P 160 P 161 P 162 P 163 P 164 P 165 P 166 P 167 P 168 P 169 P 170 P 171 P

Pre-construction root pruning required when grading limits encroach on Critical Root Zones

NOTE: Existing Boundary Fence May Be Used As A Tree Protection Structure

172 P 173 P

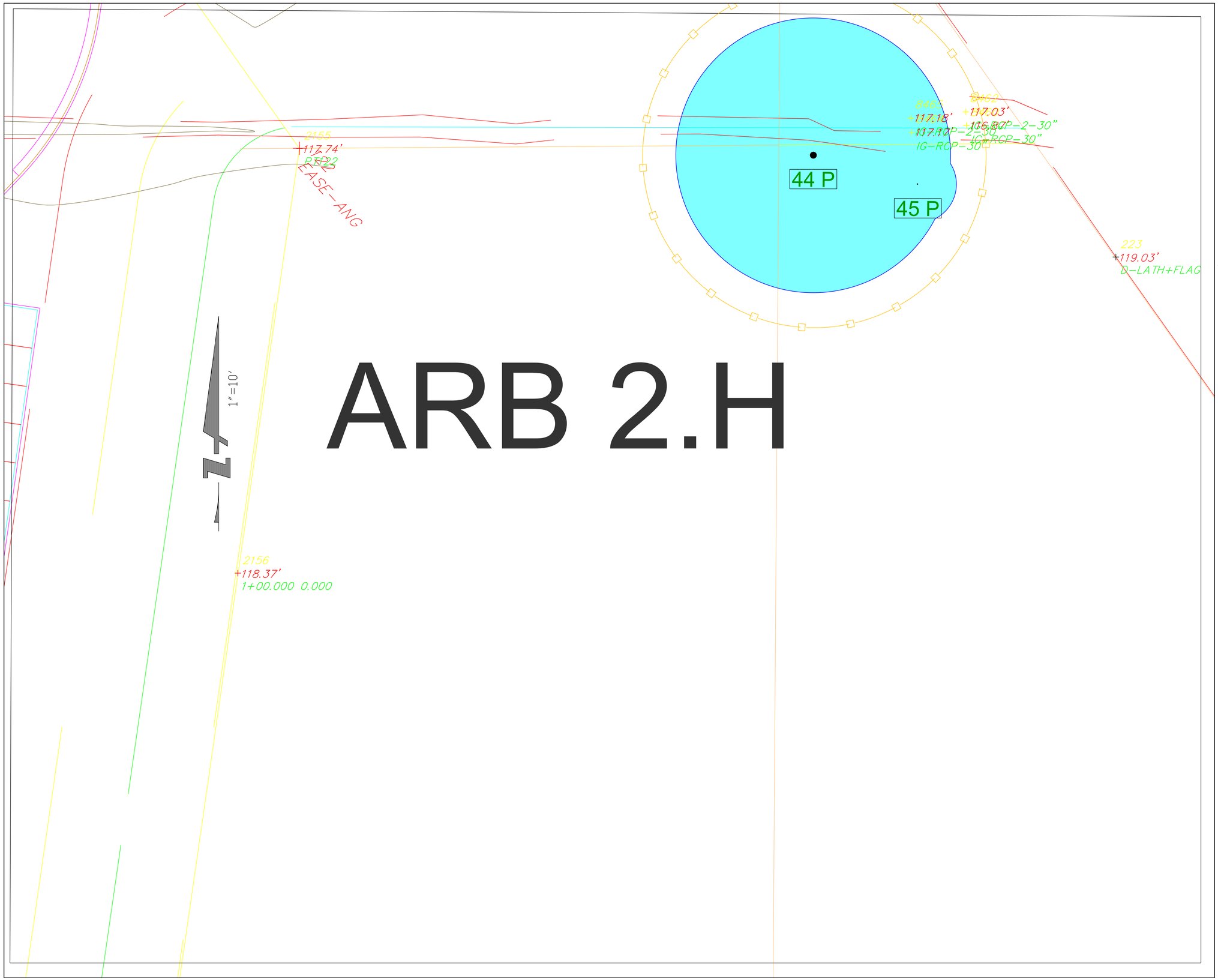
33-35 P

36 P

Sonoma Country Day School Property

Sonoma Country Day School Property

Sonoma Country Day School Property



ARB 2.H

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code
- Preserve and Protect
- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.H at 10 Scale
Trees # 44 & 45

Shiloh Business Park
790 Shiloh Road
Windsor, CA

Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2H OF 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

ARB 2.I

ARB 2.J

Sonoma Country Day School Property

Sonoma Country Day School Property

Sonoma County Employee Retirement Assn. Property

Vineyard Property

Sonoma Country Day School Property

1"=20'

1"=20'

174 P
175 P
176 P
177 P
178 P
179 P
180 P
181 P
182 P
183 P
184 P
185 P
186 P
187 P
188 P
189 P
190 P
191 P
192 P
193 P
194 P
195 P
195A P
196 P
198 P
199 P
200 P
201 P
202 P
203 P
204 P
205 P
206 P
207 P
208 P

Ingress-Egress-Utility Easement DN 1998-0099681 Not in our legal description in title report

Ingress-Egress-Utility Easement DN 1998-0099681 Not in our legal description in title report

7989 +117.76' Calc

10005 0.00 Calc

10004 0.00 Calc

10003 0.00 Calc

10002 0.00 Calc

Oak 14"
Oak 16"
Oak 16"
Oak 12"
Tree 6"

Map Key / Legend

- Survey Located Tree Trunk Position
- Field Located Tree Trunk Position, Approximate
- 2 Assigned Tree Number
- 8 Protected Species per Town of Windsor Code

Preserve and Protect

- 6 High Risk Tree
- 7 Indicates Dead Tree
- Monitor Stability, Trees #60, 61 & 66
- Critical Root Zone/ Tree Preservation Zone
- Tree Preservation Fencing
- Pre-construction Root Pruning
- Canopy Clearance Pruning Required

Shiloh Business Park
790 Shiloh Road
Windsor, CA
APN 059-271-095

Tree Protection Plan

ARB 2.I & J at 20 Scale
Emergency Vehicle Access Road (EVA)
Trees #174 - 208

Shiloh Business Park
790 Shiloh Road
Windsor, CA

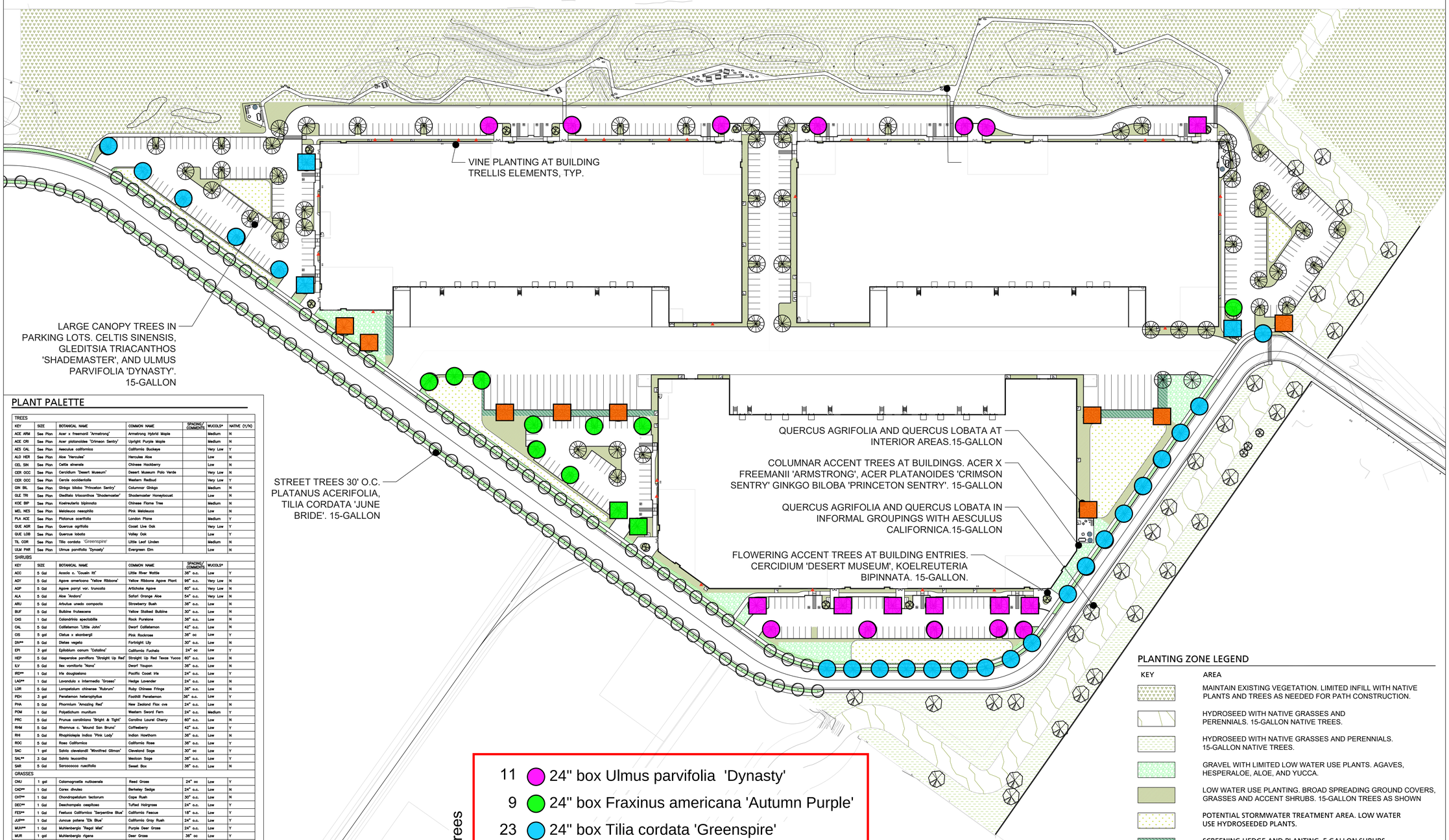
Tree Location Map

119 Surfside Avenue, Santa Cruz CA 95060
office 831.426.6603
email jpallen@consultingarborists.com

2.I-J OF 10

Date: 02/04/22
Revision: 11/1/22
Revision: XX/XX/XX

Mitigation Tree Planting Location Map
Prepared by The Guzzardo Partnership, INC.



PLANT PALETTE

TREES						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	NATIVE (Y/N)
ACE ARM	See Plan	Acer x freemanii 'Armstrong'	Armstrong Hybrid Maple		Medium	N
ACE CRI	See Plan	Acer platanoides 'Crimson Sentry'	Upright Purple Maple		Medium	N
AES CAL	See Plan	Aesculus californica	California Buckeye		Very Low	Y
ALO HER	See Plan	Aloe 'Hercules'	Hercules Aloe		Low	N
CEL SIN	See Plan	Celtis sinensis	Chinese Hackberry		Low	N
CER OCC	See Plan	Cercidium 'Desert Museum'	Desert Museum Palo Verde		Very Low	N
CER OCC	See Plan	Cercis occidentalis	Western Redbud		Very Low	Y
GIN BIL	See Plan	Ginkgo biloba 'Princeton Sentry'	Columnar Ginkgo		Medium	N
GLE TRI	See Plan	Gleditsia triacanthos 'Shademaster'	Shademaster Honeylocust		Low	N
KOE BIP	See Plan	Koelreuteria bipinnata	Chinese Flame Tree		Medium	N
MEL NES	See Plan	Melaleuca nesophila	Pink Melaleuca		Low	N
PLA ACE	See Plan	Platanus acerifolia	London Plane		Medium	Y
QUE AGR	See Plan	Quercus agrifolia	Coast Live Oak		Very Low	Y
QUE LOB	See Plan	Quercus lobata	Valley Oak		Low	Y
TIL COR	See Plan	Tilia cordata 'Greenspire'	Little Leaf Linden		Medium	N
ULM PAR	See Plan	Ulmus parvifolia 'Dynasty'	Evergreen Elm		Low	N

SHRUBS						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	
ACC	5 Gal	Acacia c. 'Cousin Itt'	Little River Wattle	36" o.c.	Low	Y
AGY	5 Gal	Agave americana 'Yellow Ribbons'	Yellow Ribbons Agave Plant	96" o.c.	Very Low	N
AGP	5 Gal	Agave parryi var. truncata	Artichoke Agave	60" o.c.	Very Low	N
ALA	5 Gal	Aloe 'Andora'	Safari Orange Aloe	54" o.c.	Very Low	N
ARU	5 Gal	Arbutus unedo compacta	Strawberry Bush	36" o.c.	Low	N
BUF	5 Gal	Bulbine frutescens	Yellow Stalked Bulbine	30" o.c.	Low	N
CAS	1 Gal	Calandrinia spectabilis	Rock Purslane	36" o.c.	Low	N
CAL	5 Gal	Callistemon 'Little John'	Dwarf Callistemon	42" o.c.	Low	N
CIS	5 gal	Cistus x skanbergii	Pink Rockrose	36" oc	Low	Y
DIA**	5 Gal	Dietes vegeta	Fortnight Lily	30" o.c.	Low	N
EPI	3 gal	Epilobium canum 'Catalina'	California Fuchsia	24" oc	Low	Y
HEP	5 Gal	Hesperaloe parviflora 'Straight Up Red'	Straight Up Red Texas Yucca	60" o.c.	Low	N
ILV	5 Gal	Ilex vomitoria 'Nana'	Dwarf Youpon	36" o.c.	Low	N
IRD**	1 Gal	Iris douglasiana	Pacific Coast Iris	24" o.c.	Low	Y
LAD**	1 Gal	Lavandula x intermedia 'Grosso'	Hedge Lavender	24" o.c.	Low	N
LOR	5 Gal	Loropetalum chinense 'Rubrum'	Ruby Chinese Fringe	36" o.c.	Low	N
PEH	3 gal	Penstemon heterophyllus	Foothill Penstemon	36" o.c.	Low	Y
PHA	5 Gal	Phormium 'Amazing Red'	New Zealand Flax cvs	24" o.c.	Low	N
POM	1 Gal	Polystichum munitum	Western Sword Fern	24" o.c.	Medium	Y
PRC	5 Gal	Prunus caroliniana 'Bright & Tight'	Carolina Laurel Cherry	60" o.c.	Low	N
RHM	5 Gal	Rhamnus c. 'Leland San Bruno'	Coffeeberry	42" o.c.	Low	Y
RHI	5 Gal	Rhaphiolepis indica 'Pink Lady'	Indian Hawthorn	36" o.c.	Low	N
ROC	5 Gal	Rosa Californica	California Rose	36" o.c.	Low	Y
SAC	1 gal	Salvia clevelandii 'Winnifred Gilman'	Cleveland Sage	30" oc	Low	Y
SAL**	3 Gal	Salvia leucantha	Mexican Sage	36" o.c.	Low	Y
SAR	5 Gal	Sarcococca ruscifolia	Sweet Box	36" o.c.	Low	N

GRASSES						
CNU	1 gal	Calamagrostis nutkaensis	Reed Grass	24" oc	Low	Y
CAD**	1 Gal	Carex divulsa	Berkeley Sedge	24" o.c.	Low	N
CHT**	1 Gal	Chondropetalum tectorum	Cape Rush	30" o.c.	Low	N
DEC**	1 Gal	Deschampsia cespitosa	Tufted Hairgrass	24" o.c.	Low	Y
FES**	1 Gal	Festuca Californica 'Serpentine Blue'	California Fescue	18" o.c.	Low	Y
JUI**	1 Gal	Juncus patens 'Elk Blue'	California Gray Rush	24" o.c.	Low	Y
MUH**	1 Gal	Muhlenbergia 'Regal Mist'	Purple Deer Grass	24" o.c.	Low	Y
MUR	1 gal	Muhlenbergia rigens	Deer Grass	36" oc	Low	Y

GROUNDCOVERS						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	
ACR	1 Gal	Acacia redolens	Acacia	48" o.c.	Very Low	N
ALF	1 Gal	Aloe ciliaris 'Firewall'	Groundcover Aloe	72" o.c.	Very Low	N
ARP	1 Gal	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita	60" o.c.	Low	Y
CEG	1 gal	Ceanothus g. h. 'Yankee Point'	Yanke Point Ceanothus	60" oc	Low	Y
COK	1 Gal	Coprosma kirkii 'Variegata'	Variegated Mirror Plant	36" o.c.	Low	Y
MAA	1 gal	Mahonia aquifolium	Oregon Grape	36" o.c.	Low	Y
MAC	1 gal	Mahonia aquifolium 'Compacta'	Oregon Grape	30" o.c.	Low	Y
MYP**	1 Gal	Myoporum parvifolium 'Putah Creek'	Creeping Myoporum	48" o.c.	Low	N

VINES						
KEY	SIZE	BOTANICAL NAME	COMMON NAME	SPACING/ COMMENTS	WUCOLS*	
BOS	1 Gal	Bougainvillea 'San Diego Red'	Violet Trumpet Vine	See Plan	Low	N
CLA	5 Gal	Clematis armandii	Evergreen Clematis	See Plan	Medium	N
FIP	1 Gal	Ficus pumila	Creeping Fig	See Plan	Medium	N
MAU	1 Gal	Macfadyena unguis—cati	Cat's Claw	See Plan	Medium	N

Native plant designation based on WUCOLS and Western Garden Book

* WUCOLS (WATER USE CLASSIFICATION OF LANDSCAPE SPECIES) WATER USE RATING

** Stormwater Treatment Area Plant

Note:
Planting and irrigation system to be designed to meet WELO requirements. This includes the use of mainly native and/or low water use plants and a smart weather based irrigation system primarily using subsurface irrigation.

Mitigation Trees

11	24" box Ulmus parvifolia 'Dynasty'
9	24" box Fraxinus americana 'Autumn Purple'
23	24" box Tilia cordata 'Greenspire'
9	48" box Quercus agrifolia
3	48" box Tilia cordata 'Greenspire'
7	48" box Ulmus parvifolia 'Dynasty'
2	48" box Fraxinus americana 'Autumn Purple'

PLANTING ZONE LEGEND

KEY	AREA
	MAINTAIN EXISTING VEGETATION. LIMITED INFILL WITH NATIVE PLANTS AND TREES AS NEEDED FOR PATH CONSTRUCTION.
	HYDROSEED WITH NATIVE GRASSES AND PERENNIALS. 15-GALLON NATIVE TREES.
	HYDROSEED WITH NATIVE GRASSES AND PERENNIALS. 15-GALLON NATIVE TREES.
	GRAVEL WITH LIMITED LOW WATER USE PLANTS. AGAVES, HESPERALOE, ALOE, AND YUCCA.
	LOW WATER USE PLANTING. BROAD SPREADING GROUND COVERS, GRASSES AND ACCENT SHRUBS. 15-GALLON TREES AS SHOWN
	POTENTIAL STORMWATER TREATMENT AREA. LOW WATER USE HYDROSEEDED PLANTS.
	SCREENING HEDGE AND PLANTING. 5 GALLON SHRUBS
	LOW WATER USE PLANTING PER CITY ZONING ORDINANCE FOR LANDSCAPE AREAS. 15-GALLON TREES AT 30'-40' O.C.

SCALE: 1" = 60'-0"
0' 30' 60' 120'

North

5/13/2022 1:42:03 PM

Shiloh Business Park
790 Shiloh Road
Windsor, CA

PLANNING FILE NO: #####-#####
PERMIT FILE NO: #####-#####

build DEVCON
perform DEVCON
design DEVCON
sustain DEVCON
CONSTRUCTION INCORPORATED
690 GIBRALTAR DRIVE
MILPITAS, CALIFORNIA 95035
(408) 942-8200 Lic. #399163

THE Guzzardo Partnership, INC.
Landscape Architects | Land Planners
Pier 9, The Embarcadero, Suite 115
San Francisco, CA 94111 | www.tgp-inc.com

REVISIONS

NO	DESCRIPTION	DATE

GENERAL NOTES:
CONTRACTOR SHALL FIELD VERIFY ALL JOB CONDITIONS AND DIMENSIONS. VARIATIONS THEREOF FROM THE DRAWINGS MUST BE REPORTED TO THE ARCHITECT. DETAILS INDICATED ON THE DRAWINGS ARE REPRESENTATIVE AND TYPICAL. ALL ATTACHMENTS AND CONNECTIONS SHALL CONFORM TO BEST PRACTICE AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

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SEAL

SCHEMATIC PLANTING PLAN

PROJECT NO. 21-153
DATE: 10/06/2022
SCALE:
ISSUE: -
SHEET NO. L2.01