ANNUAL ROUTINE MAINTENANCE PLAN

FISCAL YEAR 2022-2023

Prepared by

The Santa Barbara County Flood Control and Water Conservation District

SANTA BARBARA COUNTY FLOOD CONTROL DISTRICT
HISTORY AND PROCESS FOR THE
ANNUAL ROUTINE MAINTENANCE PLAN

ORIGIN OF THE PROGRAM

The Santa Barbara Flood Control District's (District) Annual Routine Maintenance Program was developed after many years of environmental study and coordination with the public, environmental groups, and permitting agencies. In 1987, the Board directed District staff to prepare a Program EIR on routine maintenance activities to: *"… provide a systematic approach to reviewing future flood control activities…offer feasible mitigation and/or alternative maintenance techniques which provide adequate protection against flood damage in the least environmentally damaging way."* In May 1990, a draft Program EIR was issued for public review. A final Program EIR was issued in March 1991 which identified an Environmentally Superior Alternative. The PEIR included numerous mitigation measures (called Standard Maintenance Practices) to avoid or reduce specific impacts to botanical resources, wildlife, water quality, stream geomorphology, cultural resources, and aesthetics.

In June 1991, the Board convened an Interagency and Public Advisory Committee (IPAC) to work with the District to develop a revised Maintenance Program, based on the EIR's Environmentally Superior Alternative. The IPAC met on seven occasions and developed, through a consensus process, a revised list of Standard Maintenance Practices (SMPs) and an annual planning and project approval process. Together, these products represented the revised Environmentally Superior Alternative that was recommended to the Board. The project was ultimately approved in March 1992 when an Addendum to the 1991 Program EIR was completed.

In 2001, after successfully implementing the Maintenance Program for nine years, the District determined that the Program needed revision for the reasons described below.

- Include new information about threatened and endangered species.
- Address water quality impacts in a more sophisticated manner.
- Consider new analytic tools for assessing channel capacity and geomorphology.
- Include the Lower Santa Ynez River maintenance into the annual program.
- Replace the Standard Maintenance Practices with newly written mitigation measures that directly correlate to identify impacts.
- Improve the format and organization of the Program EIR.
- Include a variety of bank and grade stabilization measures in the program.
- Update the Habitat Restoration Plan
- Assess the Impacts of the Los Carneros Mitigation Bank.

Following public review and comment in 2001 a Final Program Environmental Impact Report for the Updated Routine Maintenance Program was approved by the Board of Supervisors on December 11, 2001.

The 2022/2023 Annual Routine Maintenance Plan marks the 31st Annual Plan that has been implemented since the Program's inception. The District is providing the following history and process information on the Annual Routine Maintenance Plan to further explain the Program and demonstrate the District's commitment to avoidance, minimization and compensation.

ANNUAL ROUTINE MAINTENANCE PLAN

OBJECTIVES

The objectives of the routine maintenance program are to maintain the capacity of key watercourses in the County, to preserve existing conveyance capacity and prevent the accumulation of obstructing vegetation and sediments that could increase existing flood hazards that could then result in damage to life, and public property and infrastructure. The extent and frequency of maintenance are dependent upon many factors including the availability of funds from individual flood zones, the degree of flood hazard, and the environmental impacts of the maintenance actions. The planning process undertaken to formulate the annual maintenance plan and the maintenance practices that are used by the District first avoids and then minimizes environmental impacts to natural habitats, water quality, sensitive species, and natural fluvial processes.

It is extremely important to understand that the implementation of the District's maintenance program, with its approach to avoidance and minimization, avoids the severe environmental impacts of increased flooding, bank erosion, habitat loss, and the associated impacts to water quality that would occur if the District did not provide routine maintenance within key watercourses throughout the county.

PLANNING STEPS AND CRITERIA:

The District's process to determine what maintenance tasks are proposed each year follows the "A*void, Minimize, Compensate*" chain of logic. The process includes field surveys, engineering analysis, natural resource assessment, prioritization, impact assessment, and strategies to modify work methods to balance flood control objectives with environmental protection, riparian habitat health, sensitive species protection, and water quality protection. Also considered are qualitative criteria made by experienced Flood Control staff.

It is important to note that each work site is controlled by many factors, site-specific parameters, anticipated weather events, watershed processes, and overall County budget constraints.

STEP 1: Field Survey.

Each year in March and April, District staff inspects all of the County's maintained drainages. A total of 67 drainages are specifically inspected (36 on the south coast and 31 in North County) for a total of approximately 105 miles of inspected drainages. The staff includes the Maintenance Superintendent, Operations and Environmental Manager, District Biologist, Environmental Planner, and Maintenance staff. For situations needing engineering expertise, engineering staff or consultants may also participate in the field inspections. The staff discuss maintenance needs and objectives in the field, determines what reasonable alternatives exist, and develops avoidance/minimization/compensation measures for each maintenance task. District environmental staff reviews the sites for sensitive habitat or special status species and determine if further surveys are warranted.

For simple maintenance tasks (eg: Brushing), the standard avoid/minimize/compensate practices from the PEIR and Annual Plan Mitigation Measures are applied. For more complex maintenance tasks (eg: earth-moving or operations in sensitive habitat), District staff develop site-specific strategies to avoid/minimize/compensate for incidental impacts, relying on the PEIR mitigation measures but fine-tuning the work method for each specific site.

Each site in the field is evaluated for criteria such as: height and width of open channel, density/height/and roughness of channel vegetation, depth of accumulated sediment, location/size of fallen limbs and trees, location/size of bridges and culverts, adjacent land uses, flood threats, erosion threats, vegetative cover on banks, flow regime, hydraulics, and comparison with previous years' conditions.

> Example: For removal of obstructive vegetation: Criteria for several south-coast streams include the bank full curves developed by URS in 2002, showing the stream width recommended to maintain channel equilibrium based on the watershed size and geomorphology.
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> Criteria also include: Height of overhanging vegetation (generally woody vegetation hanging below 6 feet within the bank full width can be considered a flood risk as this material can obstruct flows, become dislodged and create debris plugs along the drainage or at culverts or bridges which can lead to flooding and increased erosion along the banks), proximity to culverts or bridges, confined channels in urban areas, known problematic areas—such as undersized culverts, bends in the creek channels, weak spots in creek banks, and areas that frequently accumulate excess sediment. While the District uses the general statement that overhanging vegetation below 6 feet within the bankfull width can be considered a flood risk, not all vegetation within this zone is removed and this type of habitat (overhanging limbs, low canopy, etc) persists within most of the creeks every year. This type of habitat is not eliminated by the District's maintenance program and the removal of overhanging vegetation depends upon individual drainages' field conditions.
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> Problem areas are known based on extensive District experience walking creeks each year and managing flood hazards that have occurred in the past. In developing a work plan for each site, the District considers the degree of native vs non-native vegetation (or bare soil), sensitive habitats, sensitive species, cultural resources, trail crossings, bridges, and water quality parameters.
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> Example: A sediment bar at a bend in an urban area of the watershed, with only non-native cover, upstream of an undersized culvert, in a reach of the creek that has overtopped its banks in recent history or is severely diverting flows towards a bank increasing erosion and threatening riparian habitat on the bank—This site may be treated by excavating and exporting the excess sediment,
>
> A sediment bar with the same dimensions, but with native tree cover in the upper rural watershed with no culvert or bridge within ½ mile downstream—This site may be treated by brushing to remove a strip of vegetation to maintain the bank full width (or may not be treated at all on a given year and simply watched to see how it responds from year to year).

As this example shows, no single criterion can be applied in all cases. For each maintenance site, the whole combination of criteria, impacts, and natural resources are considered in developing a work plan. (MINIMIZATION).

STEP 2: Prioritization.
Once the field surveys are completed for each watershed, District staff compiles a list of all proposed tasks in each watershed. Then staff determines which watersheds are in good-enough condition overall that no maintenance will be performed for the year. In a typical year, approximately ½ of the managed watersheds are omitted from all work (AVOIDANCE) because it is determined that flood threats are minimal enough to allow the drainage to remain unmaintained until at least the following year when it will be re-evaluated. The remaining watersheds are prioritized as "High" or "Medium" priority based upon the amount of proposed work and the associated flood threats that the work would eliminate. High priority watersheds are those in which conditions definitely require maintenance for the year. Medium priority watersheds are those that have several maintenance needs, but may be able to last one more year before maintenance is required.

The District evaluates the priority list in terms of severity of maintenance need, staff resources, budget, and workload and decides which watersheds to perform routine maintenance for the year. The remaining watersheds are omitted from maintenance (AVOIDANCE).

STEP 3: Develop Annual Plan/Further Evaluation.

<u>Develop Annual Plan</u>
An Annual Routine Maintenance Plan (Annual Plan) is prepared by the District staff in May and June of each year which includes the following chapters:

1. Introduction; Introduction and List of Creeks by Supervisorial District.

2. Exempt Facilities; Notice of Exemption and description of CEQA exempt drainages.

3. Maintenance Practices Summary – Summary of common maintenance tasks and methodology for describing work proposals, impacts and associate mitigation. Individual project-specific descriptions for each drainage to be maintained, including detailed information on the site conditions, biological resources, proposed maintenance actions, impact assessment, mitigation measures, maps, and photographs.

    a. North County Creek descriptions,
    b. South County Creeks descriptions.

4. CEQA Findings; CEQA Findings for the Annual Plan.

5. District's Revegetation Plan

6. Impacts and Mitigations; In order to save paper and reduce the size of the Plan, an individualized Impacts/Mitigation Measures Table was developed for each addendum

and the complete text of all impacts and mitigation measures is included once under this separate tab.

For those watersheds that are included for maintenance each year, the District then further refines the work methods. All activities that require earth-moving or equipment operating in the creek channel are assessed for access, timing, and the extent of maintenance required (MINIMIZATION). The District Biologist performs a field survey of such sites to determine if sensitive species or habitats are likely to be impacted, and then environmental staff confers with maintenance staff to develop AVOIDANCE and MINIMIZATION measures for each site. At this stage of the process, the District formulates dewatering plans, bio-monitoring requirements, and other BMPs to be applied. The BMPs are derived from the mitigation measures in the PEIR, but are tailored to each specific work site.

Routine maintenance can include brushing vegetation, herbicide application, desilting, shaping, bank protection, repair or creation of check structures, and habitat restoration. Following is a list of general terms used in the project descriptions to describe the vegetation management activities, as required in the Regional Water Quality Control Board 401B Water Quality Certification:

<u>Brush:</u> The cutting of live vegetation growing in the bottom of the creek within the active flow area. The stumps of the cut vegetation are generally sprayed with herbicide to inhibit regeneration of the live vegetation.
<u>Cut:</u> Same as Brush.
<u>Cut Up:</u> Used to describe cutting up "downed" or fallen (dead) vegetation within the active channel or live vegetation growing in the active channel (as in brush).
<u>Key Woody Debris:</u> KWD is a downed tree, or part thereof that has a length greater than or equal to the wetted channel width, or has an intact root wad. Naturally occurring KWD are intact unmodified trees that have fallen into the bankfull channel having trunk diameters greater than 4 inches.
<u>Large Woody Debris</u>: LWD is classified as pieces of wood measuring greater than 6-feet in length and greater than 4 inches in diameter.
<u>Limb:</u> the trimming or pruning (but not complete removal of the whole tree or shrub) of limbs that are projecting into the active flow area of the channel from vegetation that is growing on the creek bank or outside of the bankfull discharge width. Limbing is done to keep the flow area clear while at the same time retaining vegetation on the creek banks for shading and riparian canopy development.
<u>Trim or Trim Back:</u> Same as Limb.
<u>Remove:</u> Refers to the removal of live or dead vegetation from the active channel. Vegetation can be removed and placed on the banks or completely taken out of the channel and hauled away, depending upon access.
<u>Seedling:</u> A tree less than 3 feet tall and 1" DBH.
<u>Sapling:</u> A tree with DBH between 1"-3".

At sites where impacts to riparian vegetation within the channel invert cannot be completely avoided, the District calculates the square footage of impacts to native vegetation and then identifies a location for habitat restoration (COMPENSATION). Often, the restoration occurs at the site of temporary disturbance. At some sites, this is not possible or desired (such as vegetation removal from the floor of the channel). In these cases, an alternate restoration site is developed to offset the impacts (COMPENSATION). Restoration occurs on creek banks first at or near the site where vegetation was removed, second at an alternate site along the drainage, thirdly on a nearby drainage as appropriate and lastly by either participating in Watershed based restoration projects led by other entities as these projects become permitted or by using credits from the Los Carneros Mitigation Bank (LCMB) which the District formalized in 2004 with the Army Corps of Engineers and began implementing in 2005. The bank has 28 acres that are slated for restoration with 10 acres of riparian vegetation and 18.41 acres of upland habitat. The LCMB Banking instrument allows for a 1:1 credit ratio for riparian habitat and .75:1 credit ratio for upland habitat for a total of 24 acres of total credit availability for the bank. When 3-year success criteria are met in a given restored area, ½ of the available credits for that area can become available and once the 5-year success criteria are met, the remaining half of the credits become available. To date, restoration has been implemented on 6.8 acres at the Bank. The table below lists the amount of restoration credits (square footage or acreage) that have been used.

Los Carneros Mitigation Bank Credits Used		
Annual Plan Year	**Credits Used (Square Feet)**	**Credits Used (Acres)**
2013/2014	4237	.097
2014/2015	1880	.043
2015/2016	3895	.089
2016/2017	460	.010
2017/2018	1050	.024
2018/2019	50	.001
2019/2020	680	.015
2020/2021	845	.019
2021/2022	2700	.062
Total	**15797**	**.36**

Between 2002 and 2022 the District has implemented approximately 26.7 acres of restoration throughout the county directly related to the Annual Routine Maintenance Plan. That is made up of 9.8 acres on the south coast and 16.9 acres in North County. Within North County 13.4 of the 16.9 acres is within the Santa Maria River. The 13.3 acres of strictly creek-bank restoration that has been implemented throughout the county, just in the last 17 years, is equivalent to 9.14 miles of creek banks being restored (with an average creek bank site width of 12'). This restoration has occurred in areas that were either devoid of vegetation, were infested with non-natives (giant reed, castor bean, ivy etc.) or were sheer banks that without reshaping and protection, would have remained sheer, unvegetated, and would have continued to erode. This represents a very large improvement to riparian corridor health for water quality, stream shading, wildlife habitat, etc. The District will continue to implement restoration to mitigate temporal impacts to native vegetation for the duration of the Annual Routine Maintenance Program at a 1:1 ratio.

In the past thirty years, outside of the Annual Routine Maintenance Plan, and in association with other projects, the District has also implemented an additional 30+ acres of riparian restoration within Santa Barbara County.

STEP 4: Public Review.
An Annual Plan Summary is posted on the District website during the second week of May and notifications are sent to interested individuals, public groups and the regulatory

agencies to notify them that the Summary is available for review and comment. Public workshops are also held in May. During this period, additional AVOIDANCE/ MINIMIZATION measures may be submitted by comment and incorporated into project design.

After initial review and comment, the Annual Plan is finalized and submitted for permits and authorization. The USFWS and NOAA Fisheries review sites which may have listed species present. In some isolated cases, FWS and/or NOAA request additional information, site visits, or plans to further review the projects. The District incorporates agency comments to further AVOID/MINIMIZE impacts to listed species and to ensure that the work falls within the District's Biological Opinions. Specialized biological contractors may be hired to perform survey and relocation work.

Step 5: CEQA Compliance

As noted above, the Annual Plan includes a description of each maintenance project to be conducted in the fall. In addition, it represents the environmental documentation under CEQA. The projects included in the Annual Plan are categorized as follows relative to CEQA:

- The project is exempt from CEQA and therefore no environmental review is necessary (CEQA Guidelines 15300 or 15061)
- No further environmental review is necessary because the project was adequately addressed in the Program EIR (CEQA Guidelines 15162).
- Considered under the 2001 Program EIR, and a project specific write-up is necessary to describe the project and ensure consistency with the Program EIR impact analysis and to apply the appropriate mitigation measures (CEQA Guidelines 15164)

As a CEQA lead agency, the District has the authority to determine which maintenance activities and projects are exempt from CEQA under the following two provisions of the CEQA Guidelines:

1. Under Section 15061(b)(3), a project or discretionary activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

2. The District may also determine that a project qualifies for CEQA Categorical Exemption Class 1 (CEQA Guidelines Section 15301, Existing Facilities):

   "Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The types of "existing facilities" itemized below are not intended to be all-inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of an

existing use. Examples include but are not limited to: … (b) Existing facilities of both investor and publicly-owned utilities used to provide electric power, natural gas, sewerage, or other public utility services…."

There are exceptions to Categorical Exemptions, which are listed in Section 15300.2 of the CEQA Guidelines. For example, all exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant. In addition, a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

Maintenance projects that are exempt from CEQA generally include the following categories of activities, as described by the District in the Annual Plan:

1. **Concrete Channels**. Maintenance activities in fully concrete lined channels without habitat.
2. **Flood Control Devices.** Cleaning, repair, and replacement of such flood control devices as check structures, drop structures, chute structures, culverts, weirs, or stream flow measuring stations.
3. **Access Ways**. Maintenance activities on access ways or roads outside of riparian corridors or estuaries.
4. **Earthen Channels.** Maintenance activities in earthen channels, which have been developed to convey urban stormwater, agricultural stormwater or tail water, and that support little to no vegetation and do not support listed species.
5. **Unvegetated Basins.** Maintenance activities in sediment, debris, and retention basins which have been constructed for such purposes and which support little to no vegetation and do not support listed species.

Non-exempt projects that were considered in the 2001 Program EIR are subject to environmental review in the Annual Plan. A project specific description is prepared by District staff for each drainage needing maintenance and includes the following elements:

Location – A description of the maintenance site is presented.

Setting – A description is presented of the environmental conditions along the drainage, including topography, vegetation, stream channel dimensions, and adjacent land use. District staff conducts a field investigation and records information on site conditions, including vegetation.

Revegetation – This section includes a listing of past restoration that was implemented as mitigation for maintenance since 2002 and a description of any proposed District revegetation associated with the current year's annual routine maintenance. This allows for accurate record keeping of restoration area on an ongoing basis.

Wildlife Surveys – The results of wildlife surveys that are conducted in April or May at the maintenance sites are summarized. The primary objective of these surveys is to identify any sensitive species at the maintenance sites. This section of the Addendum also includes a summary of all wildlife observed at or near the sites.

Engineering Analysis – A description of the site conditions that have caused the need for maintenance including: (1) the nature and extent of channel obstructions or damaged facilities; (2) the flooding and erosion hazards created by these conditions; and (3) the remedy for this situation. The analysis usually is based on visual observations of adverse conditions such as sediment deposits, significant in-stream vegetation, or damaged facilities. The District personnel that conduct the Annual Plan surveys is the same each year; as such, they have first-hand knowledge of site conditions along drainages in the County over many years and under various conditions. Hence, they can readily assess the maintenance needs. The District does not typically conduct quantitative field measurements or hydrologic calculations or modeling to determine the maintenance needs at all sites, however pursuant to the 2012 RWQCB 401B Technically Conditioned Water Quality Certification, a sheer stress analysis is conducted for all bank protection sites and additional geomorphologic analysis is also completed.

The Engineering Analysis section also includes reference to bankfull calculations that were quantified in 2002 as part of the Updated PEIR. The bankfull widths are used to determine and document the desired clearing width within individual creeks along the south coast in particular. In areas where bankfull calculations are unavailable, District staff use field indicators to determine clearing widths.

Project Description - This section includes a description of the maintenance work to be performed, including descriptions of access. Precise descriptions of the areas to be treated (e.g., sprayed with herbicide or brushed) are provided using features in the field. GIS generated maps are provided to show the limits of work and access points. Photographs of representative maintenance areas are also included in each addendum. Figures showing water diversion, bank protection diagrams, and shaping project are also included.

Impact Analysis and Mitigation Measures - The Addenda refer to the list of impacts associated with specific maintenance activities developed in the 2001 Updated Program EIR. The latter identified numerous significant, unmitigable impacts (Class I), significant, but mitigable to less than significant impacts (Class II), and less than significant impacts (Class III). For maintenance projects proposed and implemented since 1992, the District has been able to avoid significant impacts by designing the projects or activities to avoid such impacts, and/or by implementing appropriate mitigation measures from the Program EIR to mitigate such impacts.

This section contains a list of impacts expected to occur due to the proposed maintenance activity using the impact number, impact description, and issue area presented in the 2001 Updated Program EIR. These issue areas include the following: Water Resources (Hydrology); Water Quality; Wetlands, Riparian Habitats, and Rare Plants; Aquatic Species, Fish; and Wildlife; Air Quality; Noise;

Cultural Resources; Recreation, and Visual Resources. Specific impacts are listed under each issue area.

In addition, mitigation measures derived from the Program EIR are listed under each issue area.

Step 6 : Plan Approval

The Annual Plan may be revised to respond to public comments, and is then presented to the Board of Directors for approval in June or July of each year. There is a public hearing to adopt the Annual Plan and the Categorical Exemptions.

PERMITS

Local Land Use and Coastal Development Permits

Most of the maintenance activities occur in unincorporated portions of Santa Barbara County. The District is exempt from the land use permitting requirements of the County in areas outside the Coastal Zone. Section 35.10.040(G)(1)(b)-201 of Article III Zoning Ordinance (Non-Coastal Areas) states that the Zoning Ordinance does not apply to "Development by the County or any district of which the Board is the governing body."

Some maintenance activities occur in the Coastal Zone in unincorporated portions of the County. Under Section 35-51(4) of the Article II Zoning Ordinance (Coastal Areas), the District does not require a Coastal Development Permit for maintenance projects in the Coastal Zone, except when the project occurs in an Environmentally Sensitive Habitat (ESH) area. The latter is defined in the Coastal Act and Coastal Plan and generally includes rivers, streams, wetlands, riparian corridors, and sensitive species habitats. For most work in the Coastal Zone, the County has permit authority and issues Coastal Development Permits (CDP) on individual drainages. However, there are certain areas along the coast where the California Coastal Commission (CCC) retains primary permit authority. Maintenance projects in ESH areas must be designed and implemented in a manner consistent with the development standards in Section 35-97 of the Article II Zoning Ordinance. Work in the Coastal Zone within the cities of Santa Barbara, Goleta, and Carpinteria requires a CDP from these jurisdictions.

State and Federal Permits

Most maintenance activities occur in natural watercourses and may involve modification to the channel bed, banks, and in-channel vegetation. These activities are regulated by the California Department of Fish and Wildlife (CDFW) under Section 1601 of the Fish and Game Code. Activities that result in the discharge of dredged or fill material in natural watercourses (such as bank stabilization and channel shaping) are regulated by the Army Corps of Engineers under Section 404 of the Clean Water Act. The District also receives a Section 401B Water Quality Certification from the State Regional Water Quality Control Board for those projects that also require a 404 permit from the Army Corps of Engineers.

The District submits the Annual Plan Summary to the CDFW, ACOE, and RWQCB to satisfy notification requirements in the permits and once the plan is finalized, the ACOE and RWQCB provide a written confirmation that the Annual Plan conforms to their permit.

As early as 2004 the District consulted with the U.S. Fish and Wildlife Service (USFWS) for the California red-legged frog and a Biological Opinion was issued to the Army Corps of Engineers in 2005. Since then, the District has continued to consult on listed species including the California red-legged frog, Tidewater goby, least Bell's vireo, southwestern willow flycatcher, La Graciosa thistle and Gambell's watercress. The most recent consultation was initiated with USFWS in 2010 and a finalized Biological Opinion was received in June 2014.

The District has also consulted with National Marine Fisheries Service since the original listing of endangered steelhead in 1997 with the most recent consultation initiated in 2010. A final Biological Opinion was issued by NMFS in March 2014 and accepted by the District in September 2016.

The development of a Vegetation Management Plan (VMP) for the Annual Routine Maintenance Plan is required by the National Marine Fisheries Service in the March 11, 2014 Biological Opinion (B.O.) for the endangered Southern California Distinct Population Segment of Steelhead (*Oncorhynchus mykiss*) and designated critical habitat for this species within the District maintenance areas. Implementation of the Reasonable and Prudent Alternative portion of the B.O. by the District would avoid the likelihood of jeopardizing the continued existence of steelhead or destroying or adversely modifying critical habitat. Specifically, the RPA states that the District shall develop and implement a Stream Vegetation Management Plan that would allow for the annual maintenance of stream vegetation yet in a manner that would restore and maintain freshwater spawning and rearing sites in areas of creeks within the action area. In accordance with the 2014 Steelhead B.O., the VMP is specifically written to address the routine vegetation management portion of the annual creeks maintenance program in the twenty-four steelhead creeks within the District's maintenance area. The VMP describes the District's creek maintenance reaches, the District's selective vegetation management strategy designed to maintain channel equilibrium, the decision criteria used for vegetation removal, and management methods for single-trunked trees.

The VMP pertains to vegetation management in the following steelhead drainages.

Arroyo Burro Creek
Arroyo Paredon Creek
Atascadero Creek
Barger Canyon Creek
Carpinteria Creek
Cieneguitas Creek
Gobernador Canyon Creek
Los Carneros Creek
Maria Ygnacio Creek
Mission Creek
Montecito/Cold Springs Creek
Rattlesnake Creek
Refugio Creek
Romero Creek
San Antonio Creek
San Antonio Creek
San Jose Creek
San Pedro Creek
San Roque Creek
San Ysidro Creek
Santa Maria River
Sycamore Creek
Tecolote Creek
Tecolotito Creek

The District takes managing flood threats for the citizens in Santa Barbara County very seriously and while District staff considers resource protection with the incorporation of mitigation measures when designing maintenance approaches, the District retains the authority to determine the level of flood protection chosen at any given site. In that context, in the course of implementing the VMP, not every maintenance need scenario can be addressed by the plan and as such, the District continues to retain its authority to take action on maintenance needs that it deems necessary.

The Central Coast Regional Water Quality Control Board (RWQCB) issued a new 10-year Section 401B Water Quality Certification in 2017. Pursuant to the 401B Water Quality Certification, the District has made changes to the Annual Plan in order to provide information to RWQCB staff. In particular, the District provides drawings of proposed shaping, bank protection and water diversion sites. Sheer stress and geomorphological analyses are performed for bank protection sites. Where bank protection/rebuilding is implemented with a native habitat restoration component, the District also provides a pre- and post-project analysis to demonstrate increases in habitat function so the restored area can be used as mitigation for future impacts associated with the maintenance program.

The CA. Coastal Commission staff will review the Corps permit in order to issue a Coastal Zone Consistency Determination Concurrence for work performed under the Corps permit in the Coastal Zone.

The District received a 10-year Stream Alteration Agreement from the California Department of Fish and Wildlife in 2015.

STEP 7: Work in Progress.

Between August 1 and December 15, the maintenance work occurs. This timing allows for AVOIDANCE of the migratory bird breeding season and the wet season for most of the maintained creeks. In creeks with standing water or flowing water, the amount of water is at its lowest for the year and thus impacts to aquatic habitat are MINIMIZED or in most cases, AVOIDED.

As described in in Step 1 above, District staff who participate in creek walks include the Maintenance Superintendent, Operations and Environmental Manager, District Biologist, Environmental Planner, Engineer, and Maintenance staff. Project descriptions are also developed with input from maintenance, engineering and environmental personnel. Maintenance personnel receive a copy of the Final Annual Routine Maintenance Plan so they know exactly where and what types of maintenance activities need to occur. The maintenance crews' copy of the Annual Plan contains maps with aerial photography as the background in order for the crew members to more precisely identify maintenance areas. Prior to the commencement of each creek's maintenance, maintenance personnel meet with the Maintenance Superintendent and/or the District Biologist to discuss the overall maintenance tasks identified, limits of work, mitigation measures that will be implemented to reduce any impacts to the furthest extent possible, etc. The District Biologist also actively monitors maintenance activities while they are occurring. For drainages known or suspected to contain listed species, specific direction is given to crew members prior to and during maintenance activities. District personnel are very familiar with the Annual Plan with most of the personnel having worked at the District for over 10 years, many for over 25 years. Not only are the personnel very familiar with the District's maintenance practices overall, including listed species identification and protection, they are also very familiar with individual drainages.

If the District hires a contractor to perform routine maintenance work, a training session will be given by the District Biologist that describes the District's maintenance approach, permit requirements, appropriate mitigation measures, sensitive species identification and protection, etc.

Bio-monitoring, surveys and relocation, BMPs, and avoidance/mitigation measures are implemented as proposed through the above process. Field modifications are made to further protect environmental resources and water quality. Where unexpected events occur, notes are made to help guide future maintenance efforts.

> Example, in 2009 FWS required dewatering of a reach of Devereux Creek prior to maintenance as part of tidewater goby protective measures. However, during the process it became obvious that dewatering resulted in anoxia and caused fish stress and mortality. The situation was noted in the follow-up report, and dewatering in the system is no longer considered a reasonable protective measure for tidewater goby at this particular location.
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> This is just one example of how the District is committed to long-term adaptive management, not one-time work, and how the process allows for revision of work methods over time to best protect aquatic resources and water quality.
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> Example: Unit II Channel near Guadalupe is an engineered facility that drains into the Santa Maria River through a levee gate. Red-legged frogs are known in this facility. Over many years, the capacity of the channel has decreased as the channel banks have accumulated sediments from desilting operations. In order to re-establish the engineered capacity of this District owned channel, the District phased the regrading of the banks over a two year period so that half of the channel and associated cover and foraging habitat for red-legged frogs that exists at the base of the banks could be retained.
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> This is an example of how the District designs and implements maintenance to protect sensitive species and their associated habitats.

STEP 8: Reporting
Once the Annual Routine Maintenance is completed, the District Biologist provides a Maintenance Report to all regulatory agencies in May or June of the following year. The consolidated Maintenance Report is designed to incorporate all the information that each agency has requested.

CARRY-OVER PROJECTS
The routine maintenance work season runs from August through the end of November for the majority of the maintenance tasks. There are occasional instances in which all of the proposed work cannot be completed within the work season, and some maintenance tasks are delayed until the following year's work season. These "carry-over" projects are identified in each year's Post-Project Report. For the 2022/23 Annual Maintenance Plan, there are 4 carry-over tasks in Carpinteria Creek. These are described as Sections 1, 2, 3 and 10 in the previous year's (2021/22) Annual Maintenance Plan Addenda.

SUMMARY

The District's planning process allows staff to determine what type of action is needed at the reach and site scale within the local physical constraints. The environmental aspects of the program identify and protect sensitive habitats and perform compensatory restoration when required and justified. The District minimizes repeat maintenance whenever feasible, but on-going maintenance is not necessarily problematic. The Annual Routine Maintenance Program involves repeat maintenance at some locations because a minor project each year or every few years may actually have less environmental impact than a single larger project. For example, periodic sediment removal from a flat stream reach is preferable to lining the entire creek channel with concrete. The concrete lining may result in less frequent maintenance, but the environmental impacts are more substantial with that approach. The District's process involves a balance between the need for maintenance, natural creek processes and situations within creeks that the District has no control over.

The District surveys 67 drainages County-wide, amounting to approximately 105 miles of drainage for potential maintenance. Not all of the drainages are placed in the Annual Routine Maintenance Plan and for the ones that are, only a small percentage of each creek are physically touched by actual work. The 2022/2023 Annual Plan contains 35 drainages. Santa Barbara County contains over 940 miles of major drainages and the District includes only 11% of that area for potential routine maintenance to provide important flood protection through urban areas of the County. For the 2022/2023 Annual Routine Maintenance Plan, it is estimated that approximately 9% of the maintained drainages length (9.4 miles of the 105 miles of potential maintained drainage length) will receive some level of maintenance or 1% of the 940 miles of major drainages within Santa Barbara County.

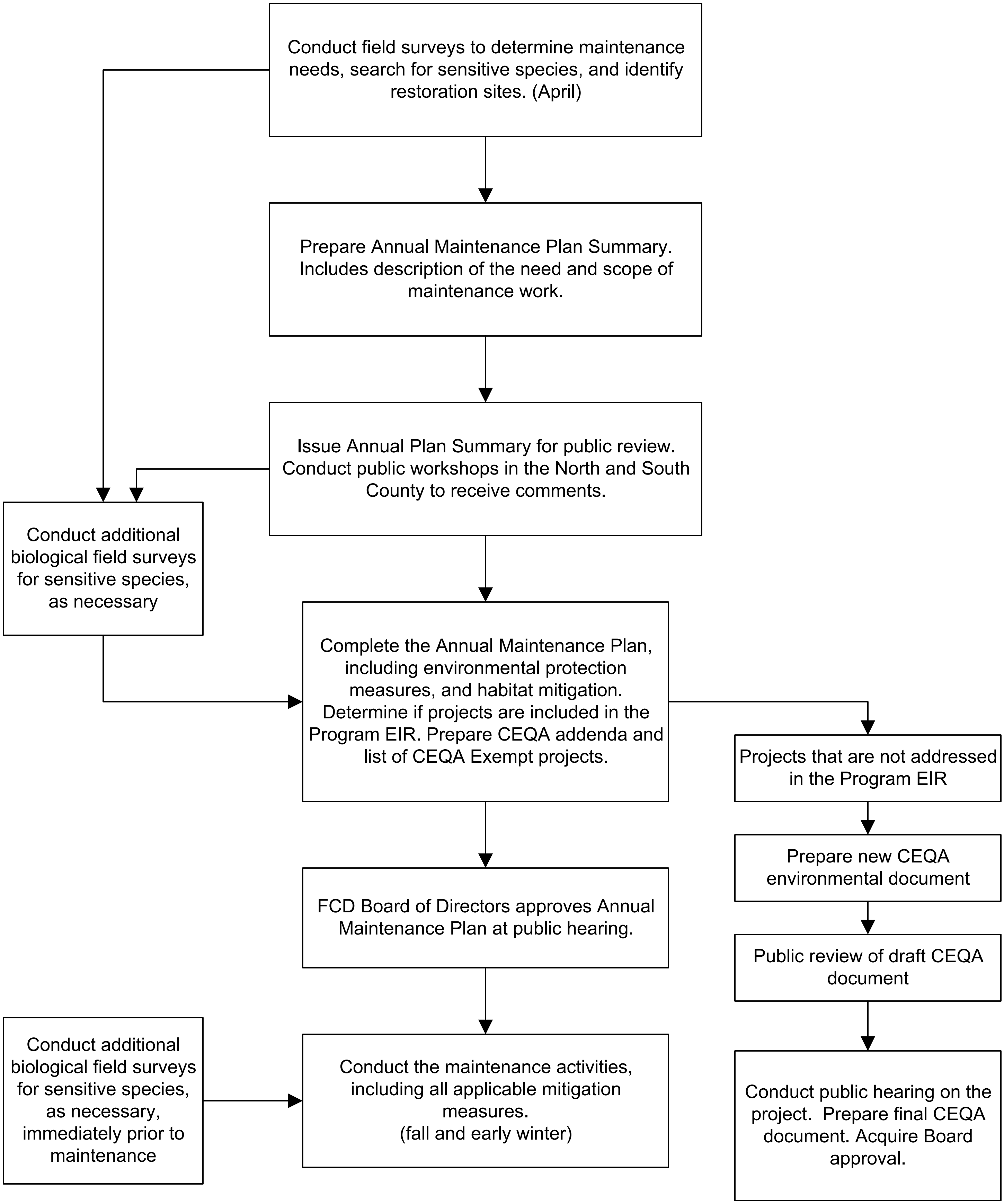


Chart 1. Annual Maintenance Program Process

Supervisorial Districts
2022-2023

First District

Arroyo Paredon Creek	Romero Creek
Montecito Creek	San Ysidro Creek
Picay Creek	Toro Creek

Second District

Arroyo Burro Creek	Las Positas Creek
Cieneguitas Creek	Maria Ygnacio Creek
Las Positas Creek	San Antonio Creek- Goleta
Las Vegas Creek	San Jose Creek

Third District

Adobe Creek	Rodeo/San Pascual Basin
Alamo Pintado Creek	Santa Ynez River
Canada De La Pila Creek	Tecolote Creek
Cebada Creek	Tecolotito Creek
Miguelito Channel	Zaca Creek
Mission Hills Basin	Zanja De Cota Creek
Refugio Creek	

Fourth District

Bradley Canyon Channel	Orcutt/Solomon Creek
Cat Canyon Channel	San Antonio Creek-Los Alamos
Davis Creek	Santa Maria Airport Channels
Foxenwood 3 Basin	Santa Maria River
Mission Hills Basin	

Fifth District

Green Canyon Drainages	Tanglewood Channel
Orcutt/Solomon Creek	Unit II Channels
Santa Maria River	

Santa Barbara County Flood Control District
Routine Maintenance in CEQA Exempt Facilities

The following facilities are maintained by the Santa Barbara County Flood Control District (District) on a routine basis. Most facilities are maintained in the summer and fall to prepare them for the winter rains though some facilities occasionally need to be desilted after large storm events to restore capacity lost to siltation. All spoils are either deposited on adjacent farm fields, within nearby erosion holes, used on flood control access roads or made available to the public. Deposited material is placed away from drainages so it cannot re-enter waterways. The District only uses Aquamaster and Roundup herbicides on exempt facilities and these products are used in very low amounts.

CEQA Notices of Exemption will be filed for these facilities. Locations of the projects are included on the attached maps. As indicated by their exempt status under CEQA, these drainages do not contain sensitive species or habitat, are dry for the vast majority of the year, contain no vegetation, very occasional nuisance vegetation or weeds and grasses. In many cases these drainages are concrete channels or dry washes. The maintenance conducted within these drainages is very sporadic. As an example, “spot spraying” is done with a back pack sprayer and in most cases consists of less than twenty seedlings that are sprayed which are most often non-native weedy species. Very little herbicide is used county-wide to conduct this maintenance. It is essential, however, to conduct this type of maintenance so the concrete structures or drainages do not deteriorate or become plugged and unable to convey flows during the winter months. The exempt basins are essentially basins that have been built as part of developments. Most of these basins are within upland areas and are dry weedy depressions or grassy areas that are used as play areas outside of the rainy season.

NOTICE OF EXEMPTION

TO: Santa Barbara County Clerk of the Board of Supervisors

FROM: Public Works Department/Flood Control and Water Conservation District

The project or activity identified below is determined to be exempt from further environmental review requirements of the California Environmental Quality Act (CEQA) of 1970, as defined in the State and County Guidelines for the implementation of CEQA.

APN(s) : Various Case No.: Not Applicable

Location: See project descriptions under the Exempt Facilities tab in the 2022/2023 Annual Routine Maintenance Plan.

(Include street address and cross street (if urbanized area) or attach specific location map)

Project Title: Routine operation and maintenance of existing public structures, facilities, or topographical features, involving negligible or no expansion of use beyond that which presently exists.

Project Description: See project descriptions in the 2022/2023 Annual Routine Maintenance Plan.

(Include nature, purpose, and beneficiaries of project)

Name of Public Agency Approving Project: County of Santa Barbara

Name of Person or Agency Carrying Out Project: Santa Barbara County Flood Control District

Exempt Status: (Check one)

___ Ministerial
___ Statutory Exemption
_X_ Categorical Exemption
___ Emergency Project
___ Declared Emergency

Cite specific CEQA and/or CEQA Guideline Section: 15301 Existing Facilities. CEQA Guideline Section 15301 (d): Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

Reasons to support exemption findings: Consistent with this exemption, the project is not located in any wetland or an officially designated (by federal, state, or local government action) scenic area, or in officially mapped areas of severe geologic hazard. There are no unusual circumstances which would create a possibility that there would be a significant effect. Therefore, this project can be found to be categorically exempt from CEQA.

There is no substantial evidence that there are unusual circumstances (including future activities) resulting in (or which might reasonably result in) significant impacts which threaten the environment. The exceptions to the categorical exemptions pursuant to Section 15300.2 of the State CEQA Guidelines are:

(a) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

These facilities are maintained on an as-needed basis and therefore not maintained every year. All impacts are temporary; therefore this exception does not apply.

(b) **Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.**

The project is the maintenance of existing facilities and not located in any wetland or an officially designated (by federal, state, or local government action) scenic area, or in officially mapped areas of severe geologic hazard. Therefore, this exception does not apply.

(c) **Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.**

The projects do not involve a scenic highway or a project which may result in damage to a scenic resource, removal of trees, rock outcropping or similar resource. Therefore, this exception does not apply

(d) **Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.**

There are no hazardous wastes sites within any of the project sites. Therefore, this exception does not apply.

(e) **Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.**

There are no historic resources in any of the project sites; therefore this exception does not apply.

Lead Agency Contact Person: Andrew Raaf Phone #: (805) 722-7250

Department/Division Representative:________________ Date: May 25, 2022

Signature: ____________________

Acceptance Date: ________________

Upon project approval, this form must be filed with the County Clerk of the Board and posted by the Clerk of the Board for a period of 30 days to begin a 35 day statute of limitations on legal challenges.

____

Date Filed by County Clerk

North County Exempt Facilities:

The North County exempt facilities include concrete channels, earthen road-side ditches, earthen channels, basins within developments, grassy swales, and facilities that are part of the Santa Maria Valley drainage network which include retention and recharge basins. General maintenance includes periodic silt management and the control of weeds. Over the past several years the District has been utilizing mowing for weed and fire control rather than the use of herbicides, although herbicides are still used, but in much lower amounts. The most common weeds that are controlled are Russian thistle, cat ear, wild radish, cape ivy, rape seed weed, myoporum, oleander, fennel, tree tobacco, and mustard. Non-native grasses are also mowed for fire control purposes. Occasionally, the District will remove cattail or bulrush seedlings if they begin to colonize wetted areas near the outlet of a basin. Also, occasional mulefat or coyote bush seedlings are sprayed.

The District will conduct herbicide application in the facilities listed below beginning May 1st, and desilting and mowing of non-native vegetation beginning June 1st of the year following that Annual Plan's approval.

Santa Maria/Guadalupe Area:

Ditches:

1. **Blosser Ditch:** This is an asphalt or concrete ditch from Fessler Road downstream to Blosser Basin, a distance of approximately 1.5 miles. The earthen portion of this channel begins downstream of the basin and continues downstream to the Santa Maria River where it enters a flap gate through the Santa Maria River Levee. Between Alvin Road and Donavan Road (a distance of approximately 2,600 feet) the channel is asphalt and sediment tends to settle out requiring desilting. Additionally, weep holes in the concrete lined section and cracks in both the concrete lined and asphalt sections are spot sprayed with herbicide on an annual basis so the cracks don't get larger from the weeds growing in them and the weep holes remain functional. Desilting is done on a biannual basis and will not be done this year. Potential Area of impact is less than 100 square feet from spot spraying. Refer to Page 4 for the location of this facility.

2. **Bradley Ditch:** This ditch is approximately 3.5 miles long and is approximately 75% concrete and 25% earthen. From Main Street upstream to Battles Street, portions of the channel are desilted annually with equipment working from the top of the bank and within the concrete channel. From Main Street downstream to Donavan Street portions of the concrete channel are desilted approximately every 3 years. The earthern channel is sprayed on an annual basis to control silt trapping weeds and is not desilted. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 5 for the location of this facility.

3. **California Street Ditch:** This is a concrete V-ditch with earthen sides above the concrete V. This ditch flows into Foxenwood 3 Basin in the Foxenwood Subdivision. On a biannual basis portions of the ditch are desilted and the banks are mowed for fire suppression purposes. Additionally, on a biannual basis, seedlings are sprayed in the concrete V-ditch to keep the ditch from deteriorating. Potential Area of Impact from mowing is .17 acres and less than 50 square feet for

spot spraying seedlings in the V-ditch. Refer to Page 7 for the location of this facility.

4. **Crescent Avenue Ditch:** This is a concrete V-ditch with earthern sides. It is approximately .75 miles long. On a biannual basis a Kubota is used to desilt portions of the V-ditch. There are also eucalyptus trees adjacent to the ditch that occasionally begin to grow too near the concrete ditch and have to be removed and spot spray the stumps so they don't damage the concrete. Refer to Page 9 for the location of this facility.

5. **Deerfield Channel**: This is an earthen channel approximately 2,400' long. This channel flows into Deerfield Basin in the Foxenwood Subdivision. On an annual basis, seedlings are spot sprayed with herbicide in the earthen channel to keep unwanted vegetation growing in the active channel. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 10 for the location of this facility.

6. **Diaz Ditch:** This is an earthen ditch approximately 500 feet long. The District spot sprays this ditch on an annual basis to reduce silt trapping vegetation (weeds) and desilts portions of the channel approximately every 3 years. This facility will not be desilted this year.   Potential Area of Impact from spot spraying is less than 50 square feet. Refer to Page 11 for the location of this facility.

7. **Dutra Ditch:** This is an earthen ditch approximately 230' long. The District spot sprays this ditch\basin on an annual basis to reduce silt trapping vegetation (weeds) and desilt portions of the channel approximately every 3 years. Potential Area of Impact from spot spraying is less than 50 square feet. Refer to Page 12 for the location of this facility.

8. **Green Canyon Spillway:** This is a concrete spillway that is part of Bradley Lake. The District spot sprays the spillway if vegetation is growing through weep holes or cracks and maintains the spillway free of woody debris. Potential area of impact is less than 50 square feet. Refer to Page 14 for the location of this facility.

9. **Industrial Parkway Ditch:** This is an earthen ditch that flows from Skyway Drive downstream into A Street Basin, a distance of approximately 1,400 feet. This ditch is sprayed with herbicide annually to keep sediment from accumulating or obstructive vegetation from colonizing the channel. The ditch is desilted approximately every 7-10 years. Potential Area of Impact from spot spraying is less than 100 square feet. Refer to Page 1 for the location of this facility.

10. **Lake Marie Ditch:** This is an earthen ditch vegetated with grasses and weeds approximately 1,000 feet long. The District mows this ditch on an annual basis to reduce silt trapping vegetation (weeds). This ditch is sprayed with herbicide annually to keep sediment from accumulating or obstructive vegetation from colonizing the channel. The District only desilts approximately 250' of this ditch on an annual basis. . Potential Area of Impact from mowing grass and weeds along the banks is .01 acres. Refer to Page 17 for the location of this facility.

11. **McCoy Lane Drain**: This is an approximately 200' long earthen ditch vegetated with grasses and weeds located between Broadway and Skyway Drive. The

District mows this ditch on an annual basis to reduce silt trapping vegetation. Potential Area of Impact from mowing grass and weeds along the banks is .01 acres. Refer to Page 19 for the location of this facility.

12. **Patterson Rd Ditch**: This is a concrete bottom ditch with concrete vertical walls approximately 443' long. This ditch flows though the Patterson Rd subdivision. Weep holes and cracks in the concrete lined section are spot sprayed with herbicide on an annual basis so the cracks don't get larger from the weeds growing in them and the weep holes remain functional. Potential area of impact is less than 50 square feet. Refer to Page 29 for the location of this facility.

13. **Santa Maria River Levee:** The U.S. Army Corps of Engineers constructed this levee and the District is mandated to maintain it. Maintenance consists of annually spot spraying the river side of the levee rock area. Per ACOE regulations, the District also maintains a 15'-wide vegetation free zone along the 6.5 miles of levee that was repaired within Bradley Canyon downstream to Blosser Road, an area approximately 11.8 acres in size. Because this area was denuded during the levee construction, upkeep of the vegetation free zone only requires small amount of spot spraying. The backside of the levee (which does not contain rock like the front of the levee does), and the lower levee roads, are mowed annually for weed control. The backside of the levee and access roads are completely outside of the drainage. Impact from mowing this area outside of the channel is 130 acres. Potential area of impact is less than 1,000 square feet for spot spraying. The District applies pre-emergent herbicide on the front side of the levee and impacts associated with pre-emergent application are 81 acres. Refer to Page 32 for the location of this facility.

14. **Sonya St. Ditch**: This is an earthen ditch approximately 1,300' long. The District spot sprays this ditch and mows the slopes on an annual basis to reduce silt trapping vegetation and for fire suppression purposes. Portions of the channel are desilted approximately every 5 years. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 34 for the location of this facility.

15. **Texaco Ditch:** This is an earthen channel approximately 2,300' long. The District spot sprays this ditch on a biannual annual basis to reduce silt trapping vegetation (weeds) and desilts portions of the channel approximately every 5 years. Refer to Page 11 for the location of this facility. No maintenance is proposed this year.

Basins

1. **A-Street Basin:** The basin is mowed annually and the low flow channel through the basin is spot sprayed on an annual basis. The basin is desilted approximately every 7-10 years. Potential areas of impact are less than 50 square feet from spot spraying and .25 acres from mowing. Refer to Page 1 for the location of this facility.

2. **Basin B:** This basin is also known as Orcutt Regional Detention Basin B. This basin is mowed on an annual basis for fire suppression purposes. The outlet structure is sprayed on annual basis to eliminate vegetation from blocking the

outlet structure. This basin is desilted every 5-7 years. Potential area of impact for mowing is 1.0 acres. Refer to Page 28 for the location of this facility.

3. **Blosser Basin:** The upper access road around this basin in mowed annually for fire control and volunteer woody vegetation and cattails are spot sprayed. Potential Area of Impact is .18 acres from mowing the access road around the top of the basin. See Page 4 for the location of this facility.

4. **Bradley Basin:** The outlet structure on this basin is spot sprayed annually. Willows will be brushed at the entrance to the basin. Potential area of impact is less than 50 square feet for spot spraying and 500 square feet for brushing. The basin is desilted every 3 to 5 years. Refer to Page 5 for the location of this facility.

5. **C2P2 Basin**: This is a retention basin located in an industrial area. This basin is mowed on an annual basis for fire suppression purposes. The outlet structure is sprayed on an annual basis to eliminate vegetation from blocking the outlet structure. Potential area of impact is 2.5 acres from mowing. Refer to Page 6 for the location of this facility.

6. **Country Hills Basin:** This is a retention basin located in an urban area. This basin is mowed on an annual basis for fire suppression purposes. The inlet structure is sprayed on annual basis to eliminate vegetation from blocking the inlet structure. Potential area of impact is .5 acres from mowing and less than 50 square feet for spot spraying. Refer to Page 25 for the location of this facility.

7. **Deer Field Basin:** This basin is located within the Deer Field Estates taking street drainage. The banks of this basin are mowed on an annual basis for weed and fire control. The V-ditches are spot sprayed on an annual basis. The basin is desilted every 3 to 5 years. Refer to Page 10 for the location of this basin.

8. **Diani Basin:** The banks of this basin are mowed on an annual basis for weed and fire control. The bottom of this basin is spot sprayed on an annual basis. Potential Area of Impact is less than 50 square feet from spot spraying and .25 acres from mowing. Refer to Page 13 for the location of this facility.

9. **Foxenwood Basin #2:** This basin a grassy Park within a subdivision that acts to retard runoff during the winter months but is otherwise a grassy play area. The District maintains the inlet and outlet pipes on a biannual basis by removing any accumulated sediment immediately blocking the pipes. Potential area of impact is 0.5 acres for mowing and less than 10 square feet for spot spraying. Refer to Page 7 for the location of this facility.

10. **Getty Basin:** This is a recharge basin. The upper banks of the basin are sprayed on a biannual basis and the slopes of the basin are disced on a biannual basis to retain the recharge capacity of this facility. Potential Area of Impact is .35 acres from spraying the fence line and 11 acres for discing the basin slopes. Refer to Page 13 for the location of this facility.

11. **Hummel Basin:** This is a retention basin located in an urban area. This basin is mowed on an annual basis for fire suppression purposes. The inlet structure is

sprayed on annual basis to eliminate vegetation from blocking the inlet structure. Potential area of impact is 1.0 acre for mowing and less than 10 square feet for spot spraying. Refer to Page 25 for the location of this facility.

12. **Hobbs Fee Retention Basin:** Weeds in this basin are mowed every year for weed and fire control, and the area immediately adjacent to the inlet structure is sprayed to keep it from becoming blocked by cattails. Potential Area of Impact is .28 acres for mowing and less than 10 square feet for spot spraying. Refer to Page 13 for the location of this facility.

13. **K-Mart Basin:** Weeds in this basin are mowed on an annual basis for fire and weed control. The bottom of the basin is also spot sprayed on an annual basis to eliminate the woody vegetation that may begin to colonize in the basin, and the basin is desilted approximately every 7 years. Potential Area of Impact is .2 acres for mowing and less than 50 square feet for spot spraying. Refer to Page 15 for the location of this facility.

14. **Kovar Basin:** The area immediately surrounding the inlet of this basin is spot sprayed on a biannual basis. Potential area of Impact for spot spraying is less than 100 square feet. Refer to Page 13 for the location of this facility.

15. **Lakeview Basin:** This is a retention basin located in an urban area. This basin is mowed on an annual basis for fire suppression purposes. The outlet structure is sprayed on an annual basis to eliminate vegetation from blocking the outlet structure and downed trees and limbs are removed. Potential area of impact is .5 acres for mowing and less than 10 square feet for spot spraying. Refer to Page 16 for the location of this facility.

16. **Mud Lake Basin 1,2,3:** All three basins are connected together and work as retention basins. On an annual basis, these basins are mowed for weed and fire control. The bottom of Mud Lake Basin 1 is spot sprayed on an annual basis to eliminate the woody vegetation that may begin to colonize the basin. Potential area of impact is 2.5 acres for mowing and less than 100 square feet for spot spray. Refer to Page 24 for the location of this basin.

17. **Oak Knoll Basin:** On an annual basis, this basin is mowed for weed and fire control. The bottom of the basin is also spot sprayed on an annual basis to eliminate the woody vegetation that may begin to colonize the basin. Potential Area of Impact is .28 acres for mowing and less than 50 square feet for spot spraying. Refer to Page 24 for the location of this facility.

18. **Orcutt-Solomon Basin (also known as California Street Basin):** This is a sediment basin that is desilted approximately every two years. The banks of the basin are mowed on an annual basis for fire and weed control. Potential Area of Impact is 1.8 acres for mowing. See Page 27 for the location of this facility.

19. **Prell Street Basin:** The banks of this basin are mowed on an annual basis for weed and fire control. The bottom of the basin is maintained vegetation free with annual spot spray. The basin is desilted approximately every 7 years. Potential Area of Impact is .23 acres for mowing and less than 50 square feet for spot spraying. Refer to Page 30 for the location of this facility.

20. **Quail Meadows Basin:** This Basin is a retention basin located in an urban area and is mowed on an annual basis for fire suppression purposes. The inlet structure is sprayed on an annual basis to eliminate vegetation from blocking the inlet. Potential area of impact is .2 acres for mowing and less than 10 square feet for spot spraying. Refer to Page 16 for the location of this facility.

21. **Simas Park Basin:** This is a retention basin located in an urban area. The bottom of the basin is maintained vegetation free with annual spot spray. The basin is desilted annually, removing debris trapping sediment from the outlet structure. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 33 for the location of this facility.

22. **Tanglewood Basin:** The ditch running through the middle of the basin is spot sprayed on a 1-2 year basis and the basin is desilted approximately every 3-5 years. Potential Area of Impact is less than 50 square feet for spot spraying. See Page 35 for the location of this facility.

23. **Union Valley Parkway Basin:** This is a retention basin located in an urban area. This basin is mowed on an annual basis for fire suppression purposes. The inlet structure is sprayed on an annual basis to eliminate vegetation from blocking the inlet. Potential area of impact is .1 acres for mowing and less than 10 square feet for spot spraying. Refer to Page 25 for the location of this facility.

24. **Village Hills Basin:** This is a retention basin located in an urban area. The basin is mowed on an annual basis for fire suppression purposes. The inlet structure is sprayed on an annual basis to eliminate vegetation from blocking the inlet. Potential area of impact is .1 acres for mowing and less than 10 square feet for spot spraying. Refer to Page 25 for the location of this facility.

25. **Woodmeyer Basin:** The inlet and outlet structures are desilted every 3-5 years removing unwanted sediment and vegetation.

Los Alamos:

Ditches:

1. **Los Alamos Eastside Ditch:** This is a 200’ long grassy swale and is mowed annually. Potential Area of Impact is 1.5 acres from mowing the ditch. Refer to Page 18 for the location of this facility.

Santa Ynez/Lompoc:

Ditches

1. **Airey-Skytt Channel:** This is a half concrete/half earthen channel. The earthen channel is spot sprayed annually to reduce silt trapping vegetation. Potential Area of Impact is less than 50 square feet for spot spraying. Refer to Page 2 for the location of this facility.

2. **Amby Ditch:** This is an earthen ditch approximately 900 feet long and the District spot sprays the channel bottom on an annual basis. Portions of the channel are desilted approximately every 3-5 years. Potential Area of Impact is less than 50 square feet for spot spraying. Refer to Page 3 for the location of this facility.

3. **Calvert Ditch:** This earthern ditch runs parallel to Lompoc-Casmalia Road for approximately 1000 feet and then turns to the south and flows through cultivated fields to the Santa Ynez River, a total distance of 2,240 feet. The District spot sprays the invert and mows the banks on an annual basis for weed and fire control. Potential Area of Impact is less than 100 square feet for spot spraying and .7 acres for mowing. Refer to Page 20 for the location of this facility.

4. **Cebada Canyon Channel:** This is a concrete channel approximately 1 mile long that has portions of the length desilted on an annual basis. The portions of the channel that are not desilted are spot sprayed on an annual basis Potential Area of Impact is less than 100 square feet for spot spraying. Refer to Page 8 for the location of this facility.

5. **Hoag-Santa Rita Ditch:** This is an earthen ditch, approximately .75 miles long, containing 4 concrete check structures. The District only maintains the check structures which is needed on a very infrequent basis. Maintenance, when needed, is usually fixing erosion along the edges of the structure. Refer to Page 8 for the location of this facility.

6. **Lilley-Hayes Ditch:** This is an earthen road-side ditch approximately 4,400 feet long that is a tributary to Cebada Channel. The District spot sprays the channel and mows the banks on an annual basis for weed and fire control. Potential Area of Impact is less than 50 square feet for spot spraying and 1.0 acre for mowing. Refer to Page 8 for the location of this facility.

7. **Miguelito Channel:** This is a concrete channel that runs through the City of Lompoc and is a tributary to the Santa Ynez River. The lower 500 feet of the channel is earthen and is spot sprayed on an annual basis to remove obstructive vegetation clumps so they don't block the channel. Garbage and other debris are periodically removed from the concrete channel with a loader on an as needed basis, sometimes several times a year. Potential Area of Impact is less than 100 square feet for spot spraying. Refer to Page 21 for the location of this facility.

8. **Mission Hills Channel:** This is an earthen channel that runs through the Mission Hills Subdivision and is approximately 1.6 miles. The District maintains 4 check structure on a very occasional basis. Maintenance of the check structure occasionally includes erosion repair around the structure, but this is not proposed this year. The District also mows the access road for weed and fire control on an annual basis and occasionally spot sprays the invert if it begins to become colonized with vegetation. Potential Area of Impact is 1.5 acres for mowing the access road along the top of the channel and less than 100 square feet for spot spraying. Refer to Page 22 for the location of this facility.

9. **Rodeo Channel:** This is a concrete channel, approximately 2,100 feet long, that runs into Rodeo-San Pasqual Basin. On a biannual basis, small deposits of sediment are removed from the channel with a loader so sediment does not accumulate. Weep holes and cracks in the concrete lined section are spot sprayed with herbicide on an annual basis so the cracks don't get larger from the weeds growing in them and the weep holes remain functional. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 31 for the location of this facility.

10. **Rodeo-San Pasqual Channel:** This is a concrete channel, approximately 2.73 miles long, that runs across the Lower Lompoc Valley and is a tributary to the Santa Ynez River. On an annual basis, small deposits of sediment are removed from the channel with a loader so sediment does not accumulate. Potential Area of impact is 6 acres from driving the loader down the concrete channel. Refer to Page 31 for the location of this facility.

11. **San Pasqual Channel:** This is a concrete channel, approximately 3,500 feet long that runs into Rodeo-San Pasqual Basin. On an annual basis, small deposits of sediment are removed from the channel with a loader so sediment does not accumulate. Weep holes and cracks in the concrete lined section are spot sprayed with herbicide on an annual basin so the cracks don't get large from weeks growing in them, and weep holes remain functional. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 31 for the location of this facility.

12. **Thumbelina Ditch:** This is a concrete channel approximately 650 feet long with a short (120 feet) earthen channel portion. The concrete lined channel requires desilting approximately every 5-7 years and the earthen channel is occasionally spot sprayed, and access roads mowed on an annual basis. Potential Area of Impact is less than 50 square feet for spot spraying. Refer to Page 36 for the location of this facility.

13. **Willemsen Ranch Channel:** This is an earthen ditch 720 feet long beginning just downstream of Park Circle in Santa Ynez. This ditch is spot sprayed annually to keep sediment from accumulating or obstructive vegetation from colonizing the channel. The ditch is desilted approximately every 7-10 years. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 37 for the location of this basin.

Basins:

1. **Buellton Basins 1 & 2:** The banks of these basins are mowed on an annual basis for weed and fire control and the basins are desilted approximately every 3-5 years. The basins are spot sprayed annually to remove unwanted vegetation from the invert of the basin. Potential Area of Impact is 2 acres for mowing and less than 100 square feet for spot spraying. Refer to Page 3 for the location of these basins.

2. **Cemetery Debris Basin:** This basin is mowed on an annual basis and spot sprayed occasionally to remove woody vegetation if it becomes established.

Potential Area of Impact is .04 acres for mowing and less than 50 square feet for spot spraying. Refer to Page 23 for the location of this facility.

3. **Fault Canyon Basin:** Weeds and grasses are mowed on an annual basis in the basin and the basin is desilted every 7-10 years and spot sprayed annually to remove woody vegetation if it becomes established. Potential Area of Impact is .04 acres for mowing and less than 50 square feet for spot spraying. Refer to Page 23 for the location of this facility.

4. **Mesa Oaks Basin:** This basin is located within the Mesa Oaks Subdivision receiving urban runoff. On an annual basis, this basin is mowed for weed and fire control. The bottom of the basin is also spot sprayed on an annual basis to eliminate the woody vegetation that may begin to colonize the basin. Potential area of impact is .4 acres for mowing and less than 100 square feet for spot spraying. Refer to Page 20 for the location of this basin

5. **Miguelito Basin:** The edge of the basin is spot sprayed on a biannual basis so it doesn't become colonized with bulrush. The basin is desilted approximately every 5-10 years. Potential area of impact is less than 100 square feet for spot spraying. Refer to Page 21 for the location of this facility.

6. **Mission Hills Basin:** Mustard and poison hemlock are mowed annually within the basin for weed and fire control. Potential Area of Impact is 1.5 acres for mowing. Refer to Page 22 for the location of this facility.

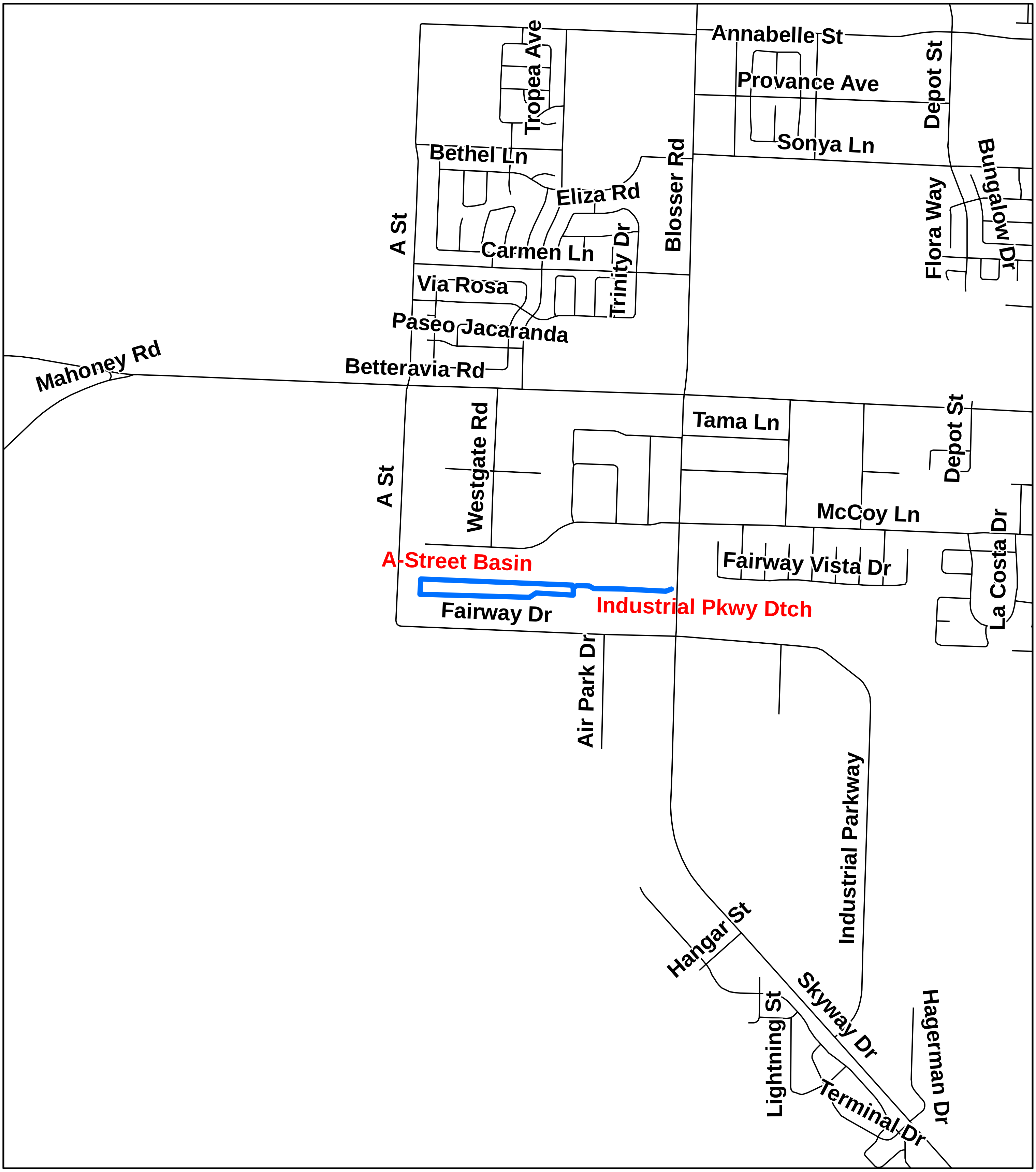
7. **Mormon Canyon Basin:** Weeds and grasses are mowed on an annual basis in the basin and the basin is desilted every 7-10 years. Potential Area of Impact is .04 acres for mowing. Refer to Page 23 for the location of this facility.

8. **R Street Basin:** Mustard and poison hemlock are mowed annually within the basin for weed and fire control. The basin is also spot sprayed every other year if woody vegetation begins to colonize the basin. Potential Area of Impact is .04 acres for mowing. Refer to Page 21 for the location of this facility.

9. **Rudolph Basin:** This basin is very occasionally mowed to control weeds. Potential Area of Impact is .04 acres for mowing. Refer to Page 23 for the location of this basin.

10. **Cherry Ave. Basin:** The inlet structure is desilted every 3-5 years removing unwanted sediment and vegetation.

11. **Hubble Basin:** This basin is annually mowed to control weeds. Potential Area of Impact is 0.5 acres for mowing. Refer to Page 23 for the location of this basin.



Department of Public Works County of Santa Barbara

A-Street Basin
Industrial Parkway Ditch

N
W E
S

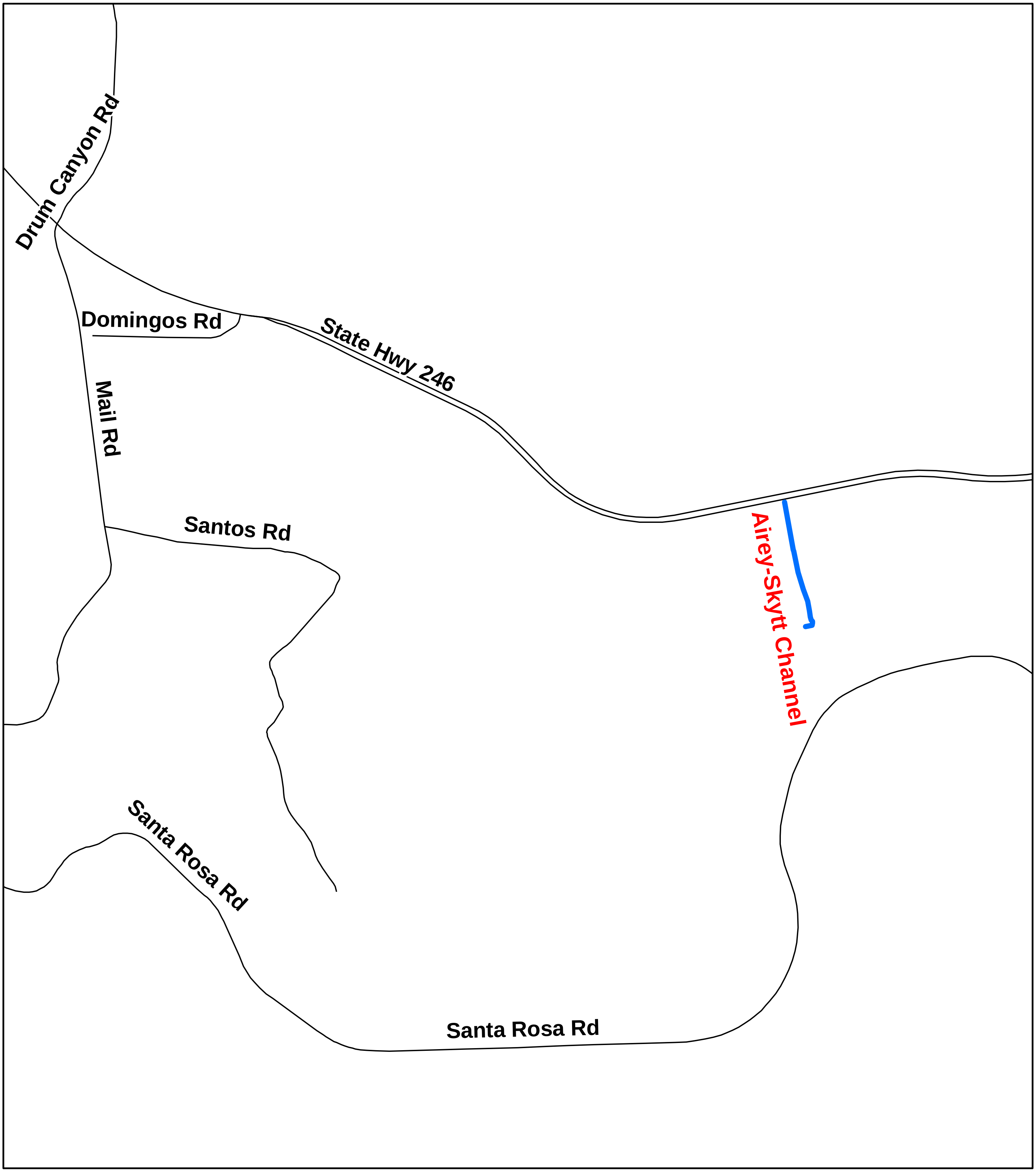
Feet
1,250 625 0 1,250

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
The Santa Barbara County Flood Control and Water Conservation District
Compiled by the Public Works Enterprise GIS in April 2011.



Department
of
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County
of
Santa Barbara

Airey-Skytt Channel

PUBLIC WORKS
ENTERPRISE GIS

N
W E
S

Feet

1,900 950 0 1,900

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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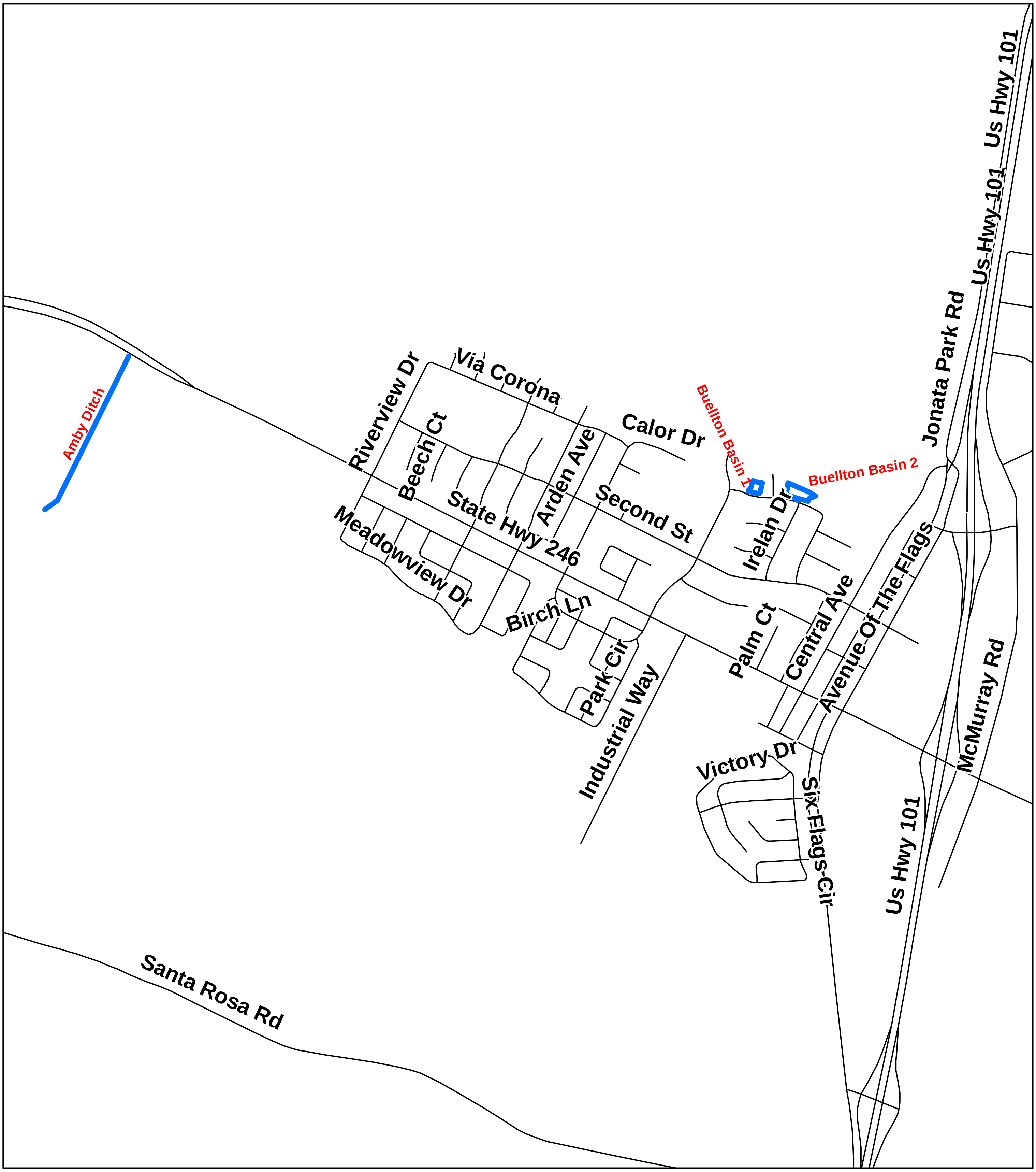

Department
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Amby Ditch
Buellton Basins 1&2

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N
W E
S
Feet
1,100 550 0 1,100

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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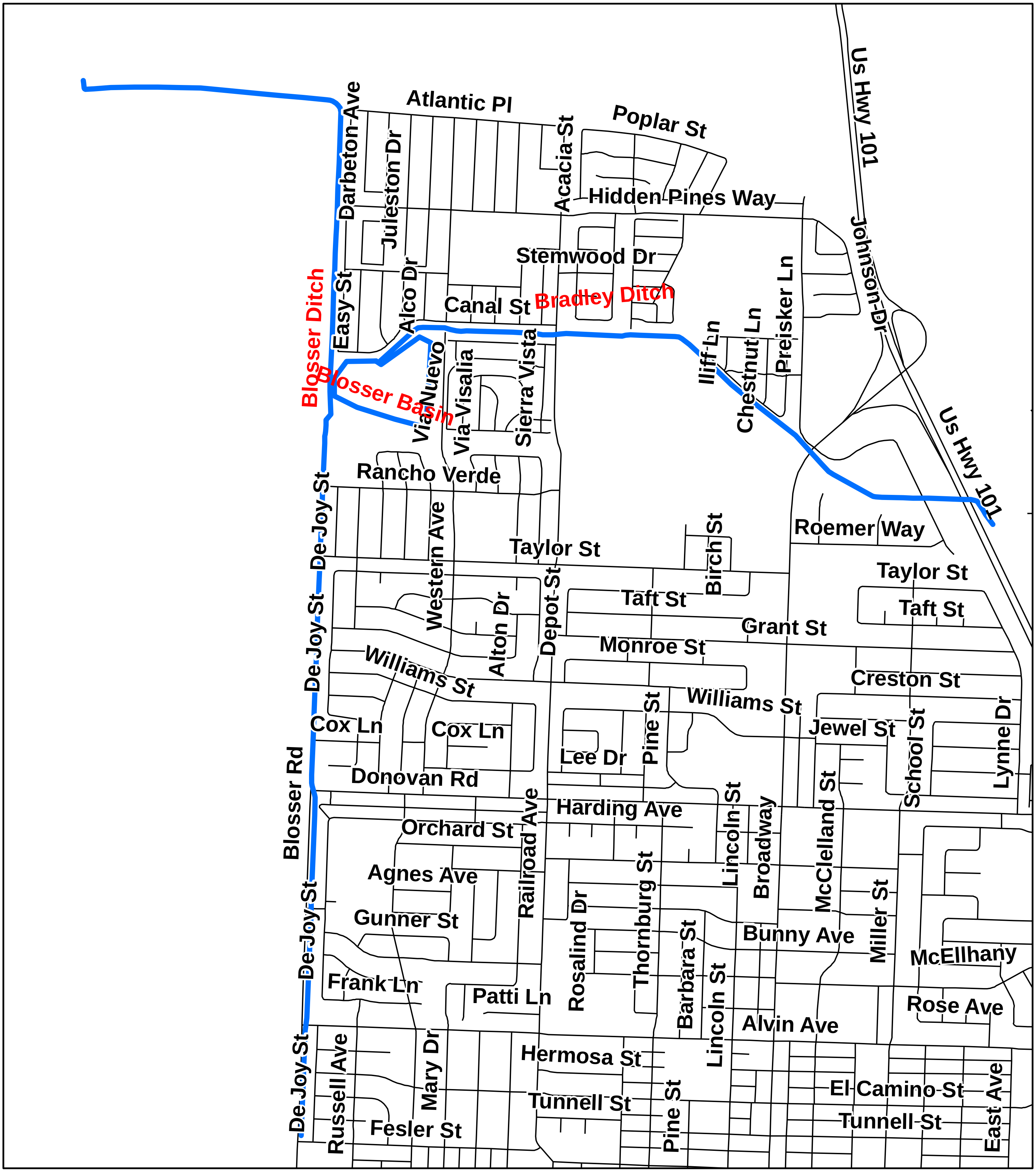

Department of Public Works County of Santa Barbara

Blosser Basin
Blosser Ditch

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N W E S

Feet: 1,250 625 0 1,250

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
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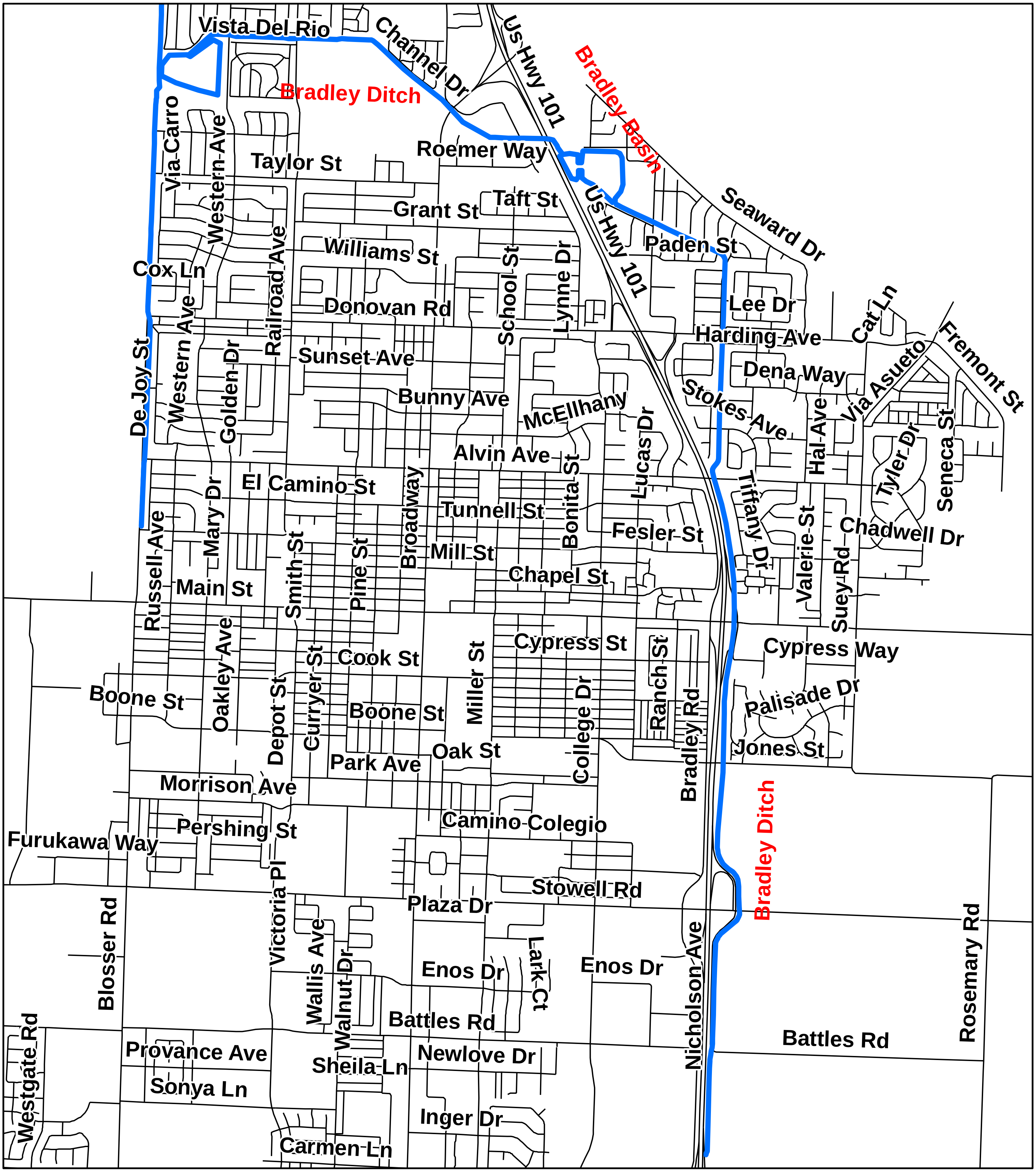

Department of Public Works County of Santa Barbara

Bradley Ditch
Bradley Basin

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Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
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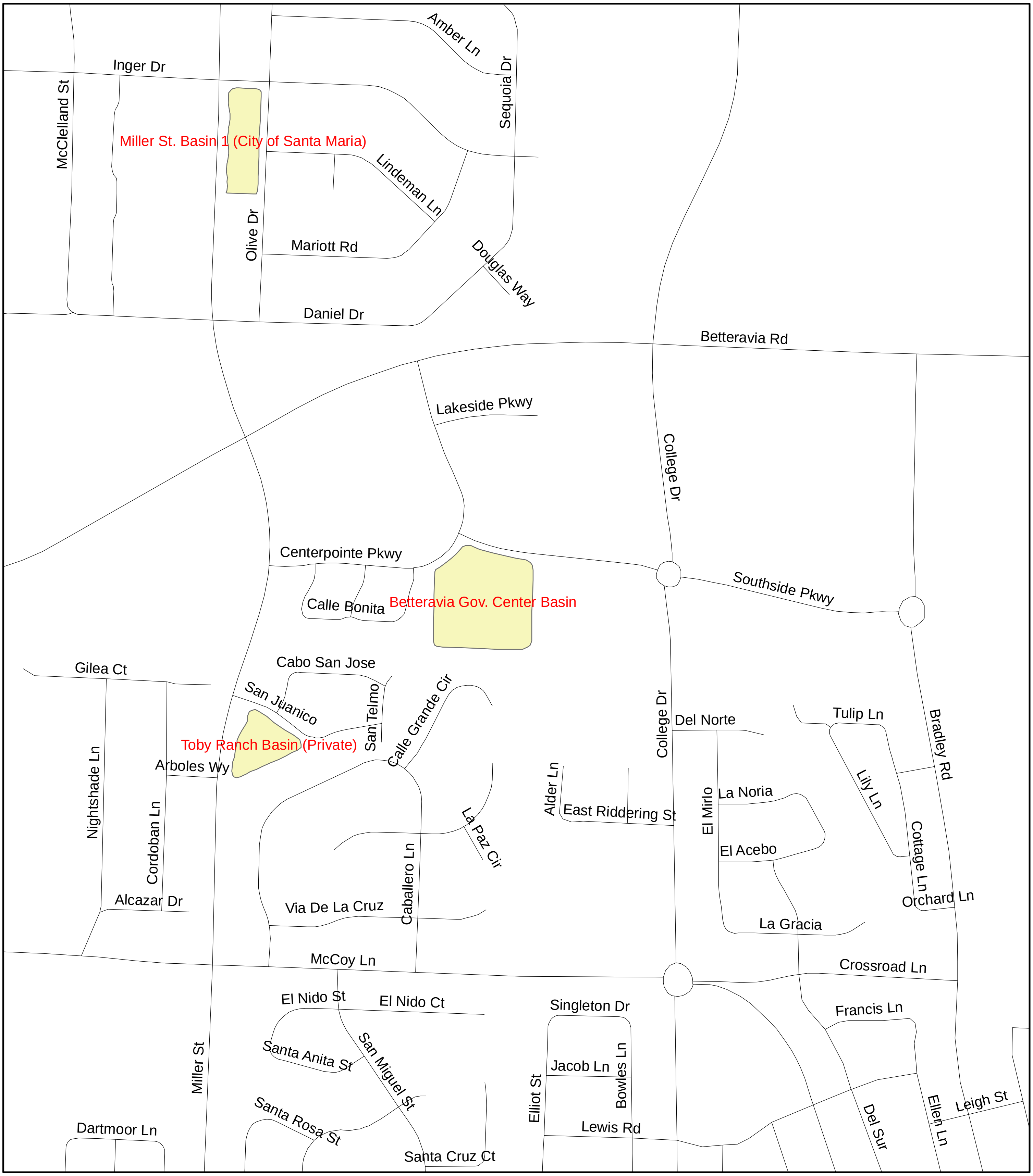

Department of Public Works County of Santa Barbara

C2P2 Basin (Betteravia Gov. Center Basin)

N W E S

Feet

430 215 0 430

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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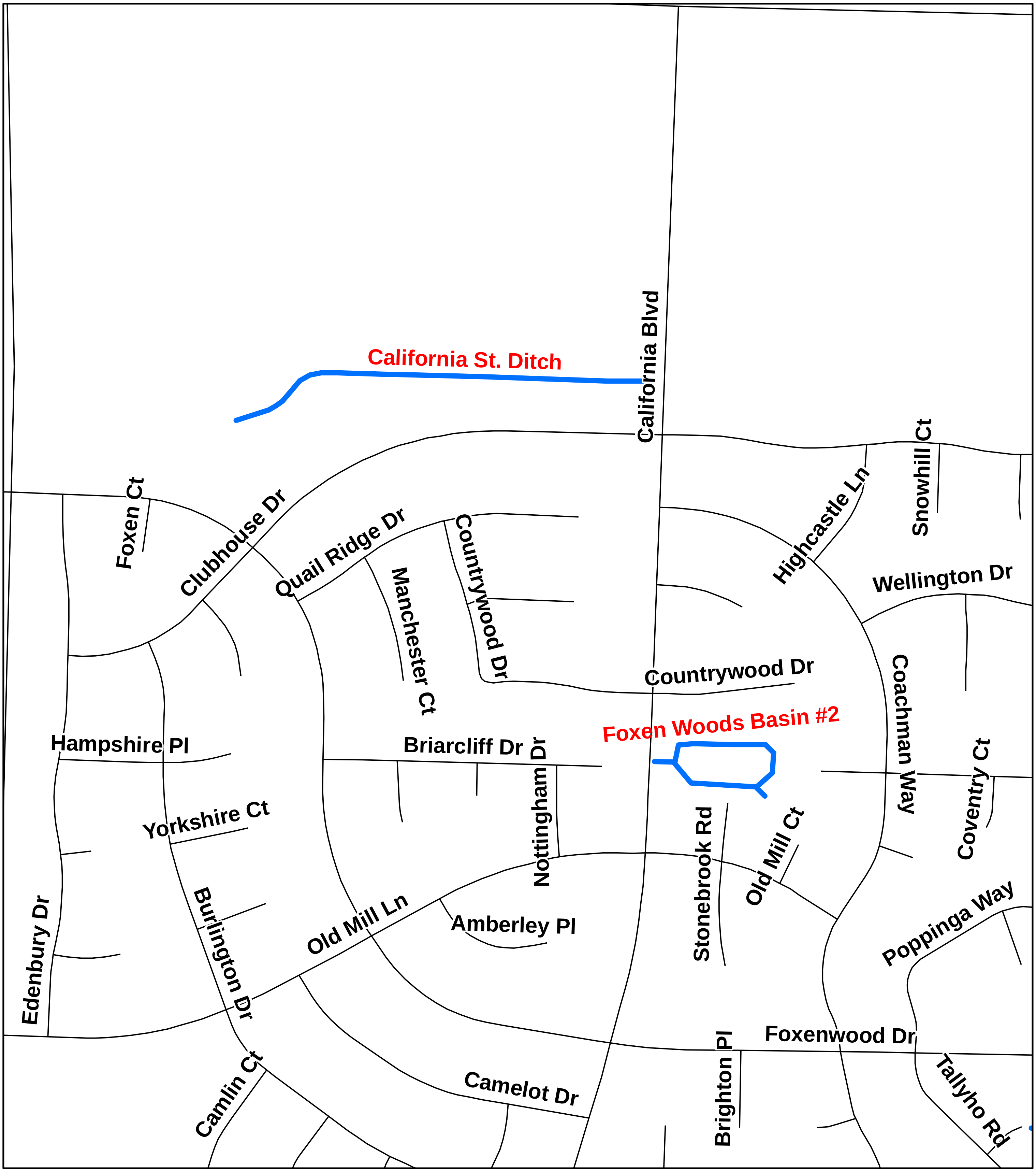

Department of Public Works County of Santa Barbara

California St. Ditch
Foxen Woods Basin #2

Page 7

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N W E S
Feet
425 212.5 0 425

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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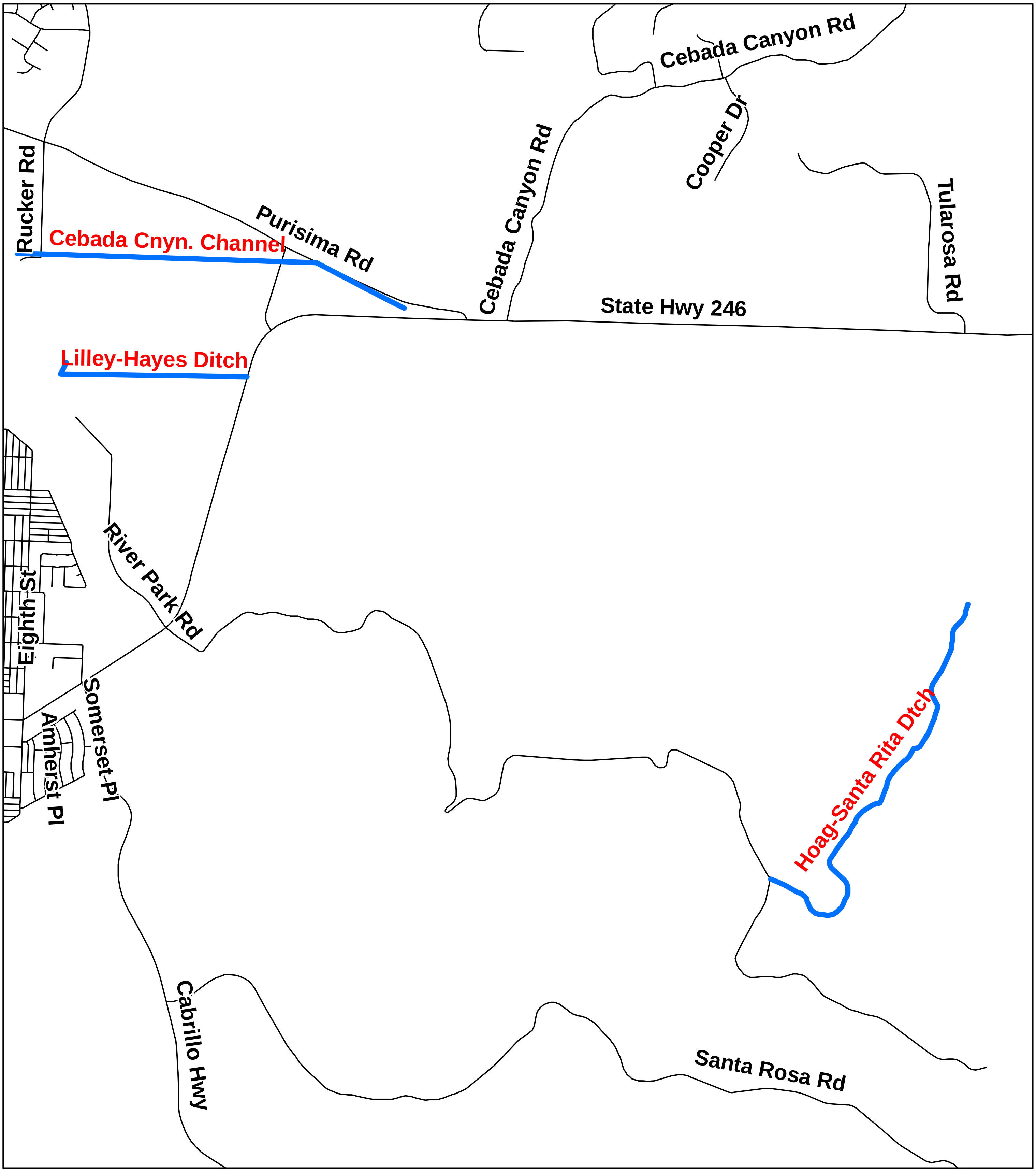

Department of Public Works County of Santa Barbara

Cebada Canyon Channel
Lilley-Hayes Ditch
Hoag-Santa Rita Ditch

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N W E S

Feet

2,500 1,250 0 2,500

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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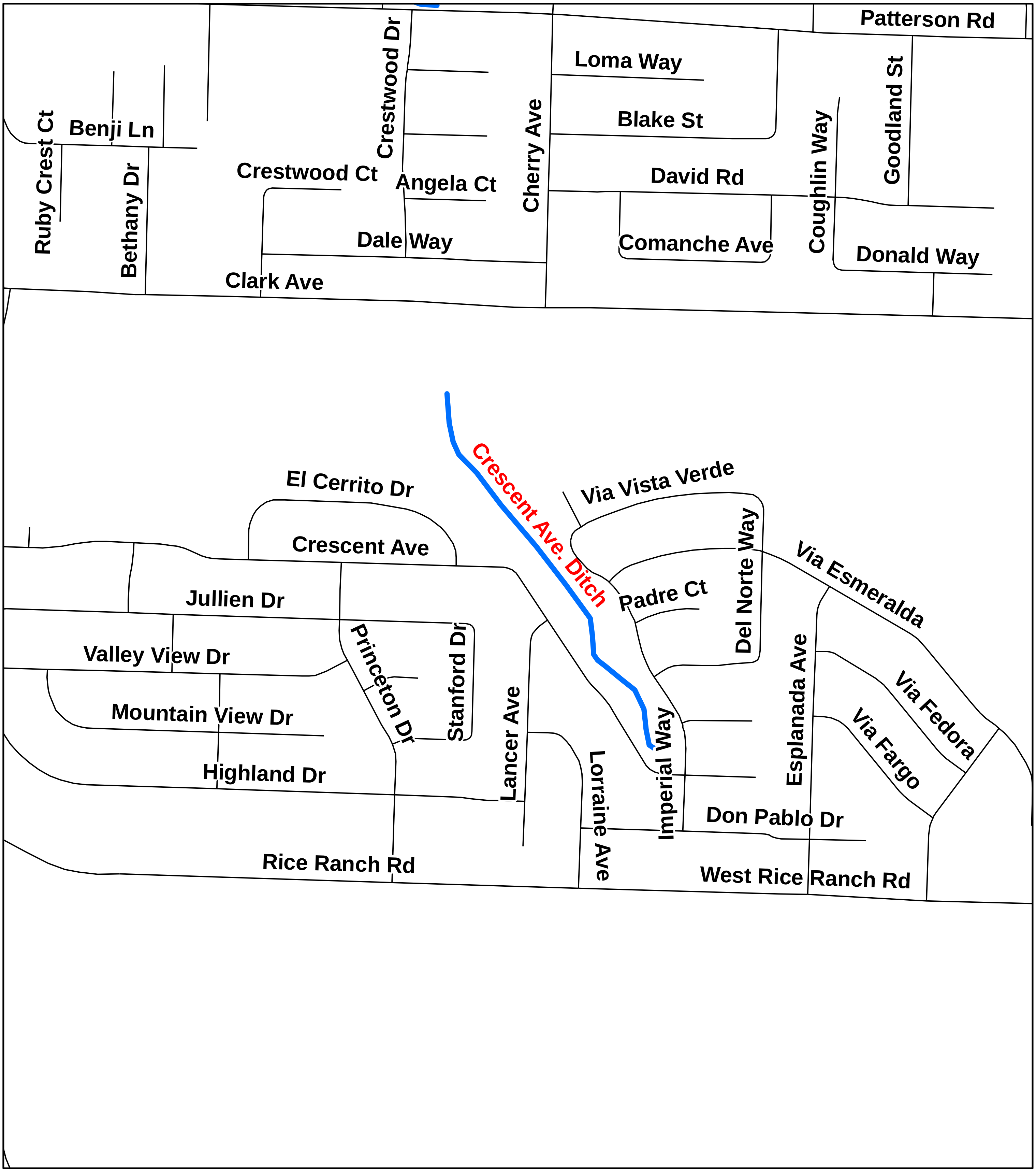

Department of Public Works County of Santa Barbara

Crescent Avenue Ditch

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N W E S

Feet

510 255 0 510

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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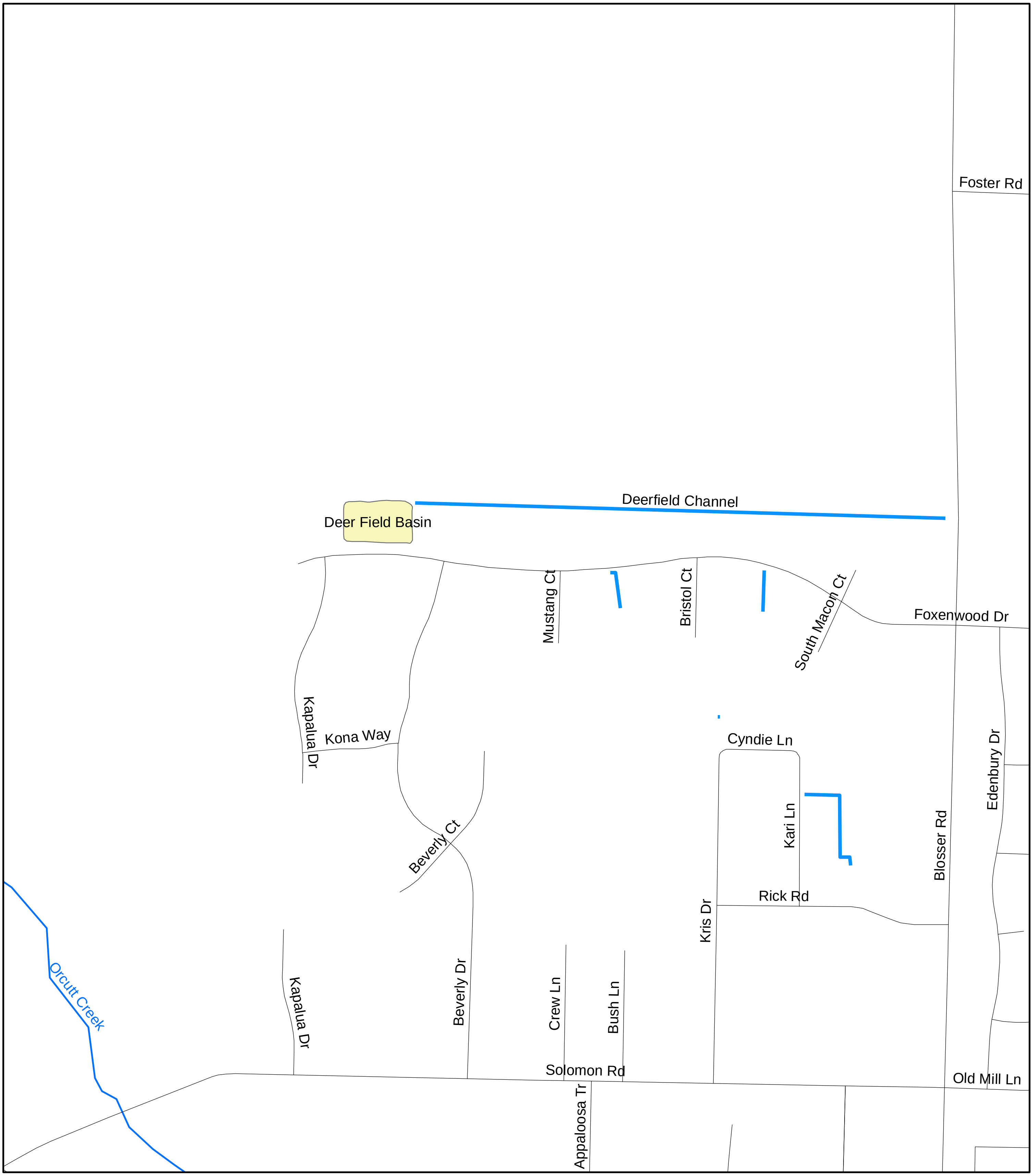

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Deerfield Channel
Deerfield Basin

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N
W E
S
Feet
490 245 0 490

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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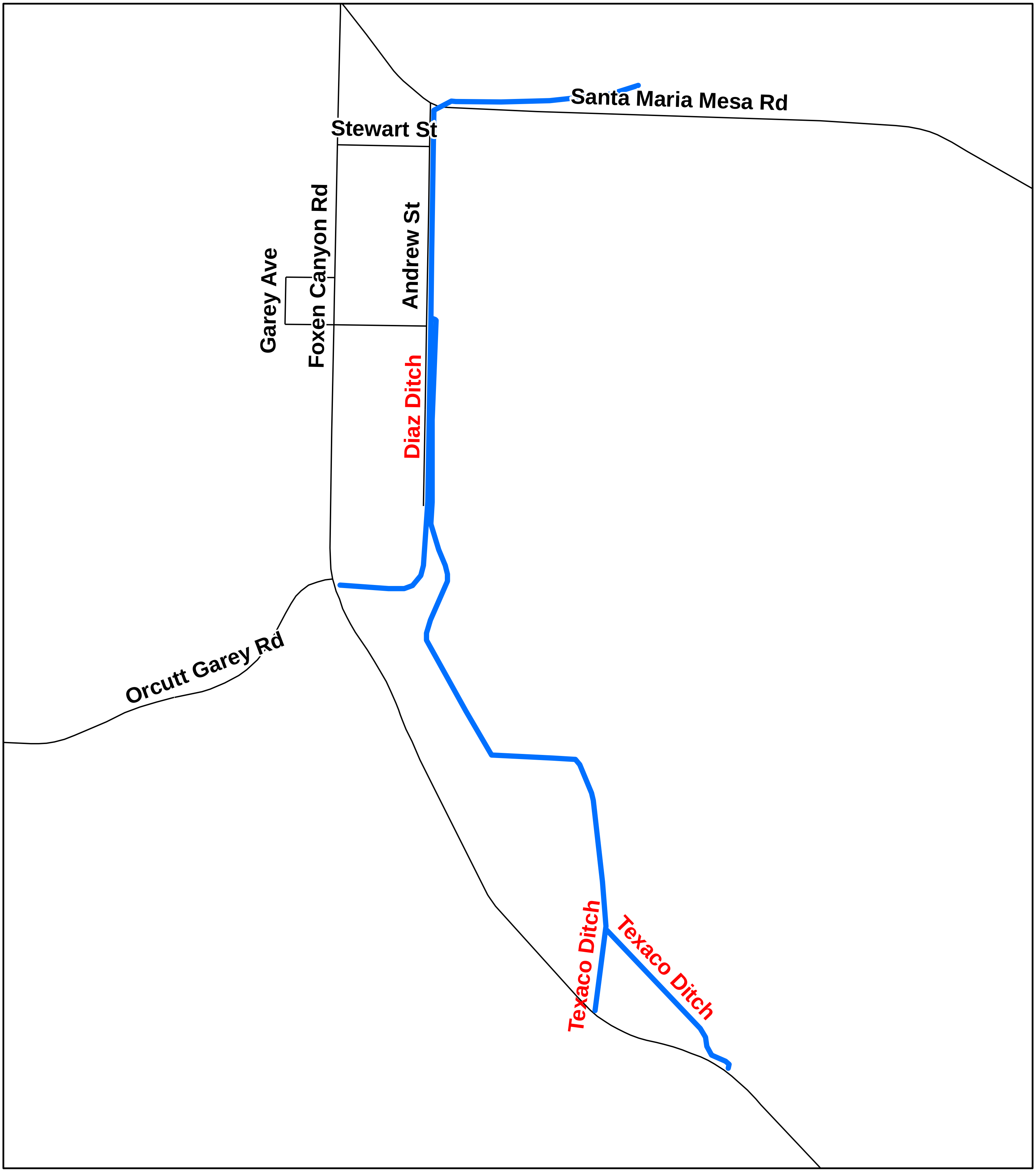

Department of Public Works County of Santa Barbara

Diaz Ditch
Texaco Ditch

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N W E S

Feet

870 435 0 870

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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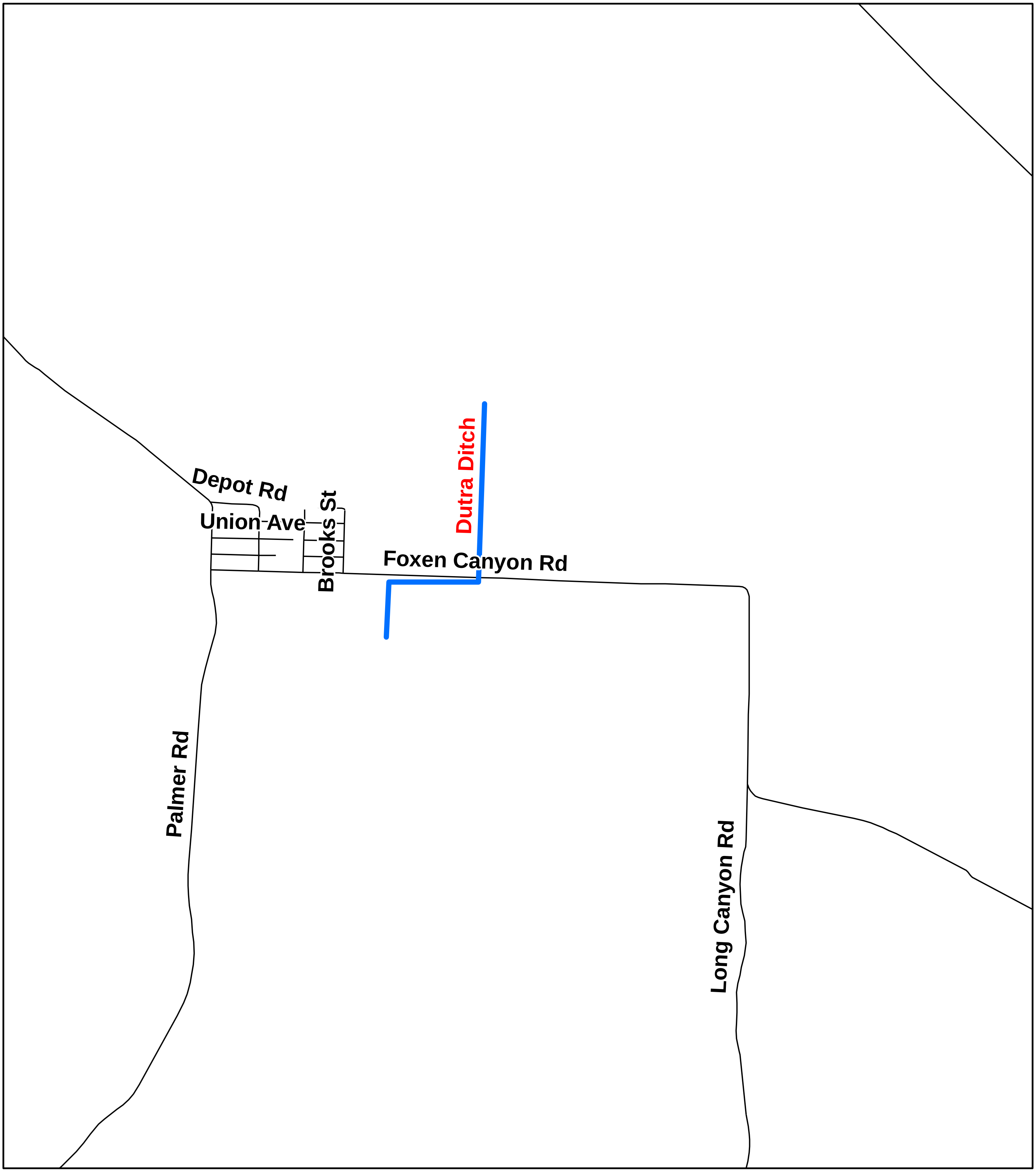

Department
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Dutra Ditch

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N
W E
S
Feet
1,100 550 0 1,100

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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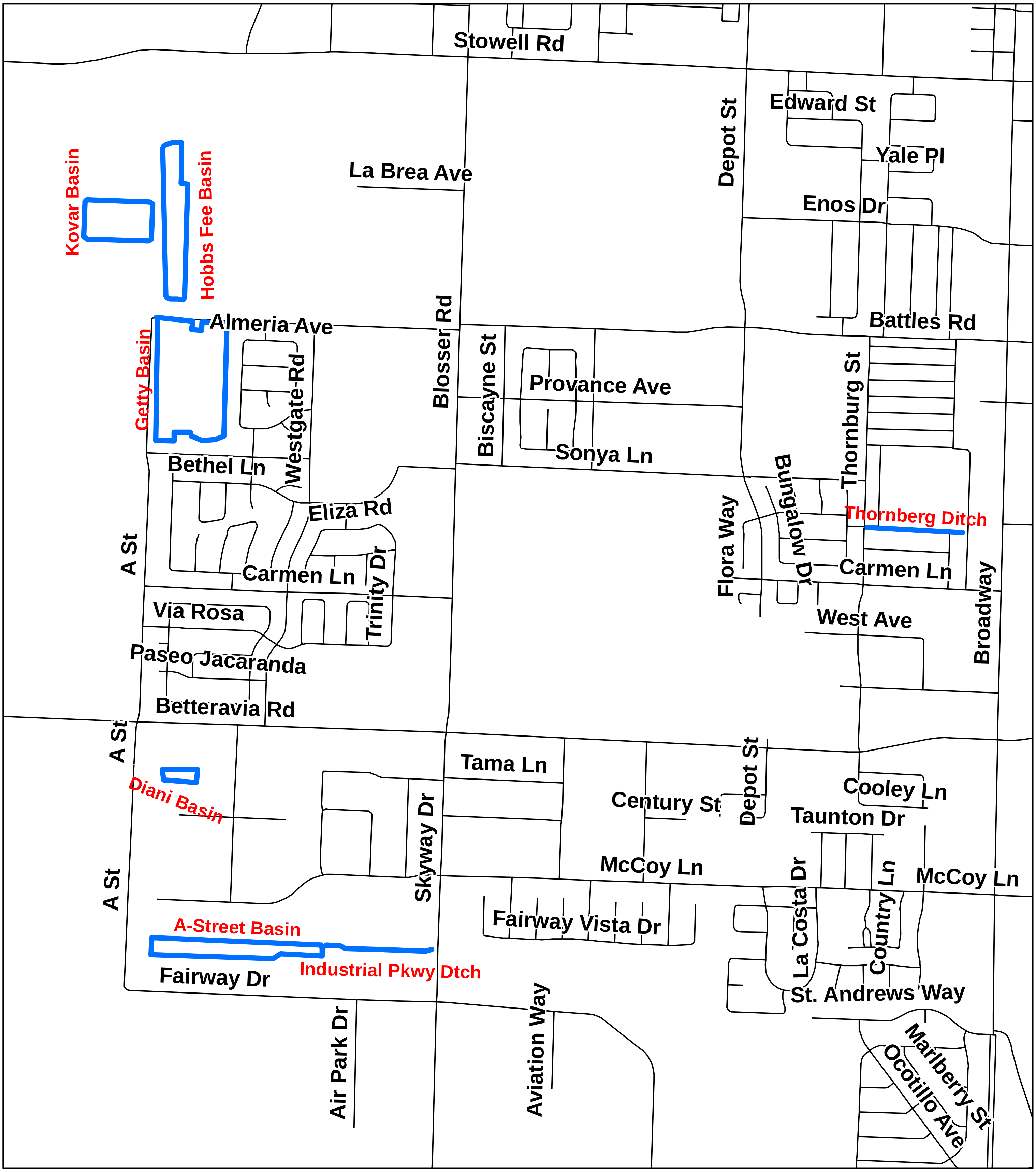

Department of Public Works County of Santa Barbara

Getty Basin
Hobbs Fee Retention Basin
Kovar Basin
Thornberg Ditch
A-Street Basin
Industrial Parkway Ditch
Diani Basin

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N
W E
S
Feet
1,100 550 0 1,100

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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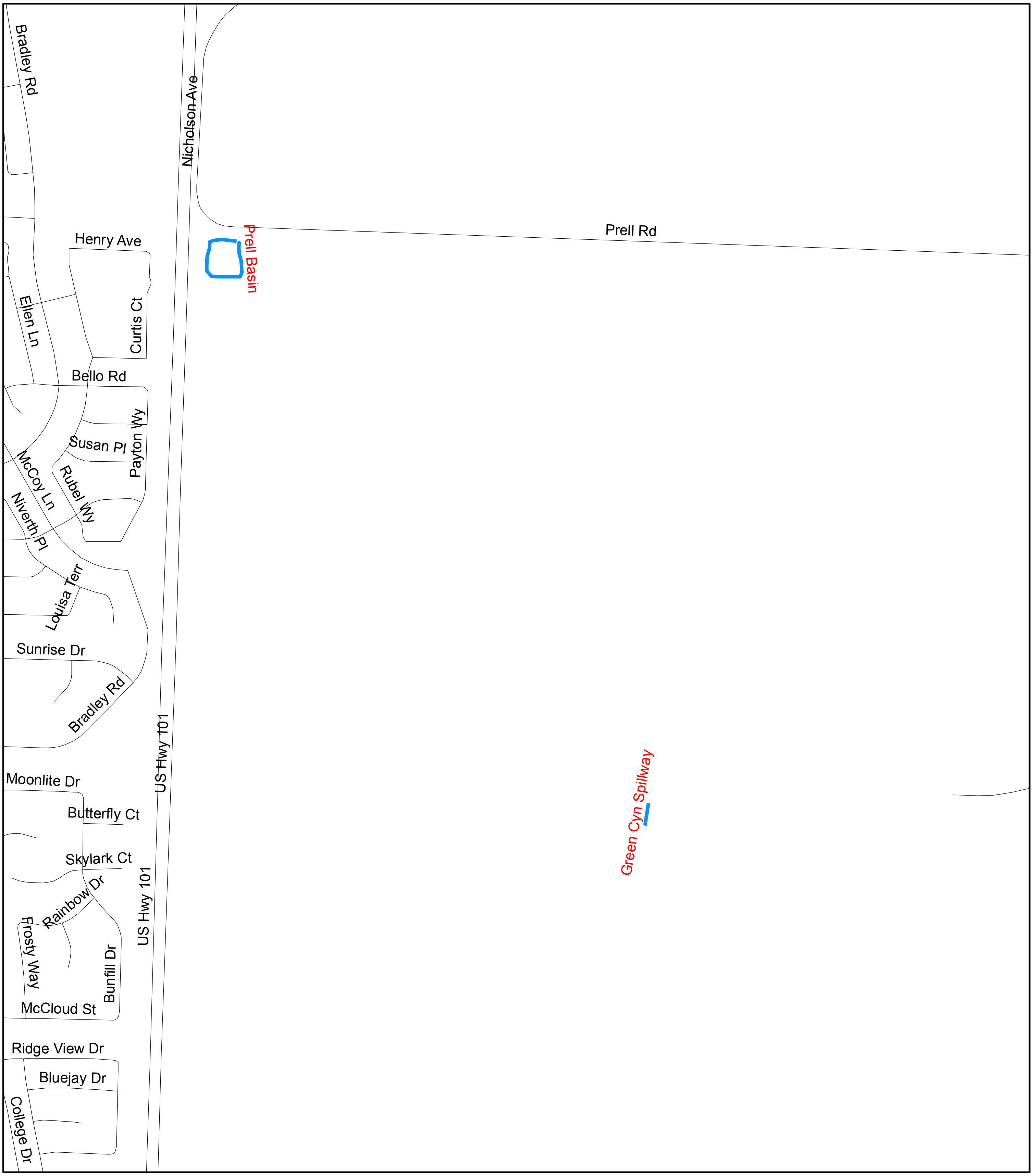

Department of Public Works County of Santa Barbara

Green Canyon Spillway

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N W E S

Feet

790 395 0 790

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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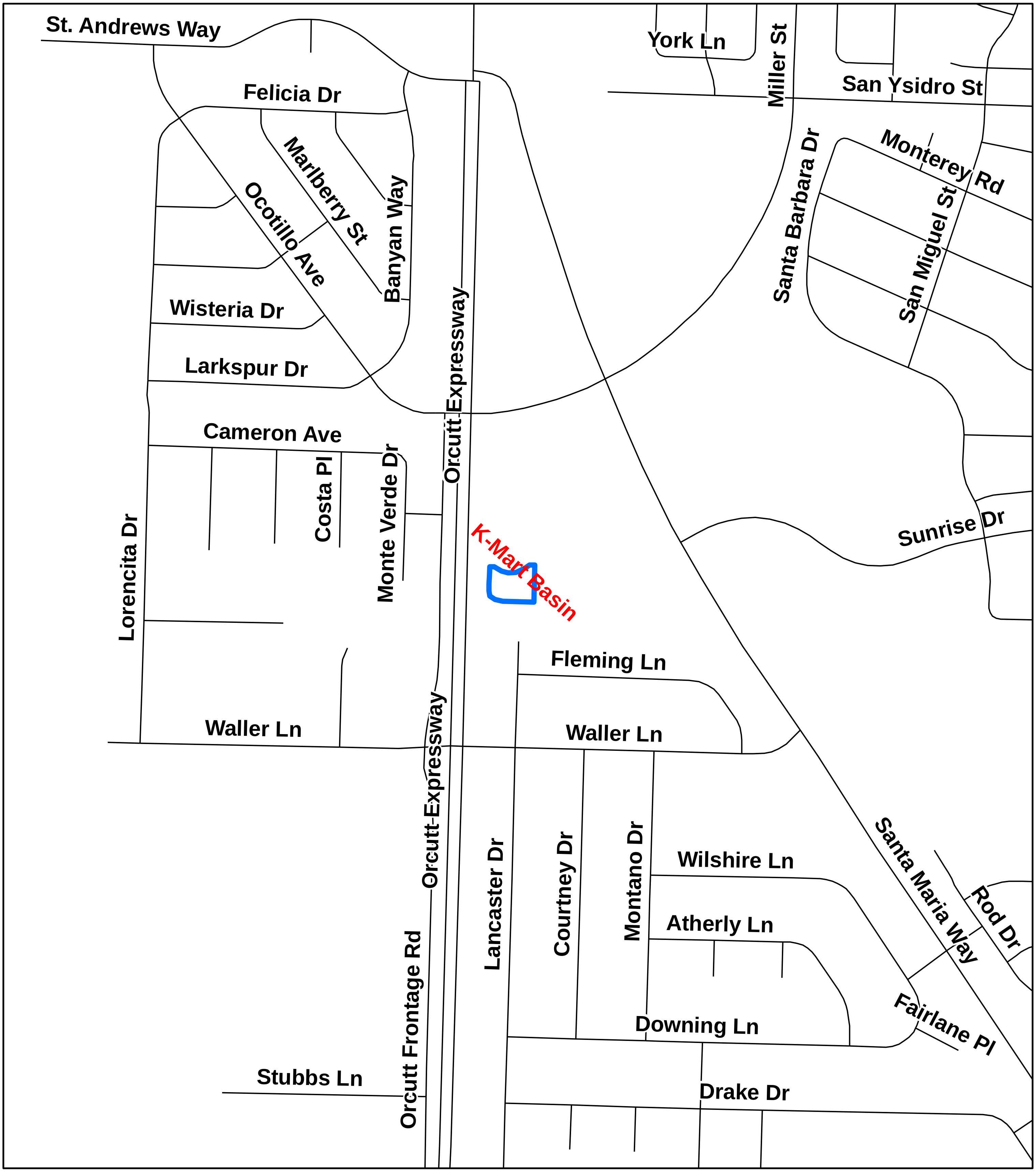

Department of Public Works County of Santa Barbara

K-Mart Basin

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N W E S

Feet

460 230 0 460

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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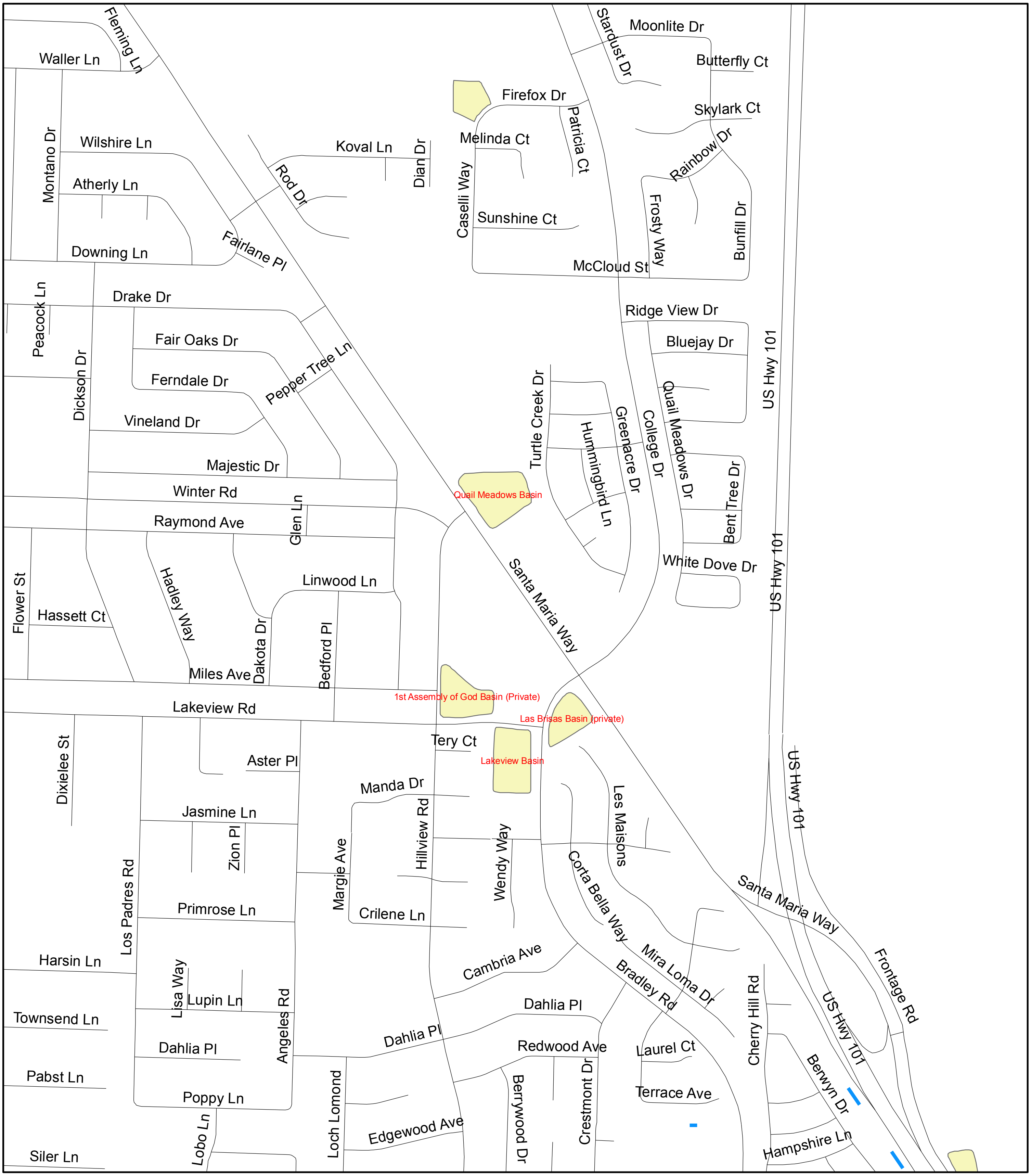

Department of Public Works County of Santa Barbara

Lakeview Basin
Quail Meadows Basin

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N W E S

Feet
650 325 0 650

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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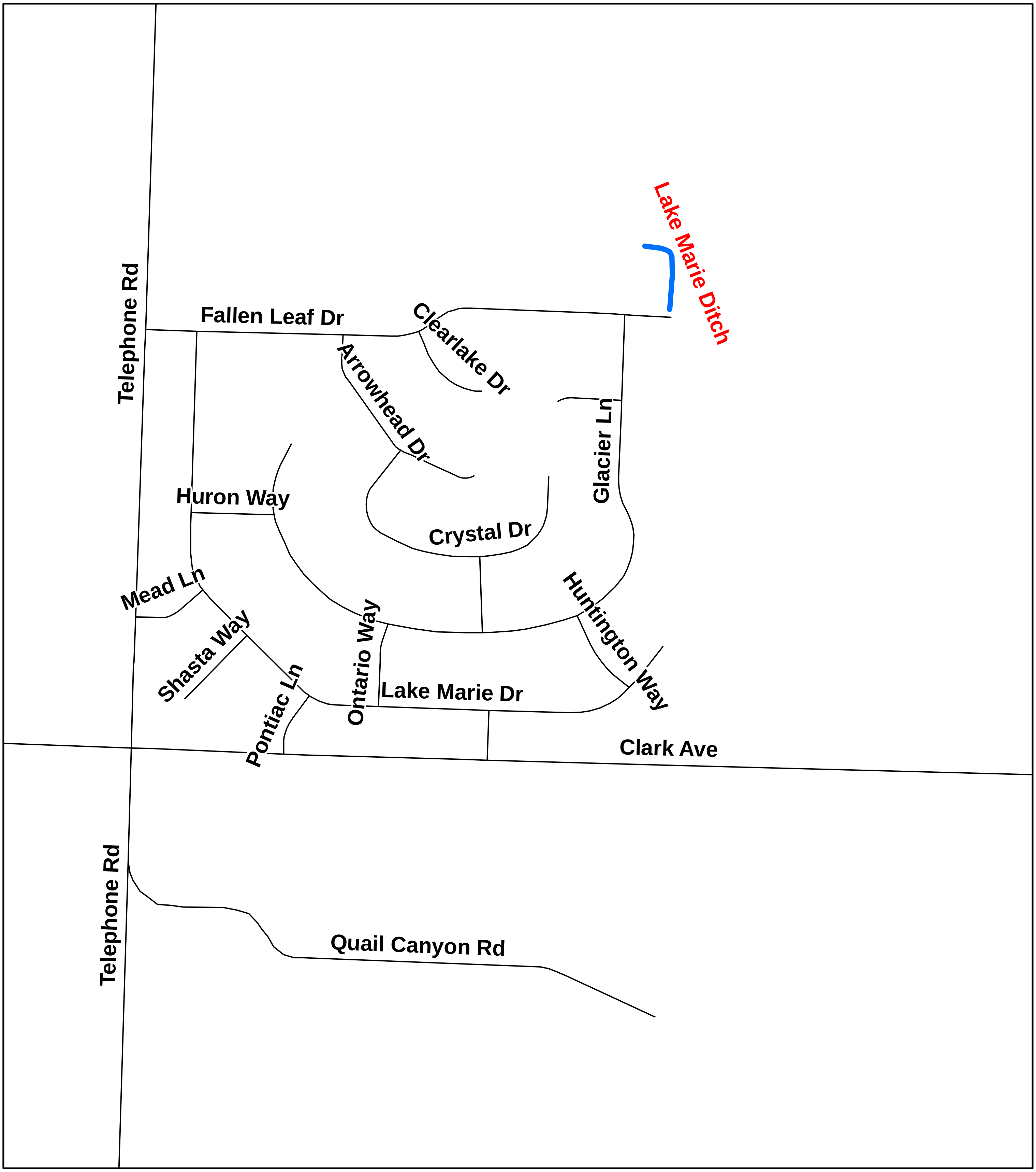

Department of Public Works County of Santa Barbara

Lake Marie Ditch

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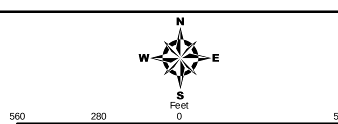

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
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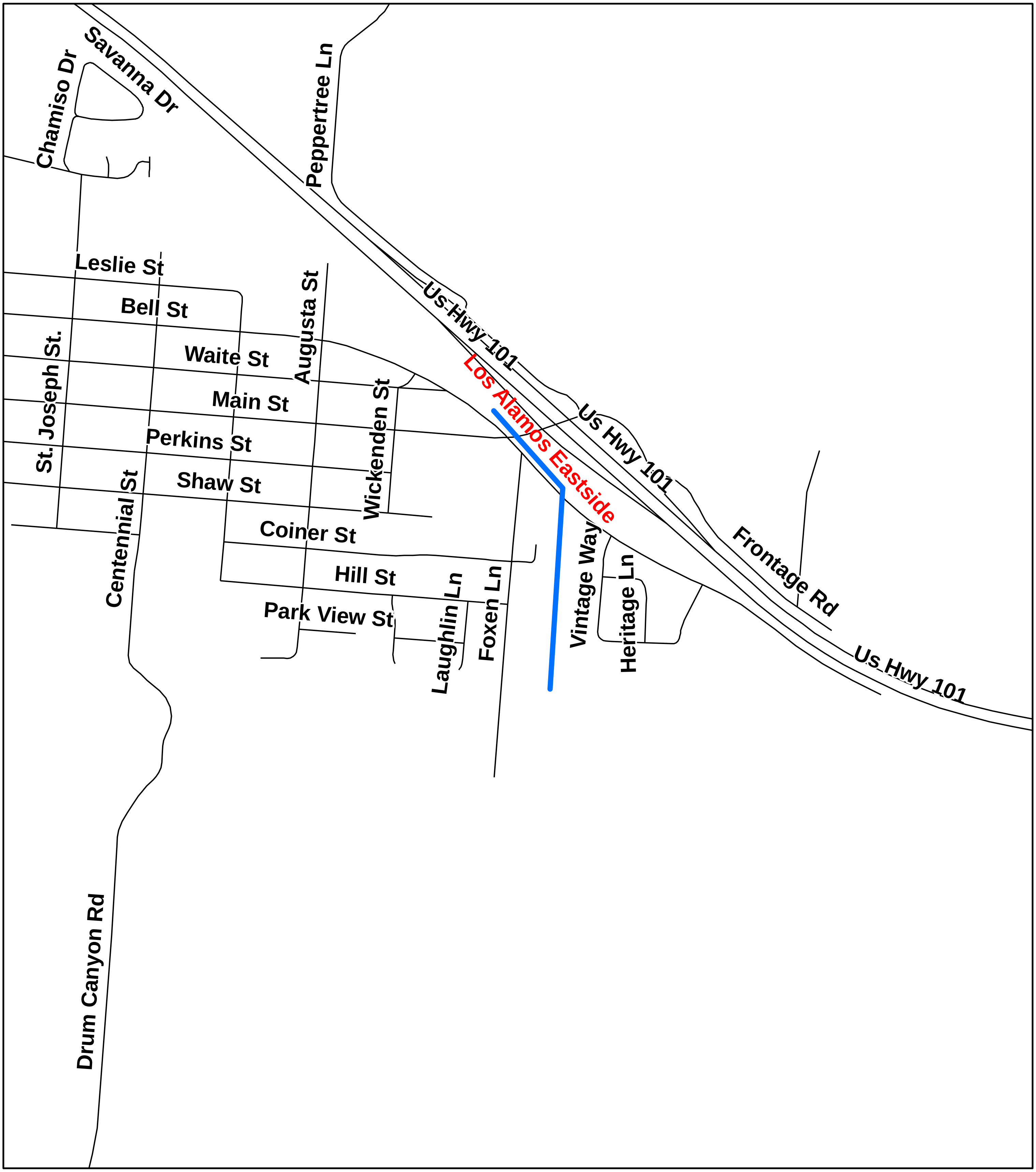

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Los Alamos Eastside Ditch

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N
W E
S
Feet
725 362.5 0 725

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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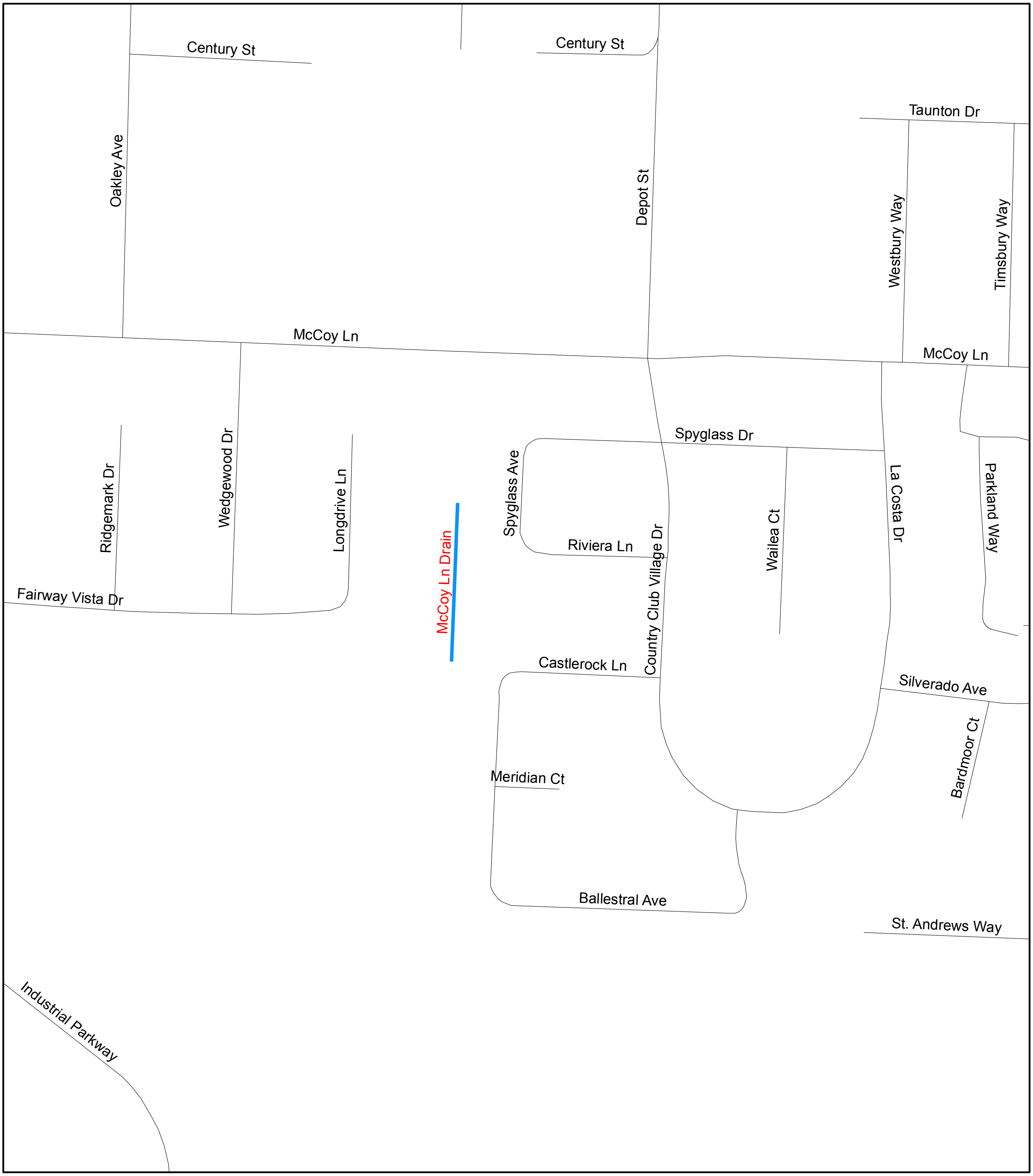

Department of Public Works County of Santa Barbara

McCoy Lane Drain

Feet 275 137.5 0 275

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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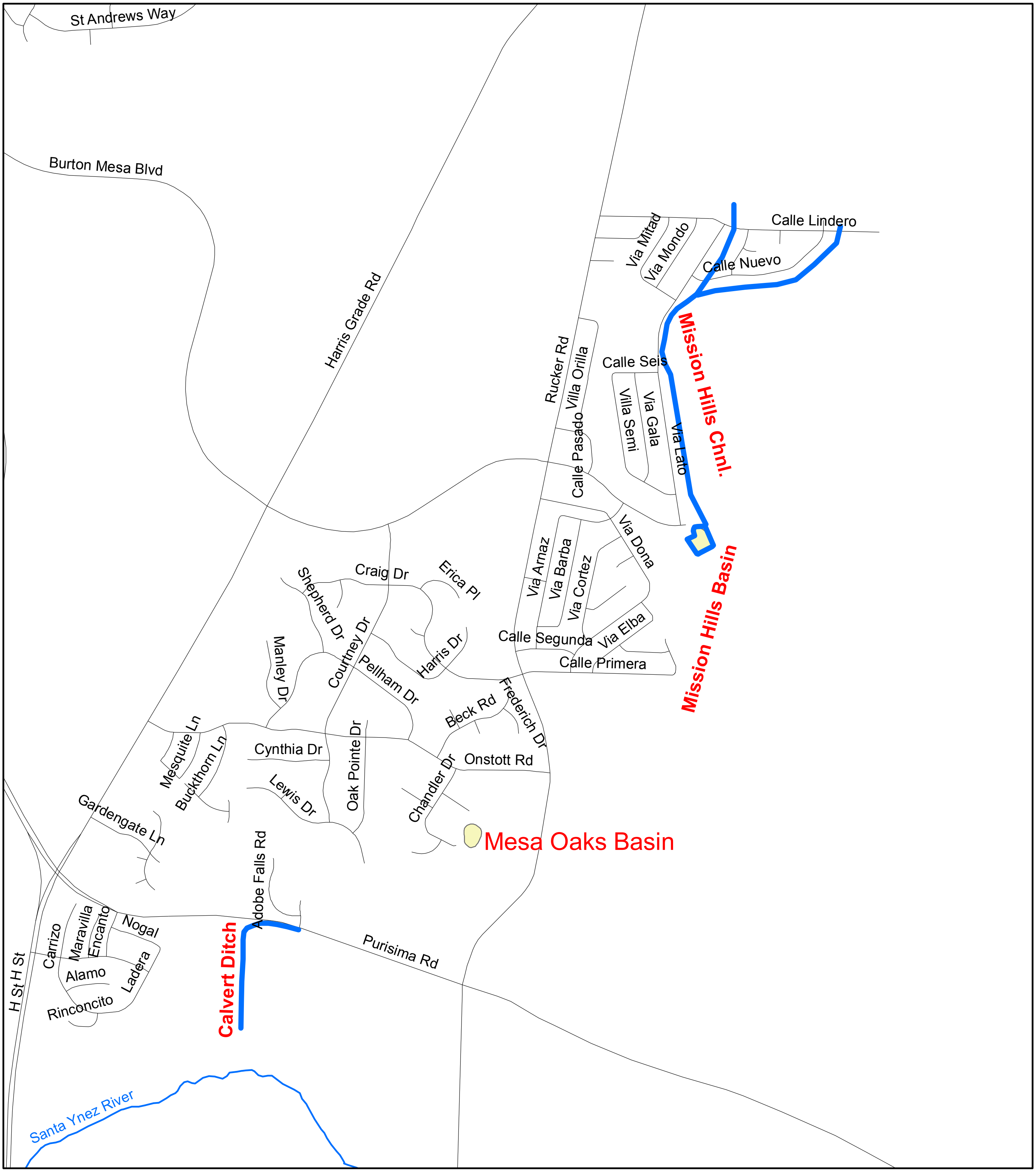
Compiled by the Public Works Enterprise GIS.



Department of Public Works County of Santa Barbara

Mesa Oaks Basin
Mission Hills Channel
Mission Hills Basin
Calvert Ditch

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N W E S

Feet

1,300 650 0 1,300

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan
Fiscal Year 2011-2012

Santa Barbara County, California

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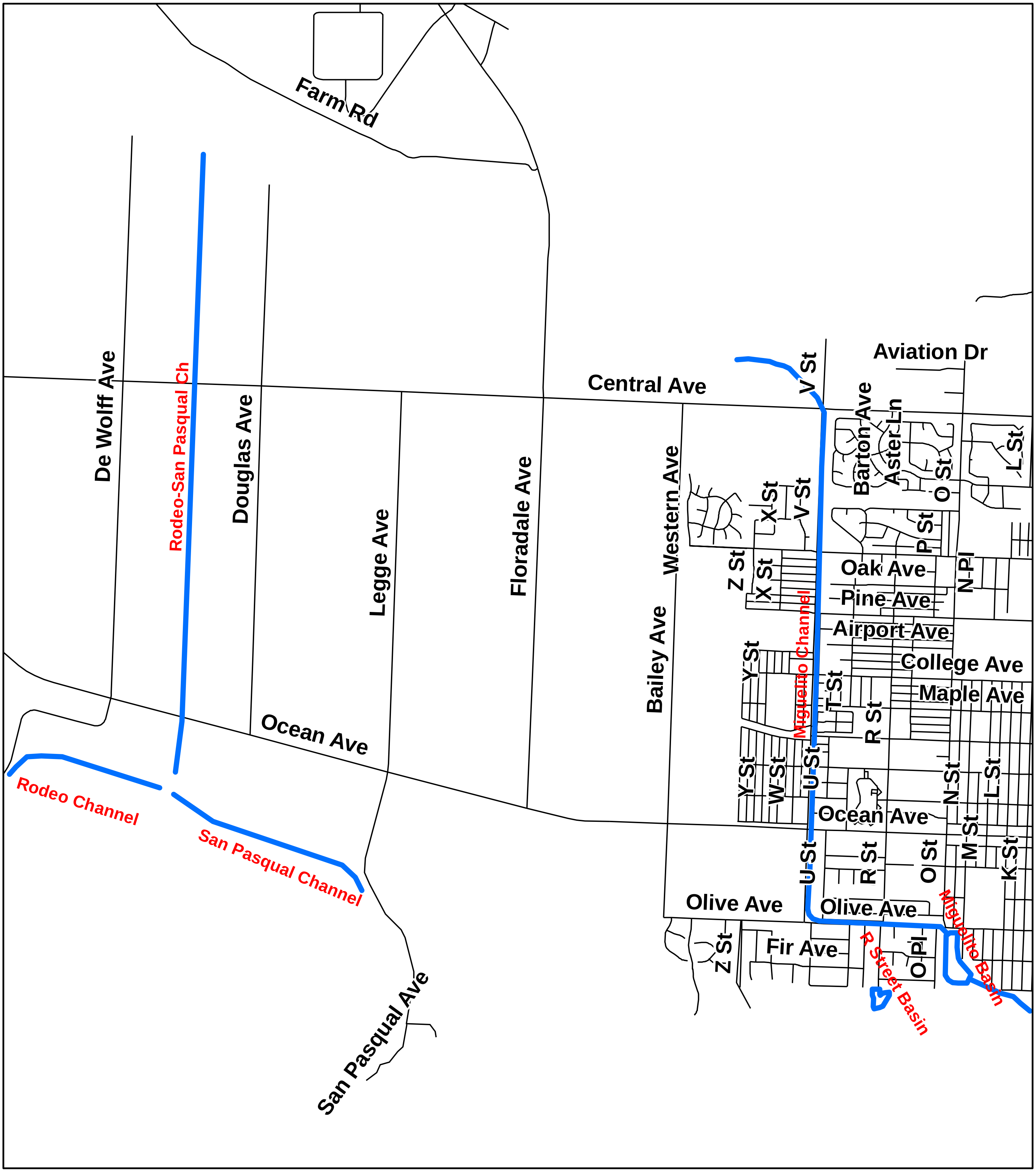

Department of Public Works County of Santa Barbara

Miguelito Channel
Miguelito Basin
R Street Basin
Rodeo Channel
San Pasqual Channel
Rodeo-San Pascual Channel

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N W E S

Feet
2,100 1,050 0 2,100

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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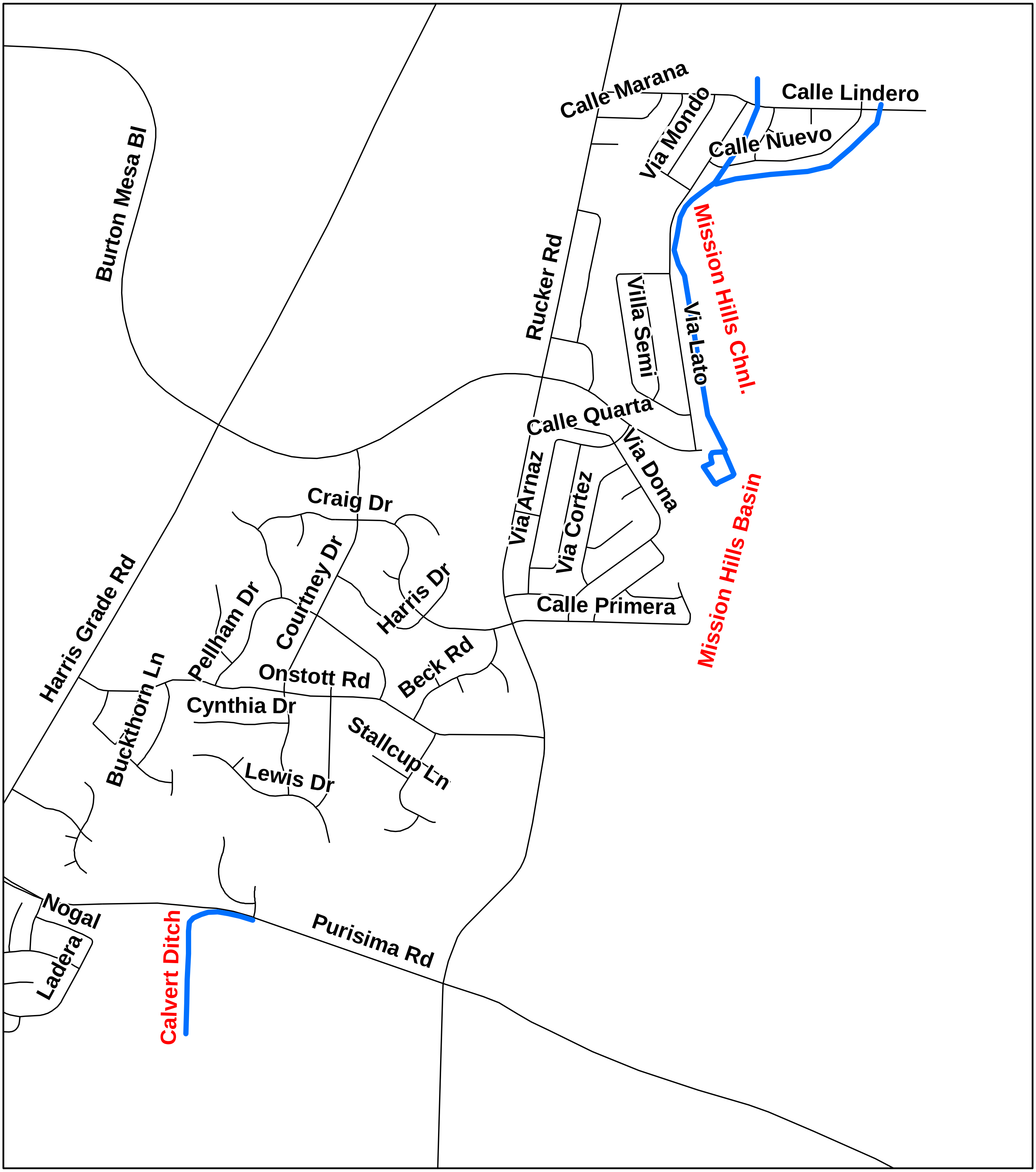

Department of Public Works County of Santa Barbara

Mission Hills Channel
Mission Hills Basin
Calvert Ditch

N W E S

Feet

1,200 600 0 1,200

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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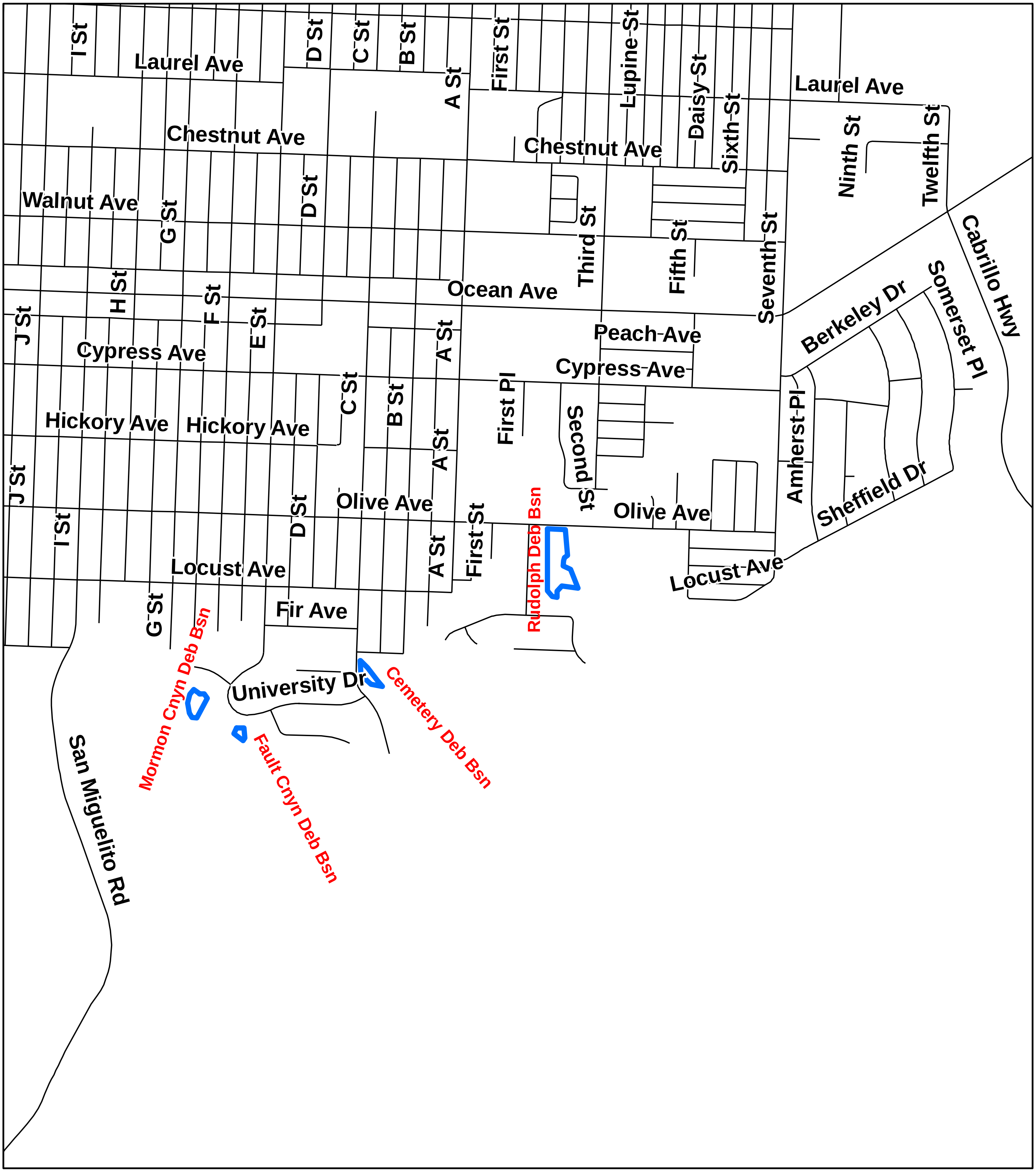

Department of Public Works County of Santa Barbara

Mormon Canyon Debris Basin
Fault Canyon Debris Basin
Cemetery Debris Basin
Rudolph Debris Basin

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N W E S

950 475 0 950
Feet

Coordinate System: State Plane California Zone V NAD 1983

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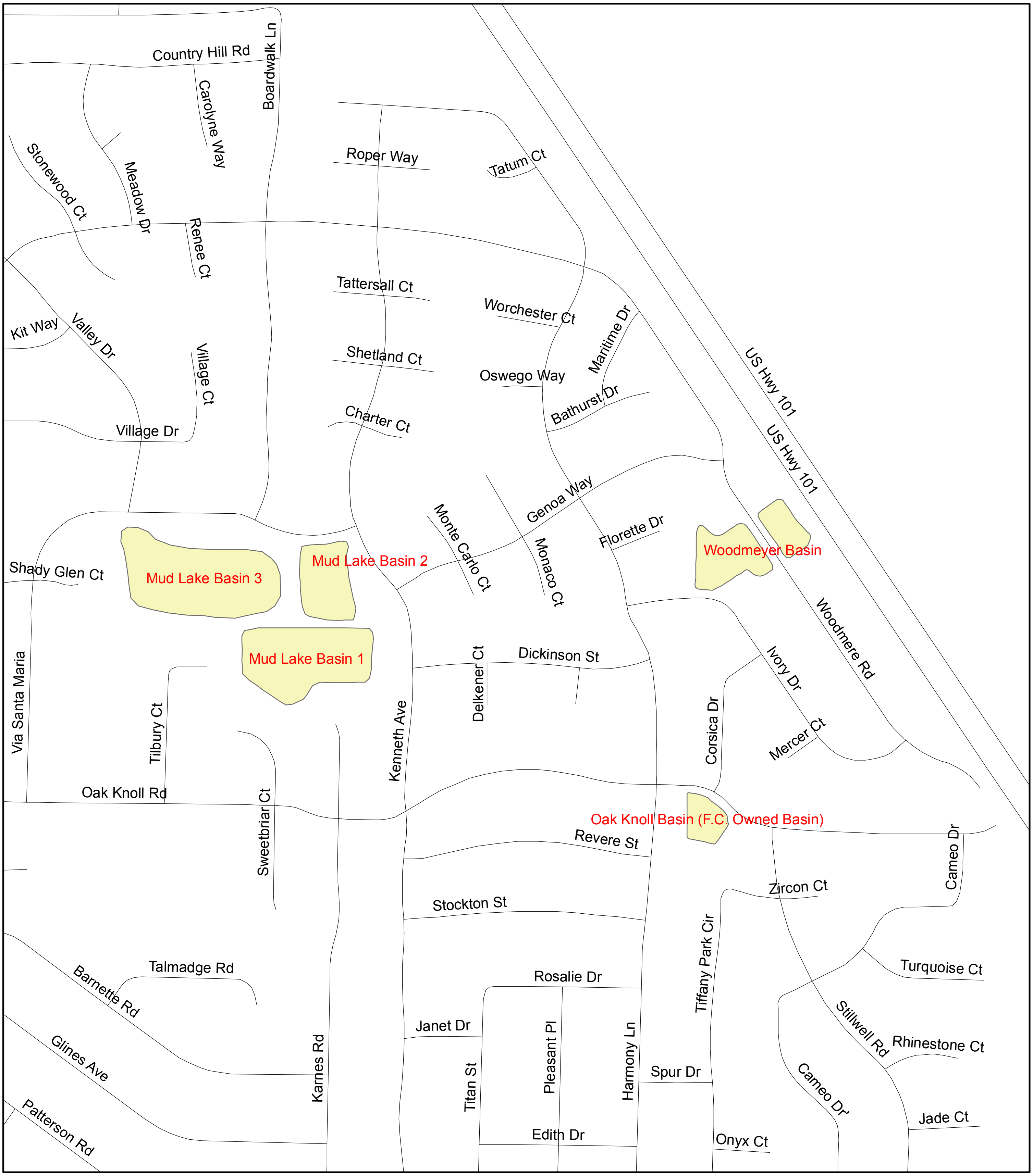

Department of Public Works County of Santa Barbara

Mud Lake Basins 1,2,3
Woodmeyer Basin

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N W E S

Feet

450 225 0 450

Coordinate System: State Plane California Zone V NAD 1983

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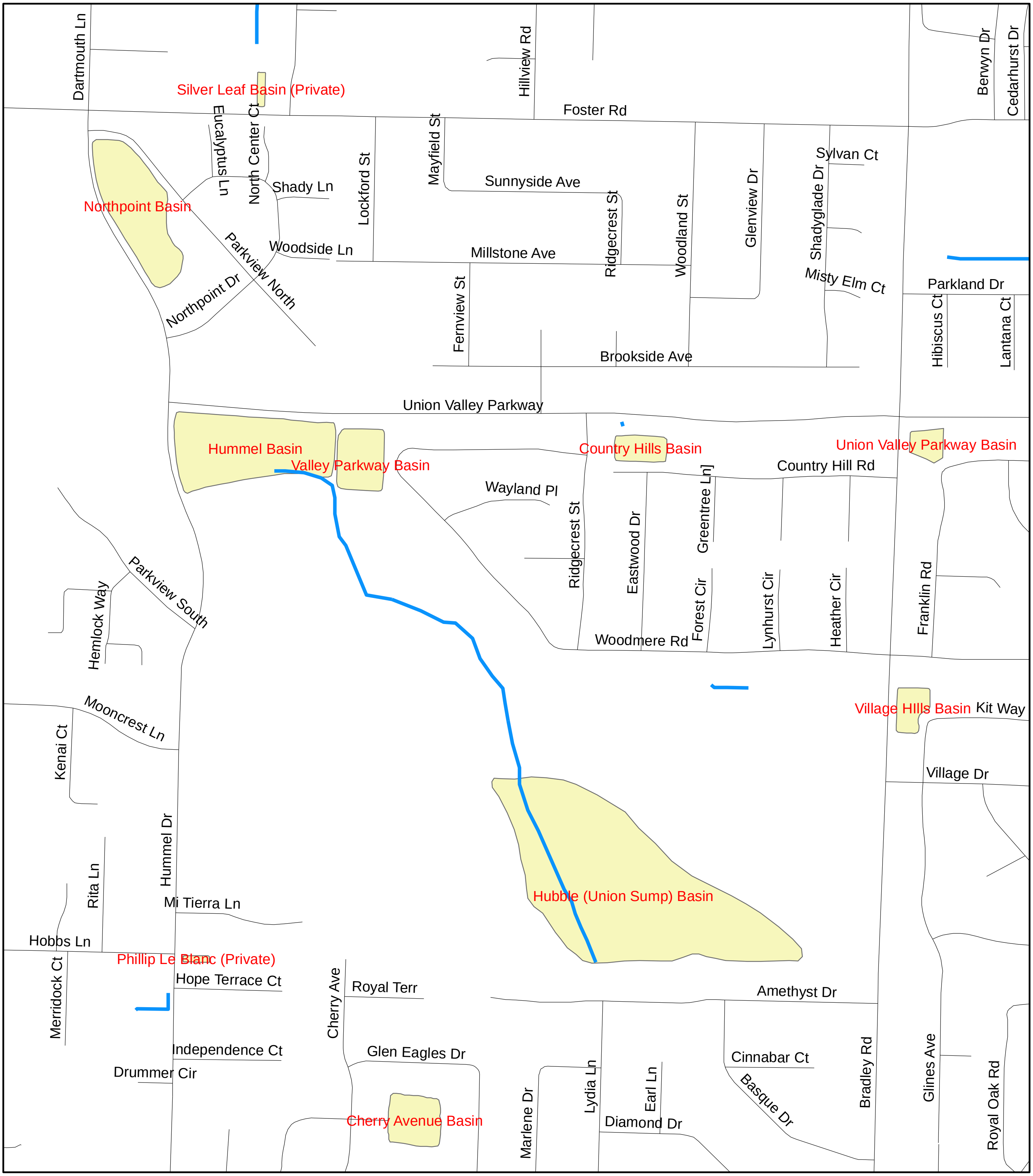

Department of Public Works County of Santa Barbara

Northpointe Basin
Hummel Basin
Valley Parkway Basin
Country Hills Basin
Union Valley Parkway Basin
Village Hills Basin
Hubble Basin
Cherry Avenue Basin

N
W E
S
Feet
490 245 0 490

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

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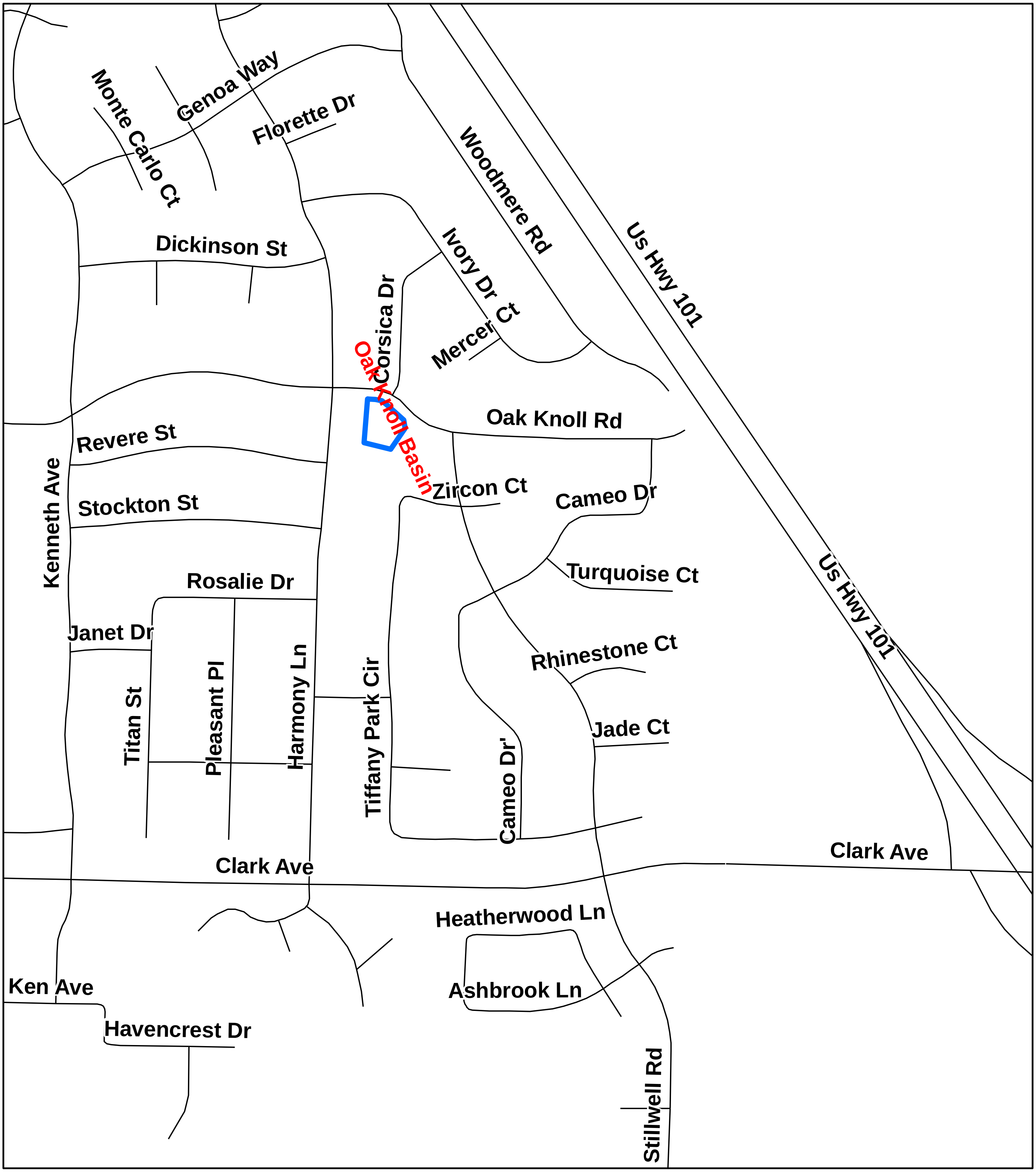

Department of Public Works County of Santa Barbara

Oak Knoll Basin

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N W E S
Feet
460 230 0 460

Coordinate System: State Plane California Zone V NAD 1983

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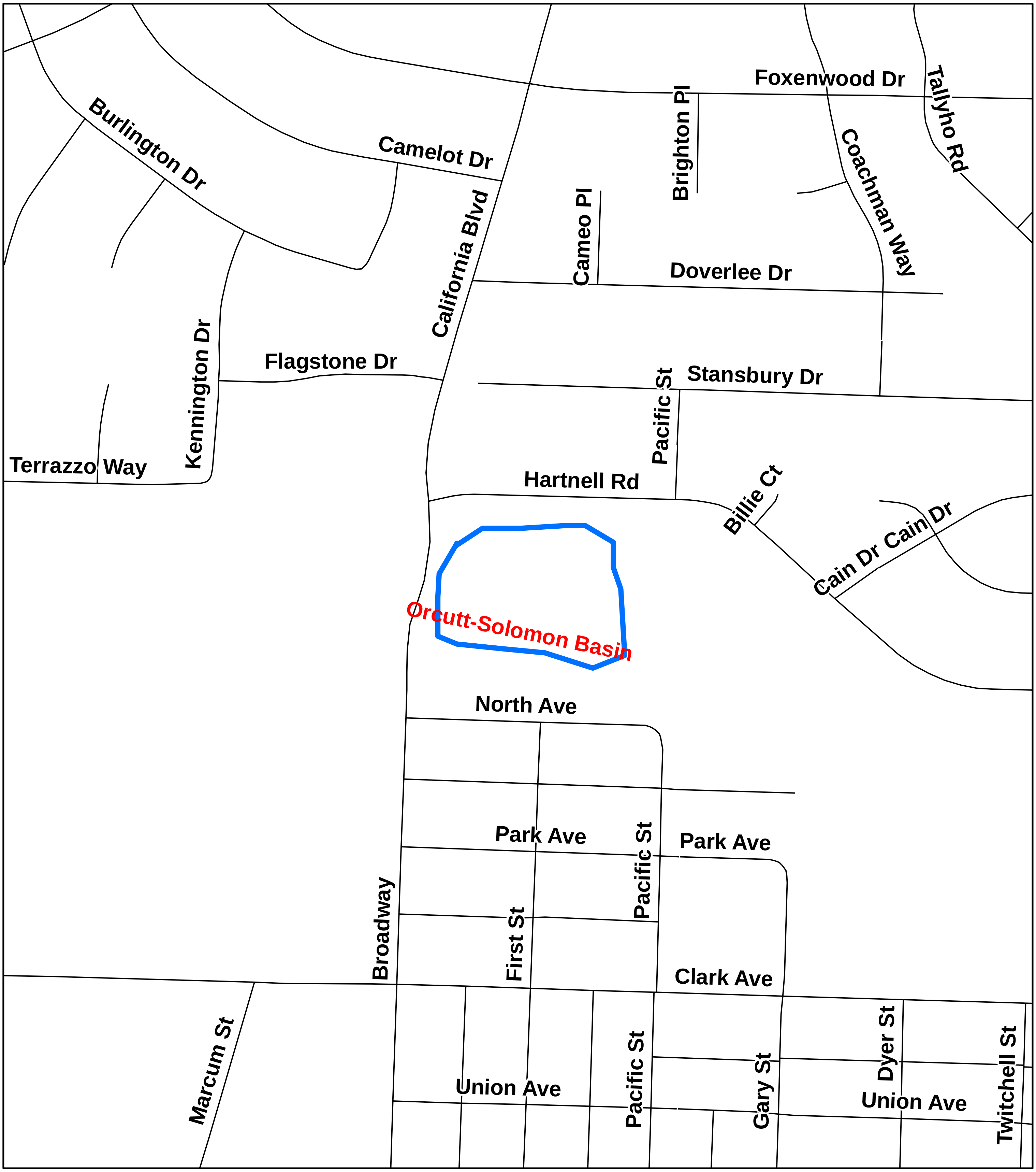

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Orcutt-Solomon Basin

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N W E S

Feet

325 162.5 0 325

Coordinate System: State Plane California Zone V NAD 1983

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The Santa Barbara County Flood Control and Water Conservation District

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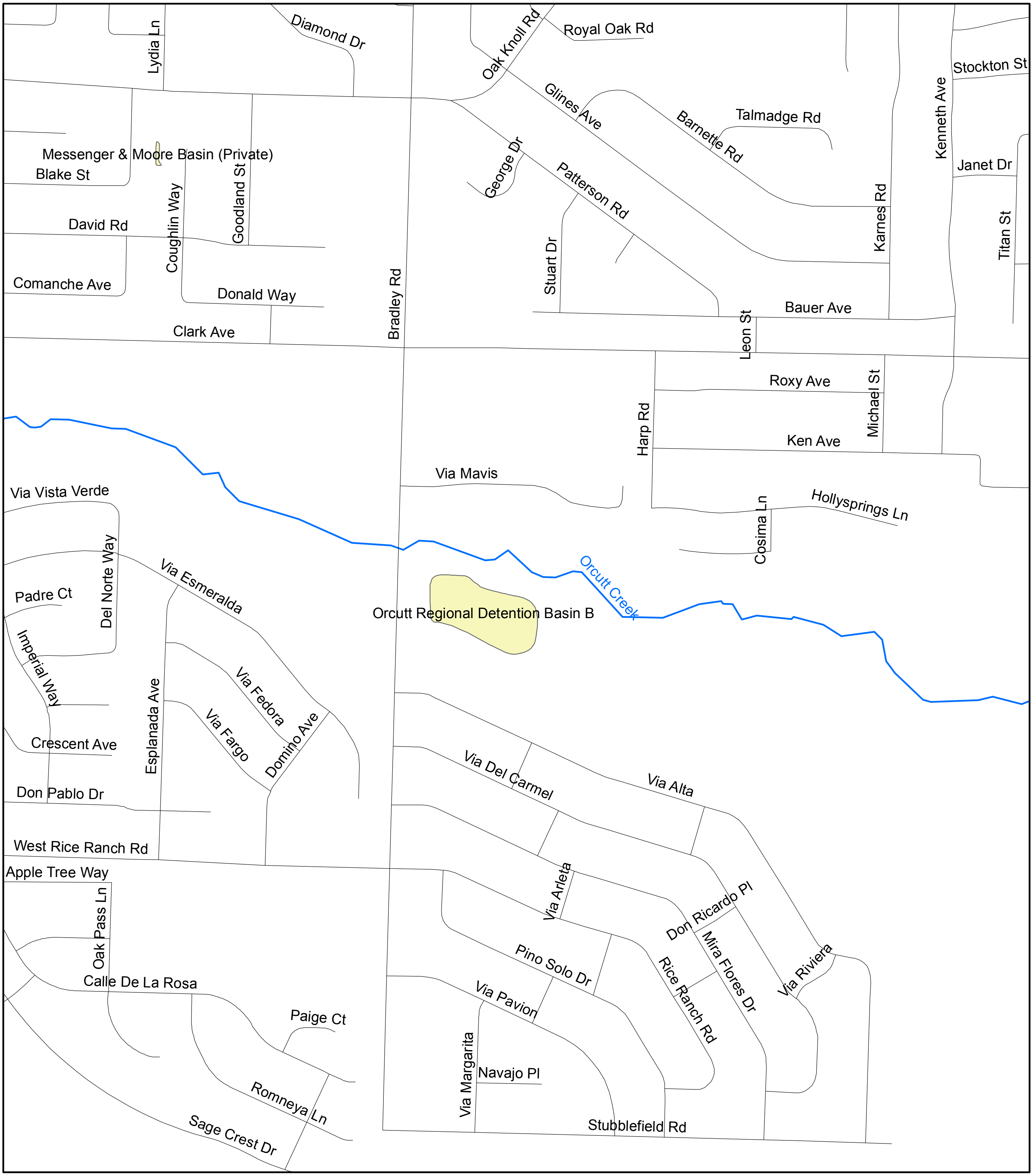

Department of Public Works County of Santa Barbara

Orcutt Regional Detention Basin B

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N W E S

Feet

550 275 0 550

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
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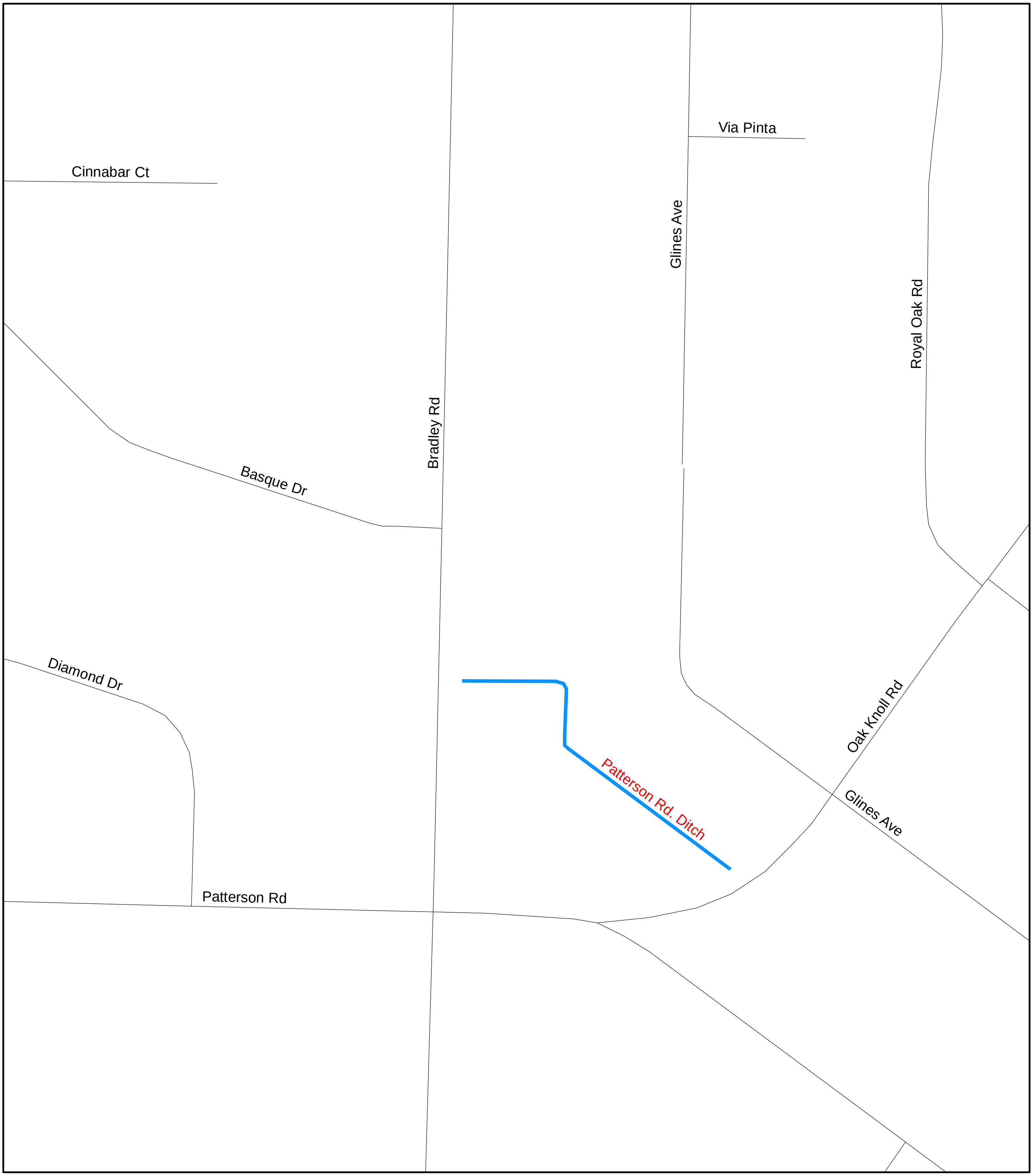

Department
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Patterson Rd. Ditch

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N W E S

Feet

130 65 0 130

Coordinate System: State Plane California Zone V NAD 1983

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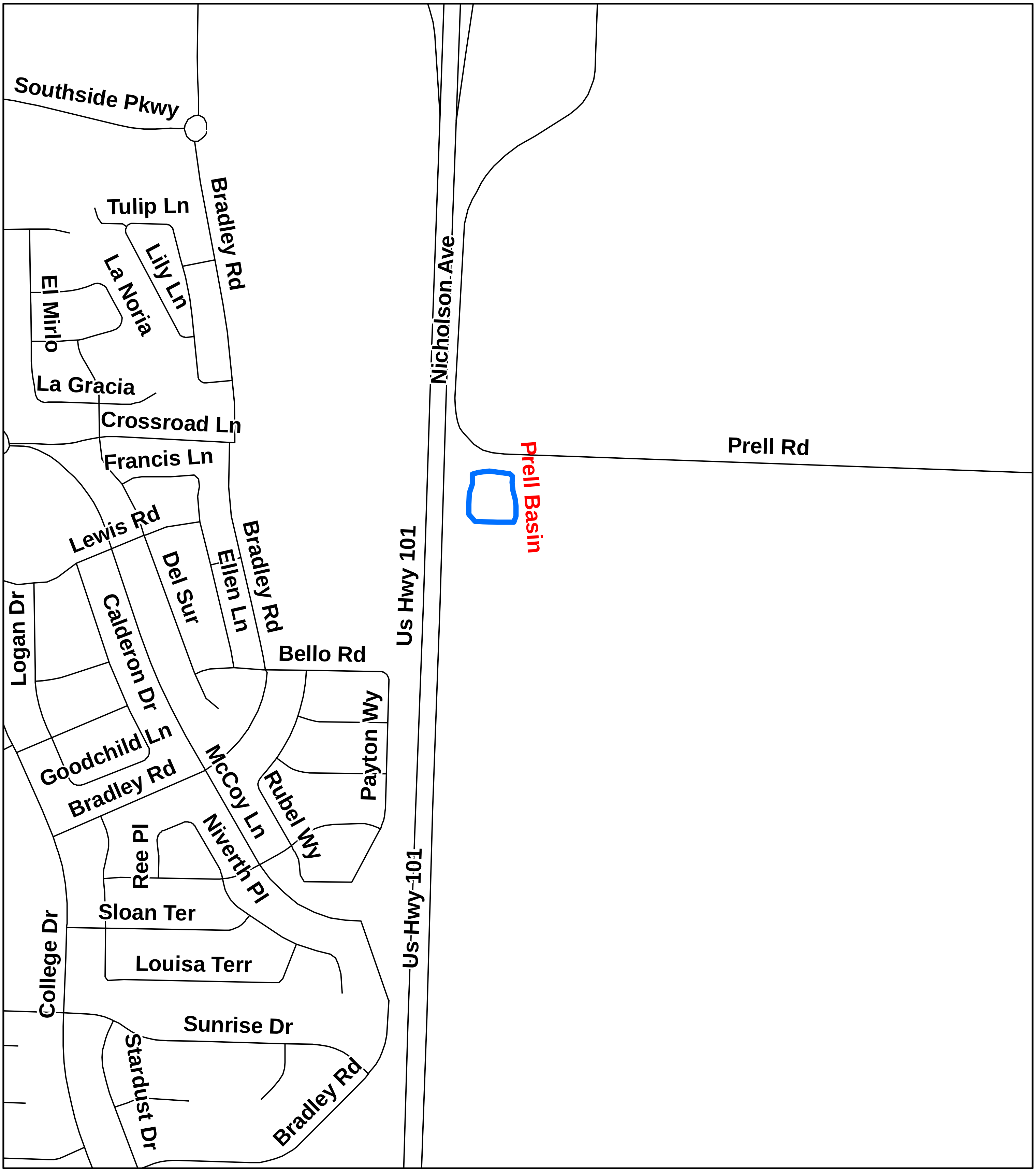

Department of Public Works County of Santa Barbara

Prell Basin

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N W E S

Feet

525 262.5 0 525

Coordinate System: State Plane California Zone V NAD 1983

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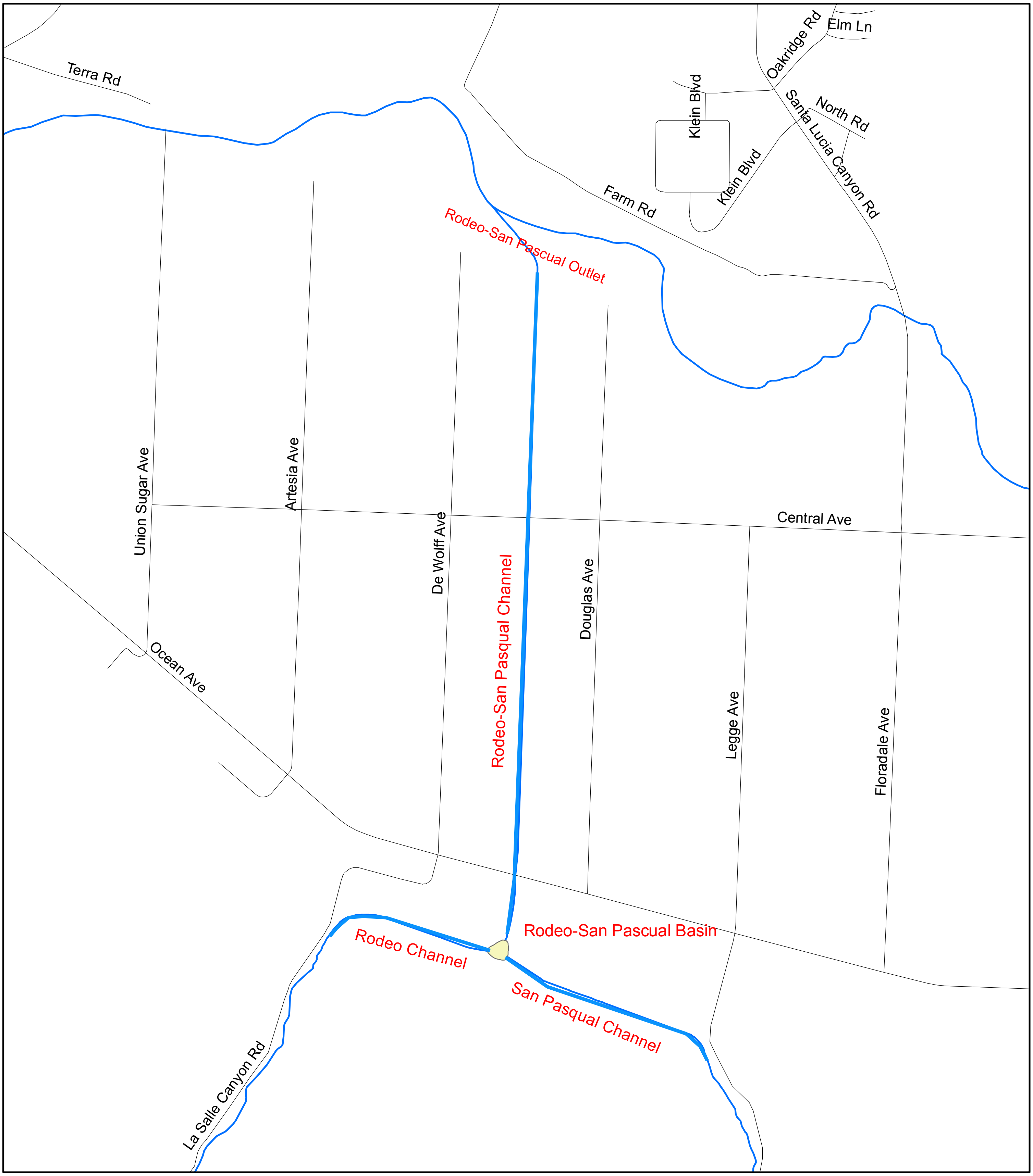

Department of Public Works County of Santa Barbara

Rodeo Channel
San Pascual Channel
Rodeo-San Pascual Basin
Rodeo-San Pascual Channel
Rodeo-San Pascual Outlet

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N W E S

Feet

2,000 1,000 0 2,000

Coordinate System: State Plane California Zone V NAD 1983

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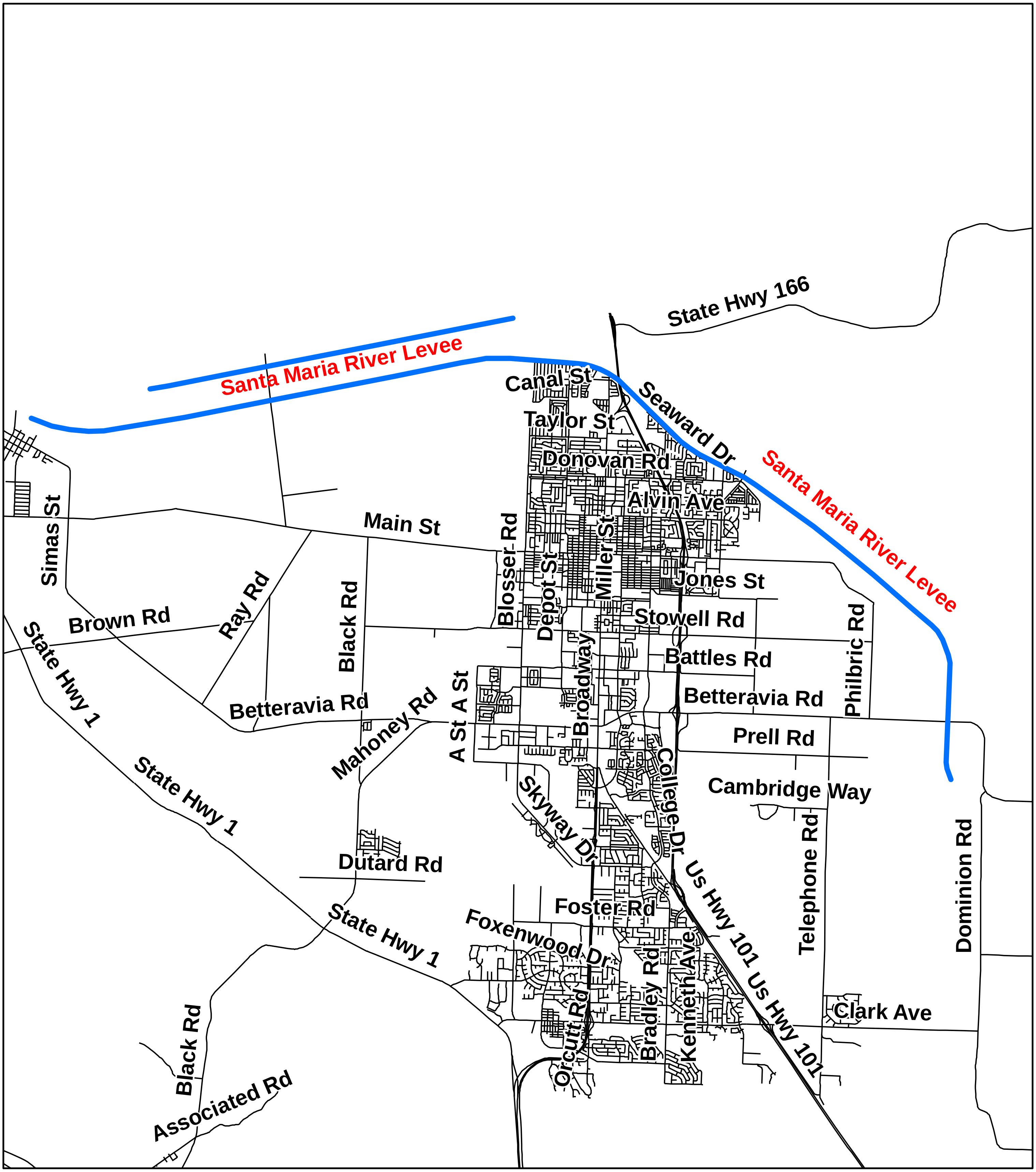

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Santa Maria River Levee

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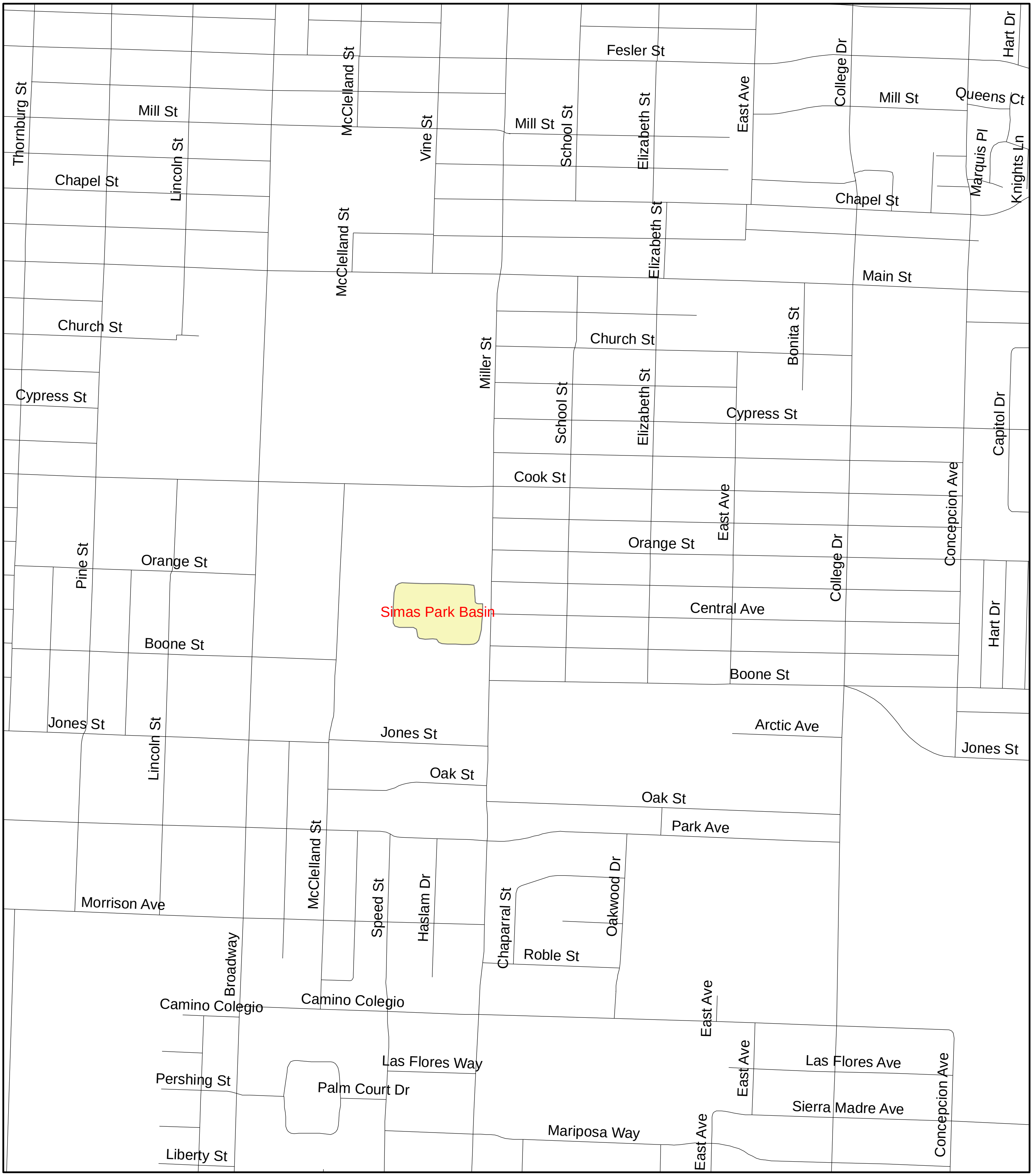

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Simas Park Basin

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N W E S

Feet

570 285 0 570

Coordinate System: State Plane California Zone V NAD 1983

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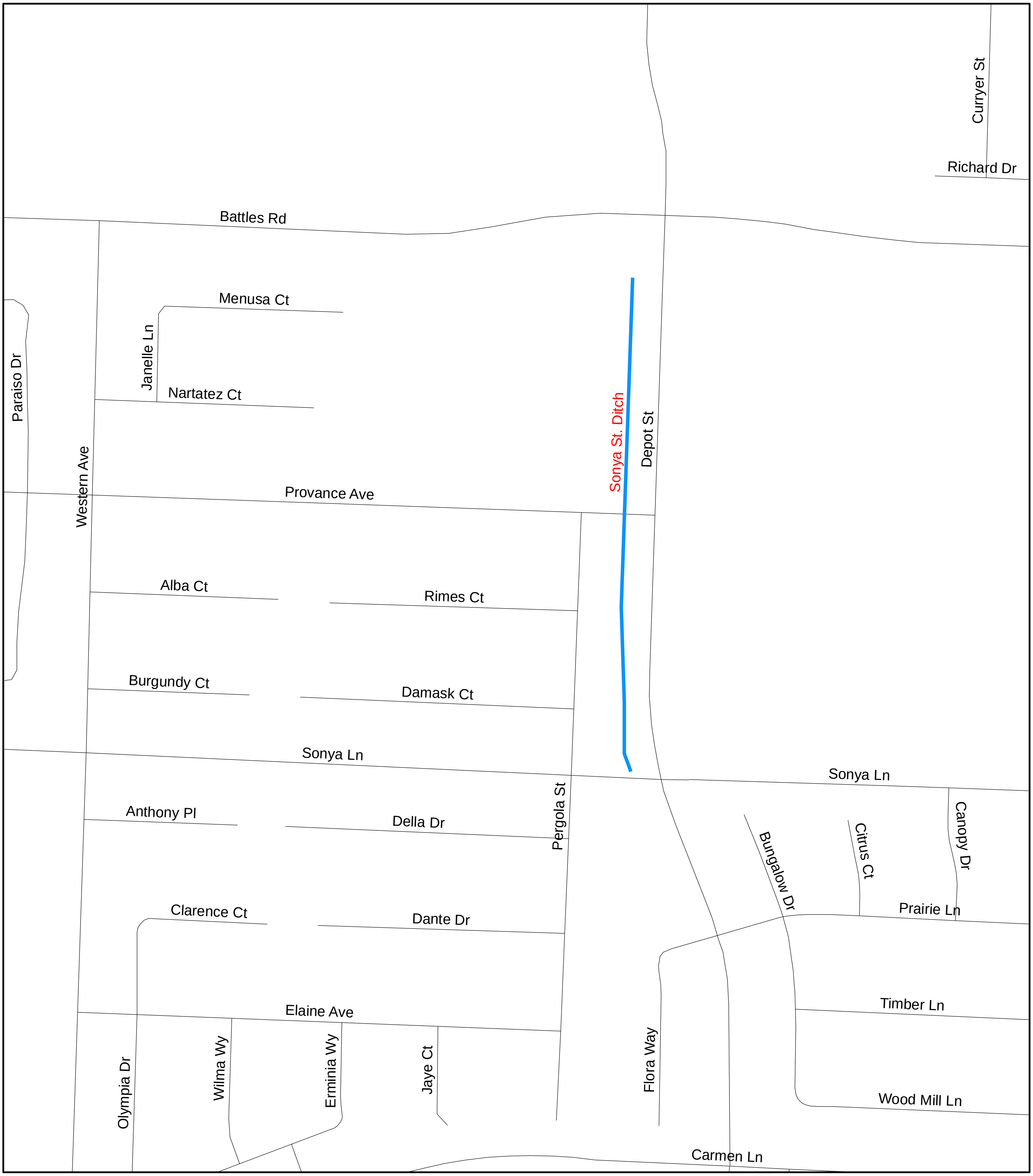

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Sonya St. Ditch

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N W E S

Feet 270 135 0 270

Coordinate System: State Plane California Zone V NAD 1983

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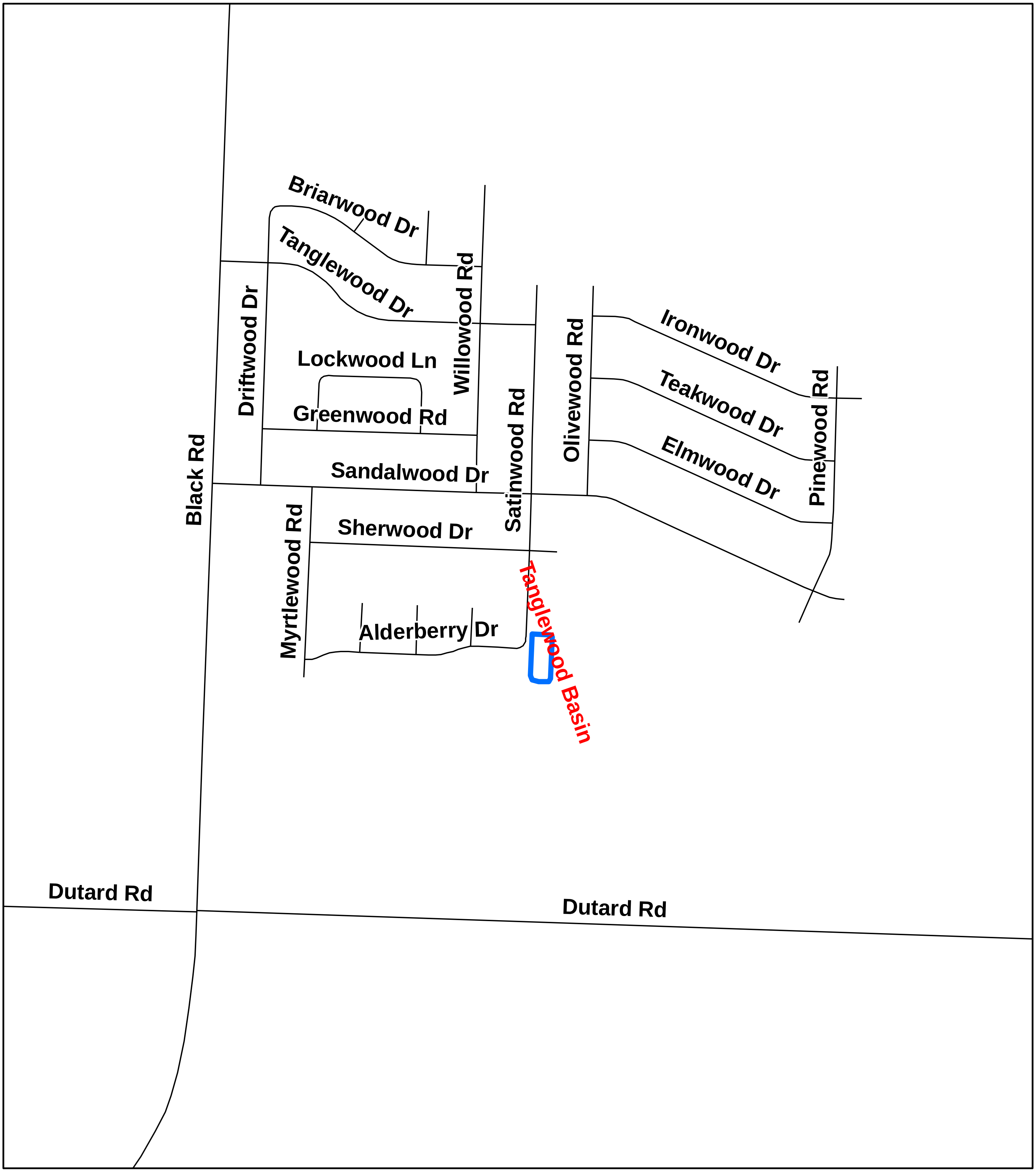

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Tanglewood Basin

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N
W E
S

Feet
510 255 0 510

Coordinate System: State Plane California Zone V NAD 1983

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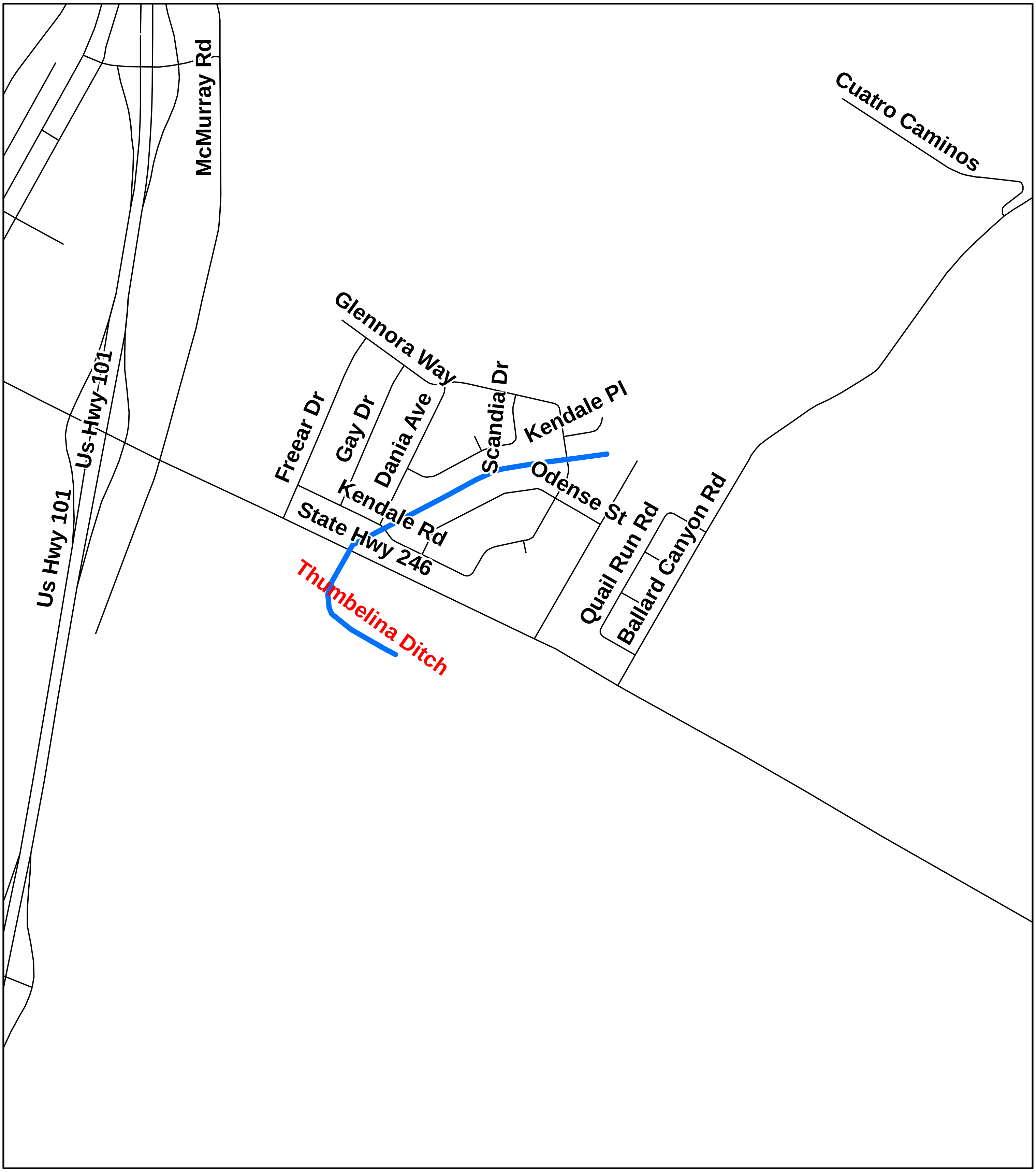

Department
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Public Works
County
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Santa Barbara

Thumbelina Ditch

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N
W E
S
Feet
680 340 0 680

Coordinate System: State Plane California Zone V NAD 1983

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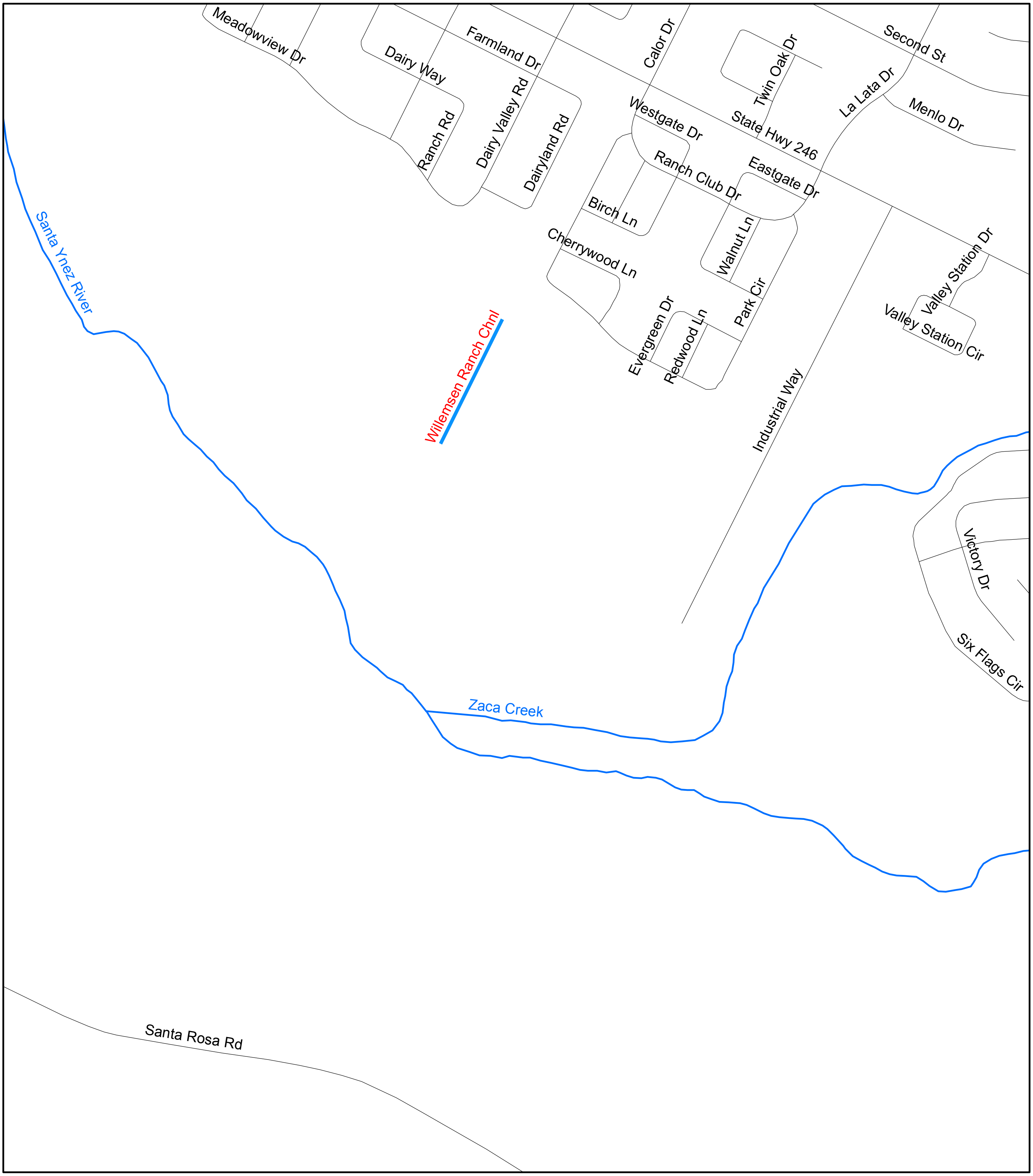

Department of Public Works County of Santa Barbara

Willemsen Ranch Channel

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N
W E
S

Feet
525 262.5 0 525

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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South Coast Exempt Facilities:

Most of the South Coast facilities are concrete channels that require minor maintenance. Maintenance mainly consists of periodic inspection of the weep holes along the concrete channel and trimming of vegetation that overhangs the channel from adjacent back yards and along access roads and vegetation such as ivy that grows down the concrete itself. The District occasionally paints over graffiti.

The District will conduct herbicide application in the facilities listed below beginning May 1^{st}, and desilting and mowing of non-native vegetation beginning June 1^{st} of the year following that Annual Plan's approval. If the project does not specifically state that desilting will occur, then that facility will not be desilted under this year's Annual Plan.

All South Coast Facilities have a potential area of impact of less than 100 square feet from spot spraying.

Concrete Channels:

1. **Arroyo Burro Channel:** From the confluence with San Roque Creek downstream to Calle Real Street, approximately 166 feet. On an annual basis the concrete channel is spot sprayed and sediment is removed approximately every 5 years. Refer to Page 1. No work is proposed this year.

2. **Atascadero Channel:** From Arroyo Road downstream to the confluence with Hospital Channel, a distance of 2,170 feet. . The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. Refer to Page 2. No work is proposed this year.

3. **Cieneguitas Channel:** From the Union Pacific railroad tracks downstream to Modoc Road, a distance of 500 feet. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. Refer to Page 3. No work is proposed this year.

4. **Derbiano Drain:** From the confluence with Hospital Creek upstream 1000'. This concrete channel consists of overhanging shrubs that protrude into the active channel. The shrubs will be cut and removed from the active channel on an annual basis. The channel is desilted every 3 to 5 years. Refer to Page 2.

5. **El Encanto Channel:** From Hollister Avenue to Phelps Road, a distance of 1,700 feet. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. Refer to Page 5.

6. **Encina Drain:** From Cathedral Oaks Road to Berkeley Road, a distance of 371 feet. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. The channel is desilted every 3 to 5 years. Refer to Page 6. No work is proposed this year.

7. **Franklin Channel:** From upstream of Casitas Pass Road downstream to the Carpinteria Salt Marsh, a distance of 2.2 miles. This concrete channel consists of overhanging shrubs that protrude into the active channel. The shrubs will be cut and removed from the active channel on an annual basis. Every 3 to 5 years sediment is removed from the channel. Refer to Page 7.

8. **Fremont Channel:** From Queen Anne Road downstream 125 feet. Every 3-5 years, sediment is removed from the channel. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis. Refer to Page 9. No work is proposed this year.

9. **High School Drain:** On the east side of Carpinteria High School from Foothill Road upstream 500'. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. Refer to Page 7.

10. **Hog Canyon Channel:** From the confluence with Carpinteria Creek upstream 500'. Every 5 to 7 years, sediment is removed from the channel. Refer to Page 10. No work is proposed this year.

11. **Hospital Channel:** From Hollister Avenue downstream to the confluence with Atascadero Creek, a distance of 2,060'. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. Refer to Page 2. No work is proposed this year.

12. **Las Positas Channel:** From Veronica Springs Road upstream 1000'. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. The channel is desilted every 3 to 5 years. Refer to Page 12.

13. **Los Carneros Channel:** From Los Carneros Road downstream to Hollister Avenue, a distance of 227'. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. Refer to Page 13.

14. **Mission Channel:** From Los Olives to Pedregosa St and from Valerio to Canon Perdido, a total distance of 5,641'. Garbage or debris, along with graffiti removal is conducted on a yearly basis. The channel is desilted every 3 to 5 years. Refer to Page 14.

15. **Montecito Channel (Casa Dorinda Channel):** From Hot Springs Road downstream to the Montecito Debris Basin, a distance of 1000'. Every 3 to 5 years, sediment is removed from the channel. Refer to Page 15. No work is proposed this year.

16. **Pace Park Drain:** Between Highway 101 and Pace Park Subdivision, a distance of 1,000'. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. The channel is desilted every 3 to 5 years. Refer to Page 7. No work is proposed this year.

17. **Patterson Drain:** This concrete swale runs parallel to Patterson Road for a distance of 150'. This channel is desilted every 3 to 5 years. Refer to page 17. No work is proposed this year.

18. **Patterson Estates Drain:** Is the inlet to Patterson drain located at the upper end of Patterson Estates. The inlet is weeded and spot sprayed on an annual basis. Refer to page 17. No work is proposed this year.

19. **Placencia Drain:** This is a drain pipe that drains water from the low lying Placencia St. neighborhood into San Pedro Creek. The District maintains the inlet free of sediment and debris on an annual basis. Refer to page 18. No work is proposed this year.

20. **Robin Hill Drain:** On the west side of Robin Hill Road from Hollister Avenue upstream 500'. The bottom of the channel is spot sprayed along with graffiti removal on an annual basis to eliminate the vegetation that may begin to colonize within the channel. The channel is desilted every 3 to 5 years. Refer to Page 13. No work is proposed this year.

21. **Romero Channel:** From Fernald Point Road to the ocean, a distance of 600'. Every 3 to 5 years, sediment is removed from the channel. Refer to Page 19. No work is proposed this year.

22. **San Jose Channel:** From Hollister Avenue downstream 4,000' to Goleta Slough. The District maintains the access road within the channel on the right side. The road is weeded and spot sprayed on an annual basis. The channel will be desilted as needed. Potential area if impact is less than 500 square feet for spot spraying. Refer to Page 22. No work is proposed this year.

23. **San Pedro Channel:** Runs from Calle Real upstream 1600'. Vegetation that is overhanging or has fallen in the channel is removed and weep holes are spot sprayed. Refer to Page 20.

24. **Sandpiper Drain:** This channel is located on the west side of the Sandpiper trailer park for a distance of 200'. Debris and unwanted vegetation is removed on an annual basis. Maintenance will be scheduled for this year. Refer to Page 7. No work is proposed this year.

25. **Santa Monica Channel:** This channel runs from the Santa Monica Debris basin downstream approximately 1.2 miles to Carpinteria Salt Marsh. Debris and unwanted vegetation is removed on an annual basis. The channel is desilted every 3 to 5 years. Refer to Page 7.

26. **Serenidad Drain:** From the confluence with Las Vegas Creek upstream 350'. Every 5 to 7 years, sediment is removed from the channel. Refer to Page 20. No work is proposed this year.

27. **Shirrell Drain:** This is a concrete v-ditch that drains a portion of the housing track just west of Las Vegas Creek. Vegetation that is overhanging or has fallen in the channel is removed as needed. Refer to Page 21. No work is proposed this year.

28. **Via Regina Ditch:** On the east side of the homes located on Via Regina, for a distance of 700'. Every 5 to 7 years, sediment is removed from the channel. Refer to Page 23. No work is proposed this year.

29. **Westside Storm Drain:** The District maintains the outlet structure at the Boys and Girls club. This outlet requires removal of garbage and debris from outlet grate on an as needed basis. Refer to Page 24. No work is proposed this year.

Basins:

1. **El Encanto Basin:** Located on Mitcheltorena Street in Santa Barbara. This basin requires rock and debris (small woody debris) removal (approximately 5 cubic yards) approximately every 10 years. Refer to Page 4. No work is proposed this year.

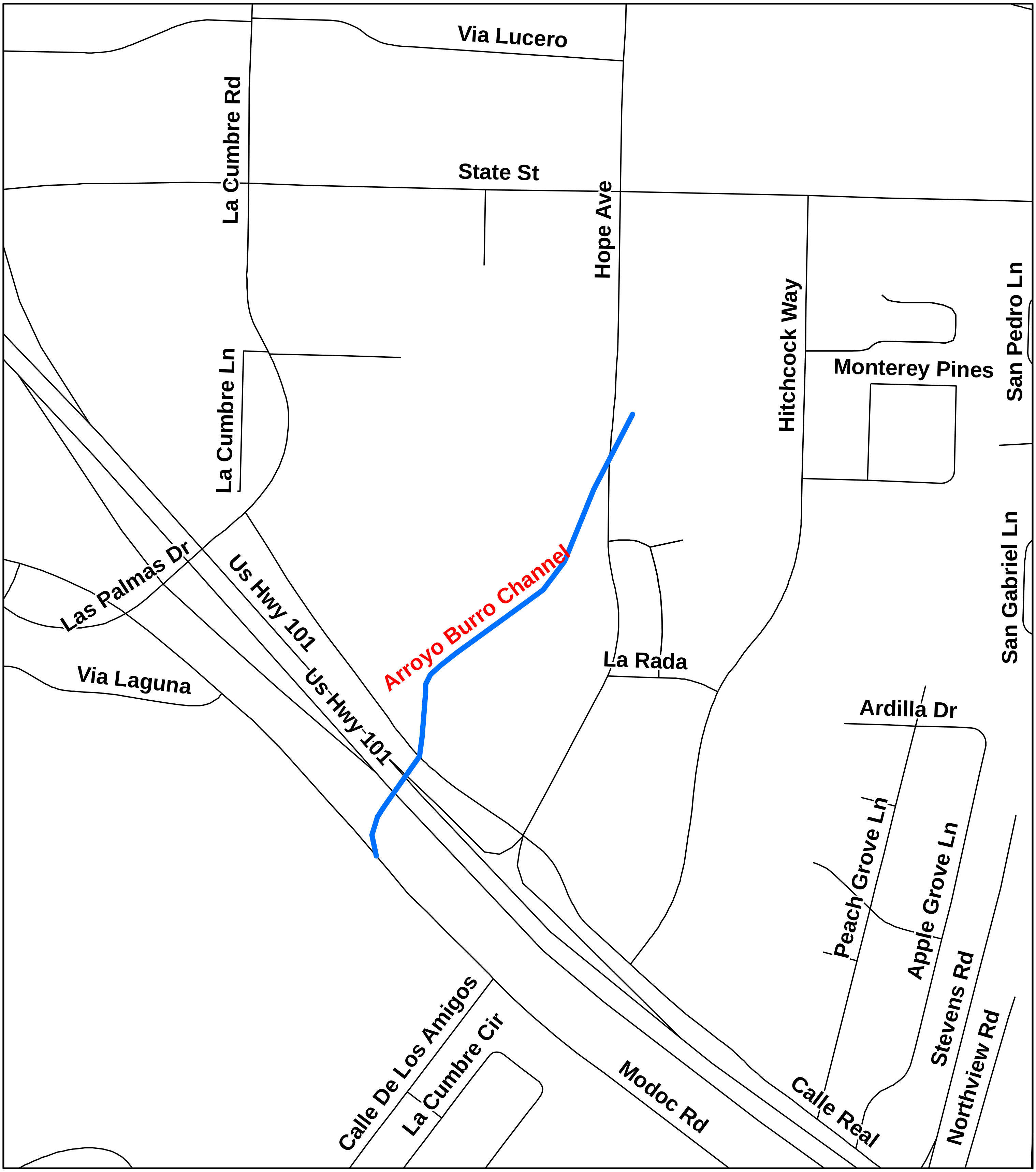
2. **Franciscan Basin:** This sediment basin is at the upstream end of Franciscan Culvert 1360 Cravens Lane in Carpinteria. This basin requires desilting approximately every 5 years to remove approximately 500 cubic yards of sediment and occasional spot spraying for weeds or cattails (approximately 5 square feet of cattails). Refer to Page 7. No work is proposed this year.

3. **Hog Canyon Basin:** This basin requires desilting approximately every 5 years to remove between 100-200 cubic yards of sediment. Mustard and weedy vegetation are mowed annually within the basin for weed and fire control. The basin is also spot sprayed every other year if woody vegetation begins to colonize the basin. Refer to Page 11.

4. **Hospital Basin:** Immediately north of Goleta Valley Little League fields on Hollister Avenue. This basin requires desilting approximately every 5 years to remove between 100-200 cubic yards of sediment. Mustard and weedy vegetation are mowed annually within the basin for weed and fire control. The basin is also spot sprayed every other year if woody vegetation begins to colonize the basin. Refer to Page 2. No work is proposed this year.

5. **Kim's Basin:** Next to Kim's Market on Via Real in Carpinteria: This basin requires desilting approximately every 10 years to remove approximately 1000 cubic yards of sediment and occasional spot spray of cattails (approximately 5 square feet of cattail removal). Refer to Page 7. No work is proposed this year.

6. **Parma Basin:** Weedy vegetation is mowed annually within the basin it is also spot sprayed every other year if woody vegetation begins to colonize the basin. Refer to Page 16. No work is proposed this year.



Department of Public Works County of Santa Barbara

Arroyo Burro Channel

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N W E S

Feet

380 190 0 380

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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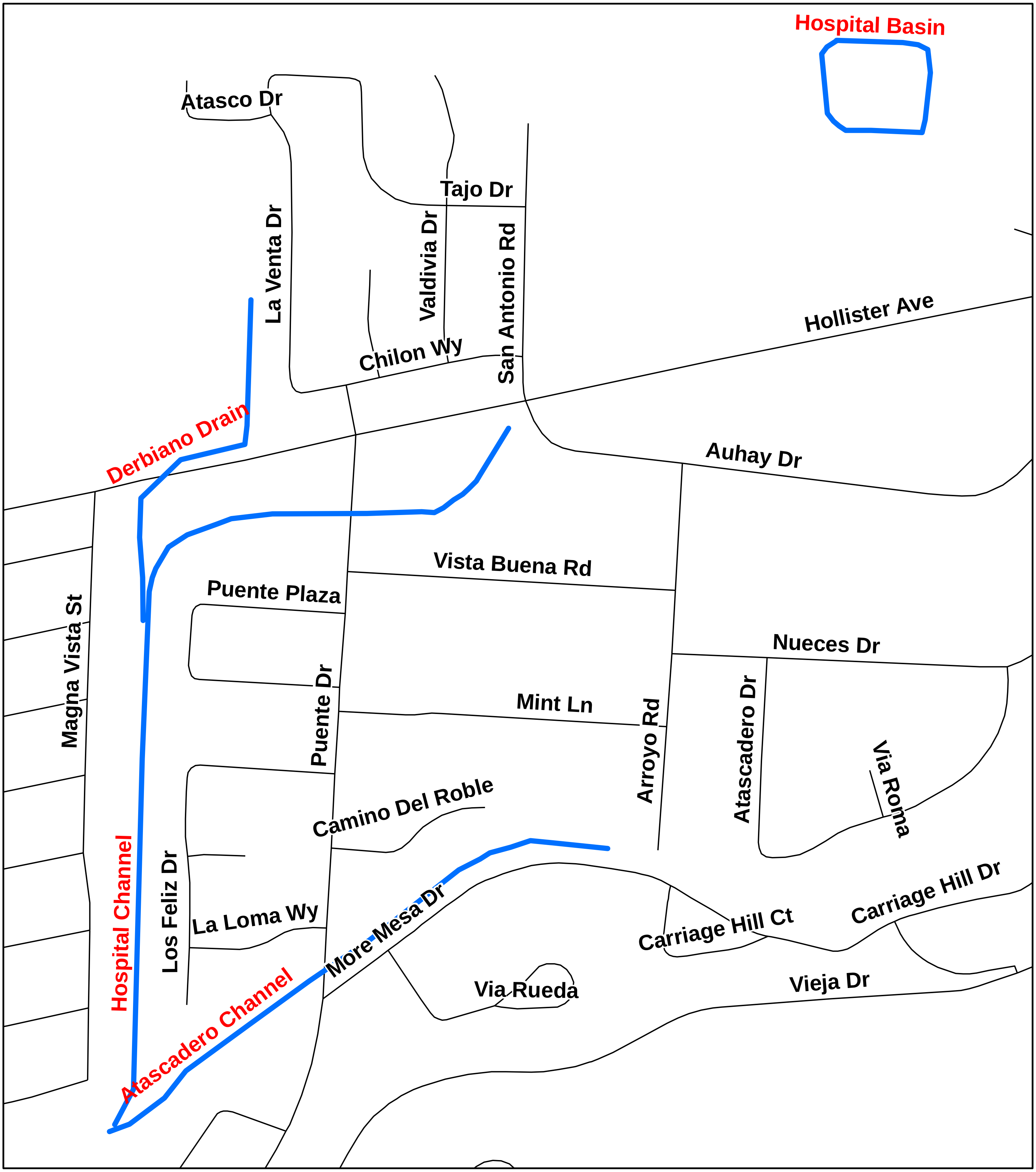

Department of Public Works County of Santa Barbara

Atascadero Channel
Derbiano Drain
Hospital Channel
Hospital Basin

N W E S

Feet

375 187.5 0 375

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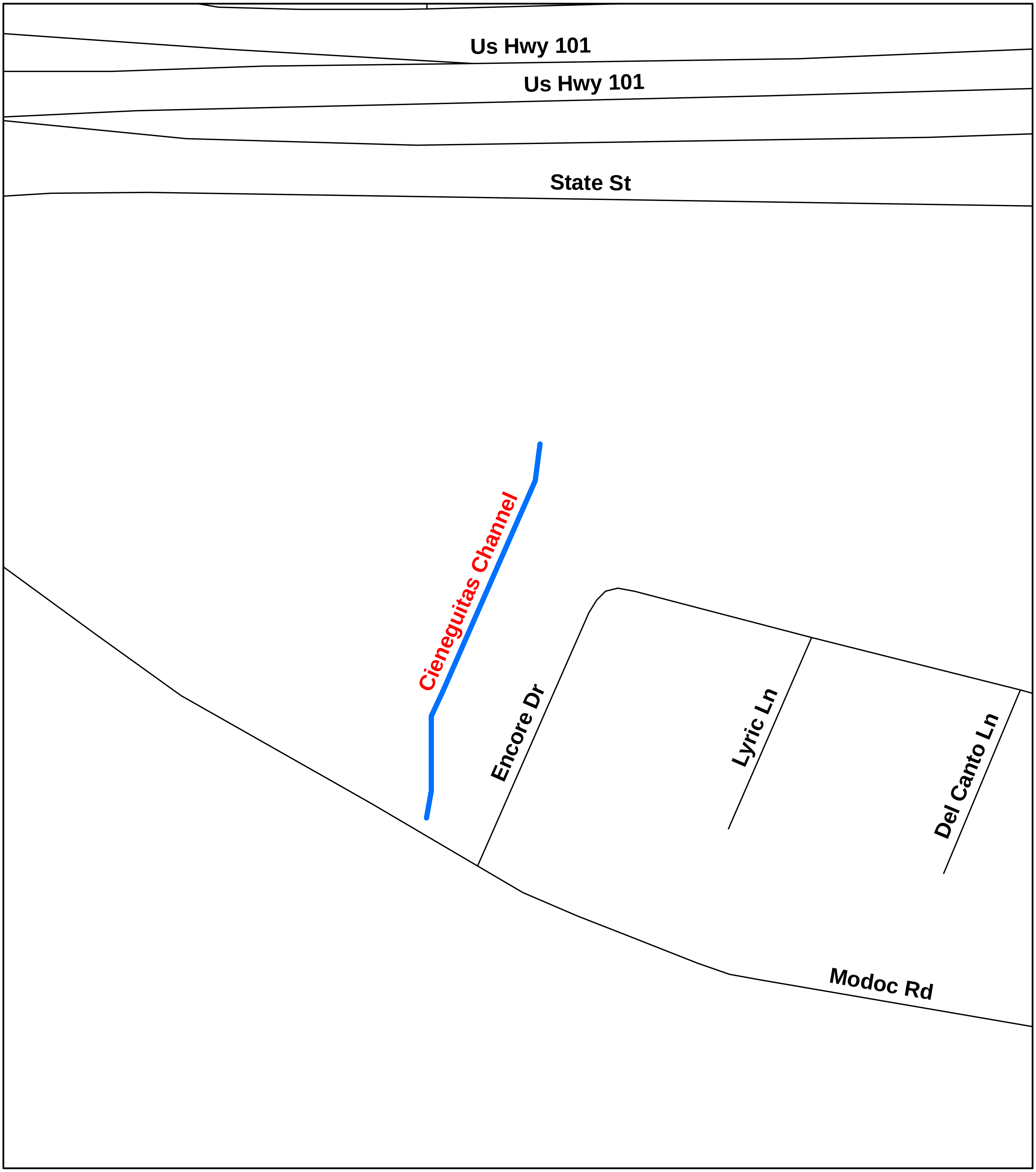

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Cieneguitas Channel

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Feet 140 70 0 140

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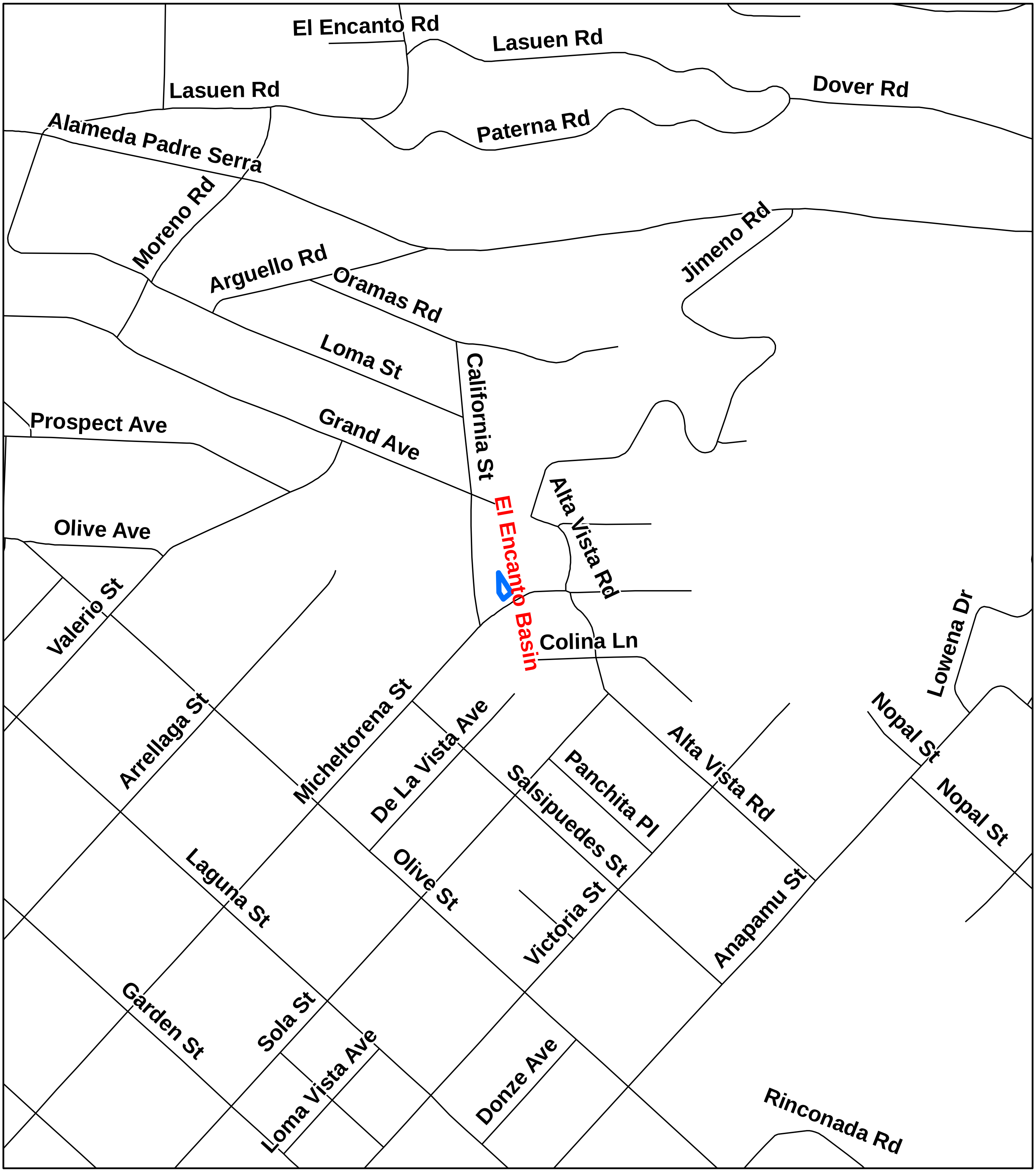

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El Encanto Basin

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N
W E
S

Feet
390 195 0 390

Coordinate System: State Plane California Zone V NAD 1983

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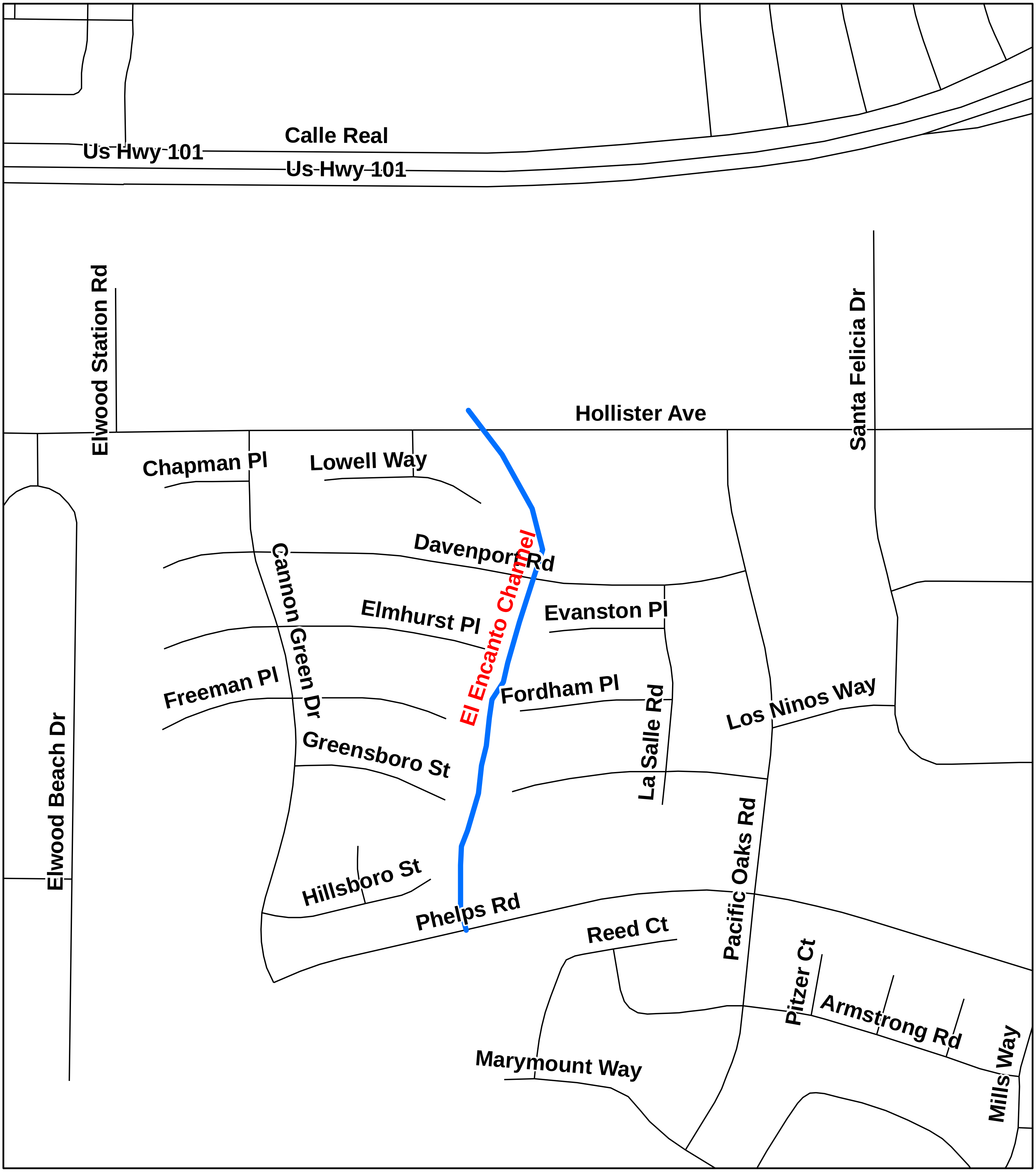

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El Encanto Channel

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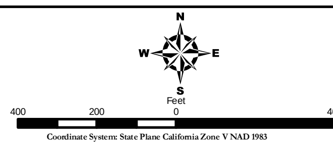

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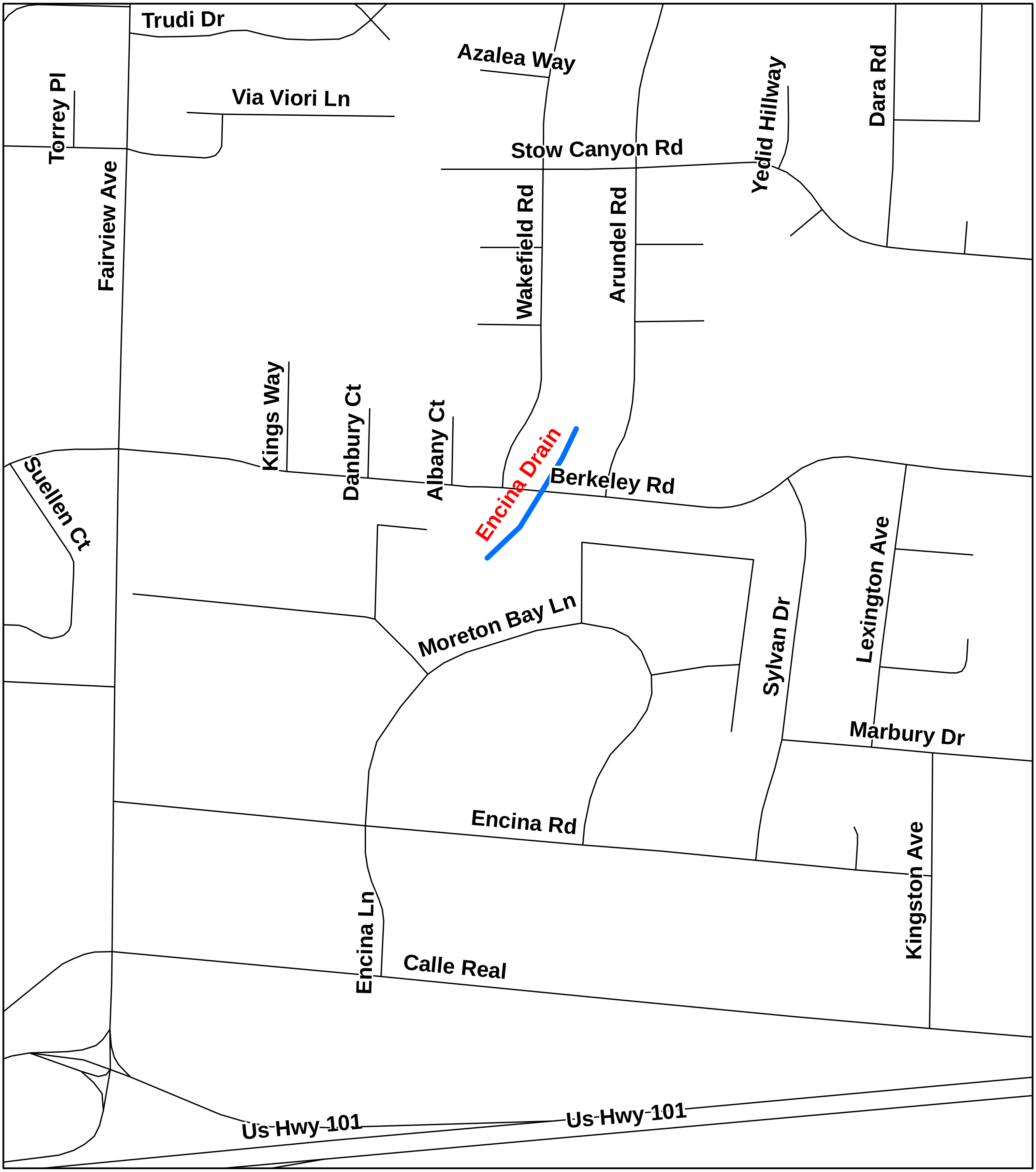

Department of Public Works County of Santa Barbara

Encina Drain

Page 6

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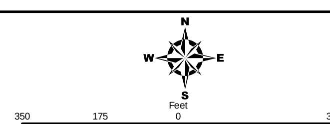

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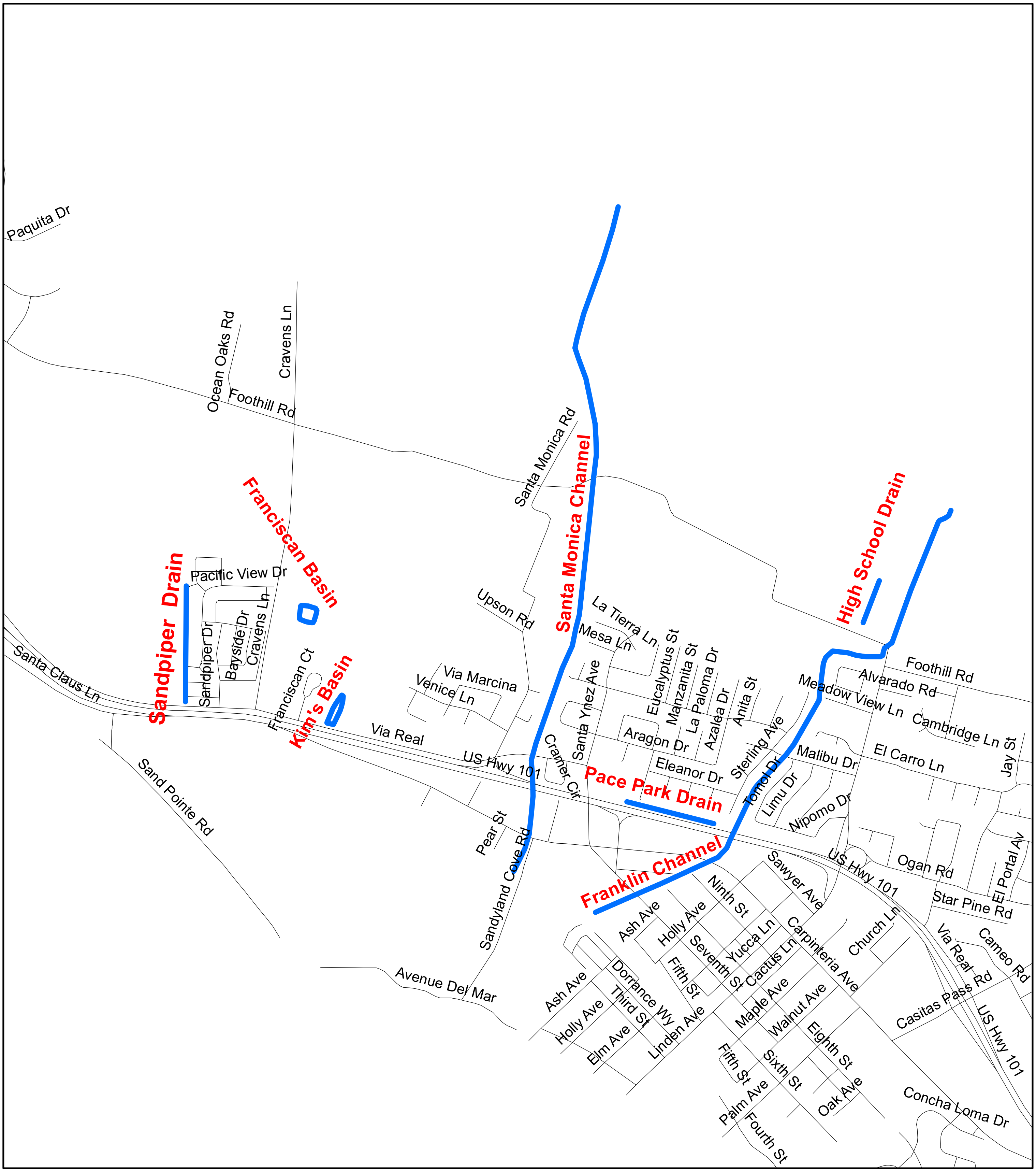

Department of Public Works County of Santa Barbara

Page 7

Franciscan Basin
Sandpiper Drain
Kim's Basin
Santa Monica Channel
Pace Park Drain
High School Drain
Franklin Channel

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N W E S

Feet
1,250 625 0 1,250

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan
Fiscal Year 2011-2012

Santa Barbara County, California

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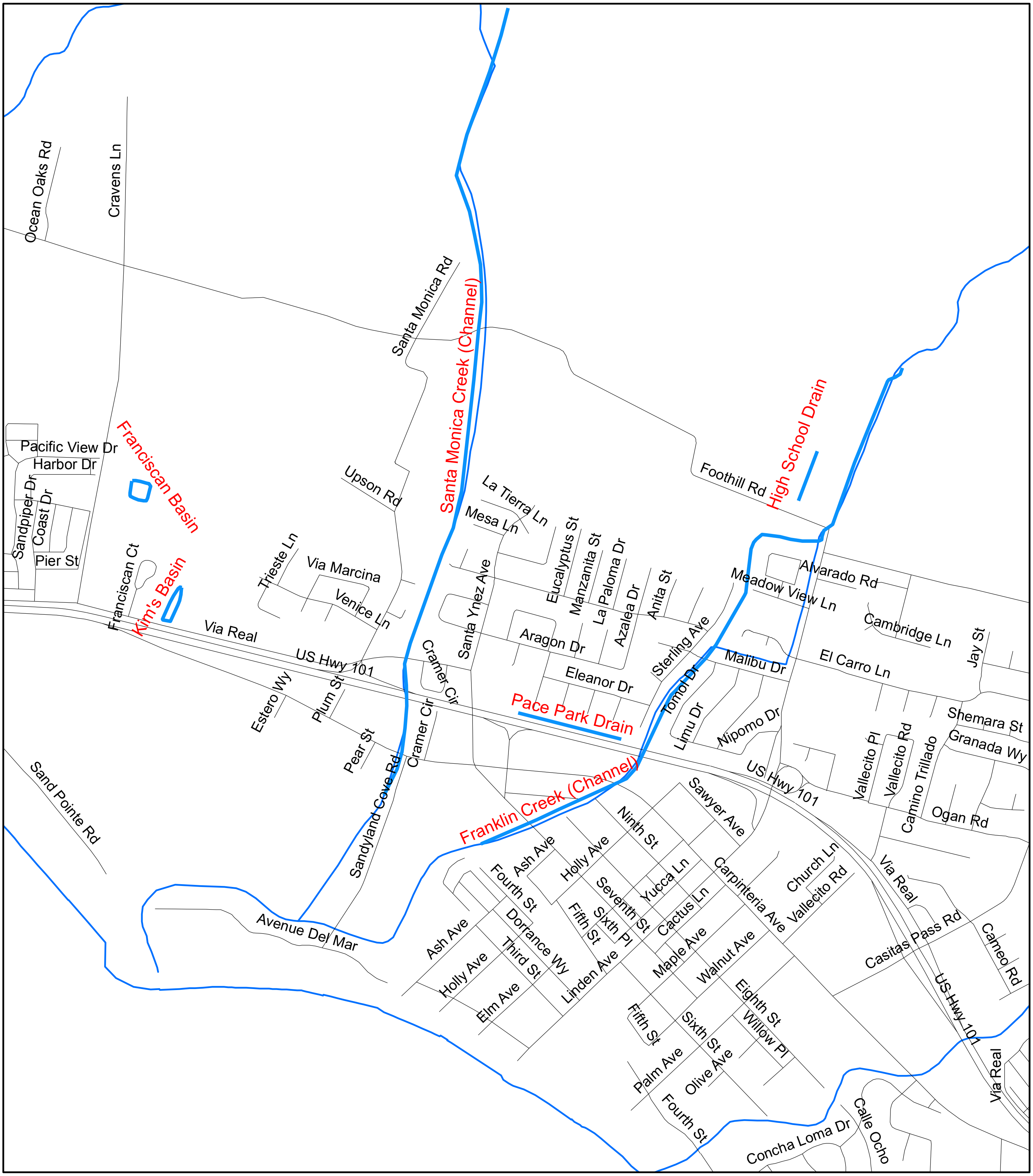

Department of Public Works County of Santa Barbara

Franciscan Basin
Kim's Basin
Santa Monica Creek (Channel)
Franklin Creek (Channel)
High School Drain
Pace Park Drain

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N W E S

Feet
1,200 600 0 1,200

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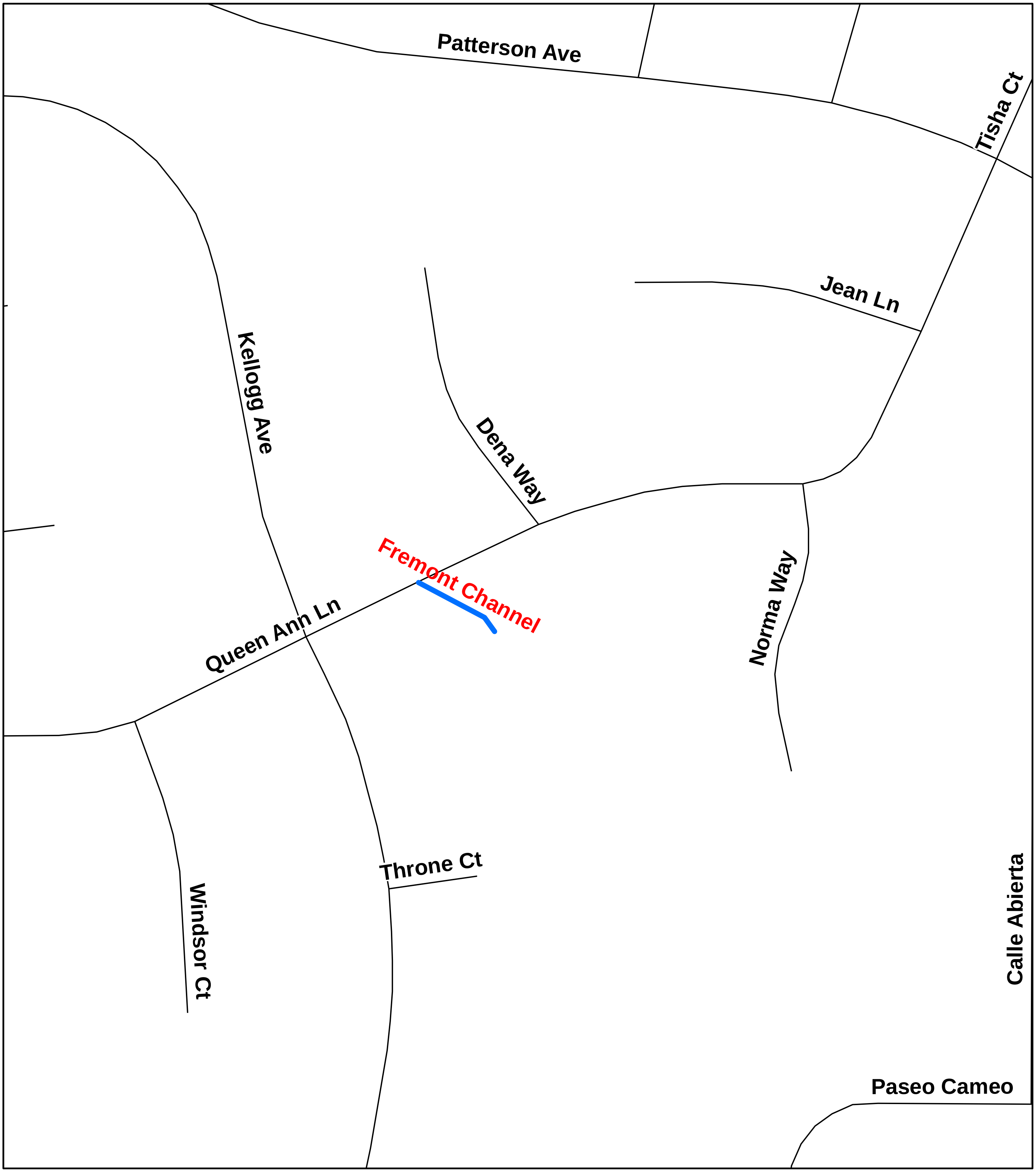

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Fremont Channel

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N W E S

Feet

150 75 0 150

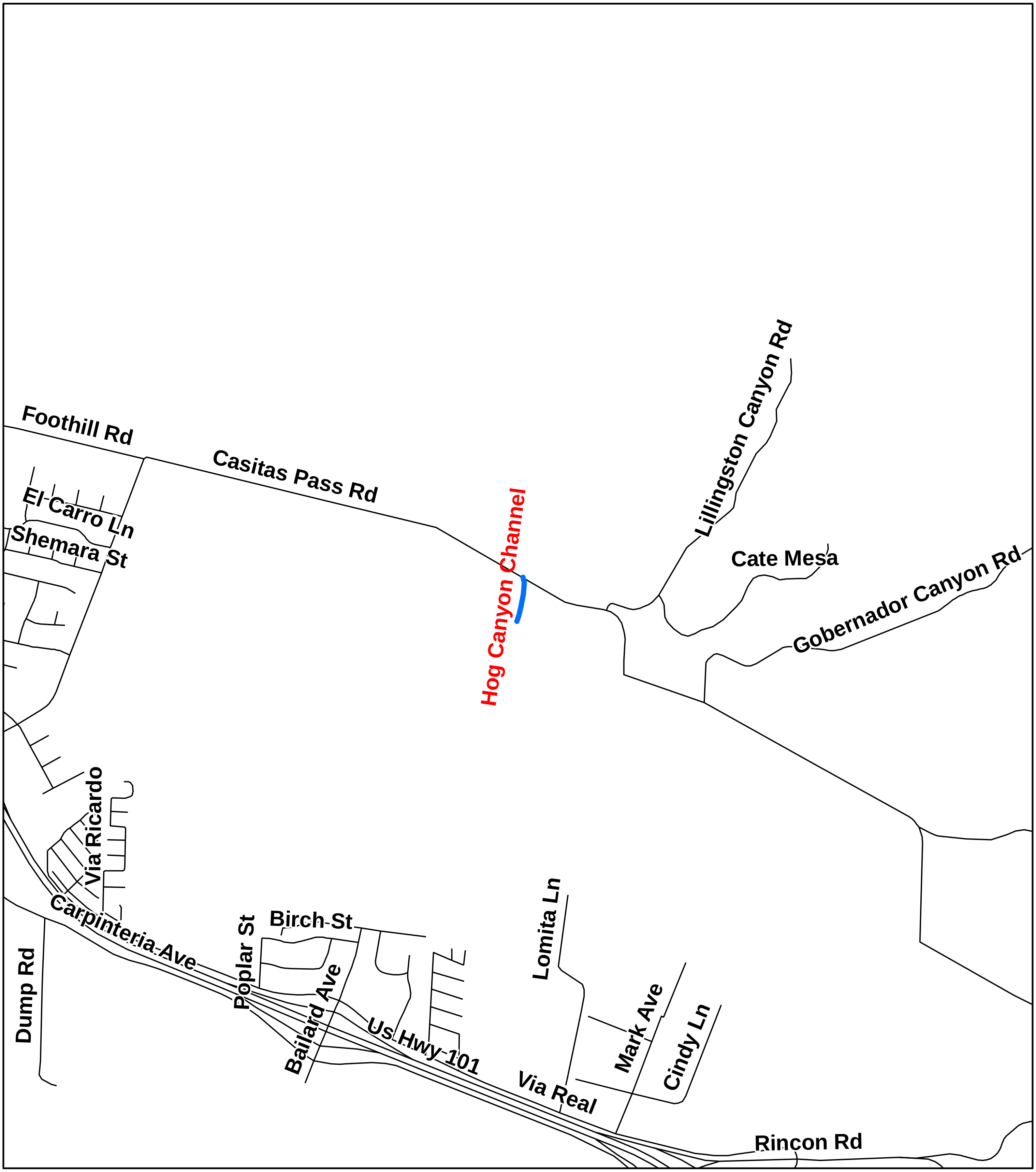
Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
The Santa Barbara County Flood Control and Water Conservation District

Compiled by the Public Works Enterprise GIS in April 2011.



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Hog Canyon Channel

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N W E S

Feet

1,200 600 0 1,200

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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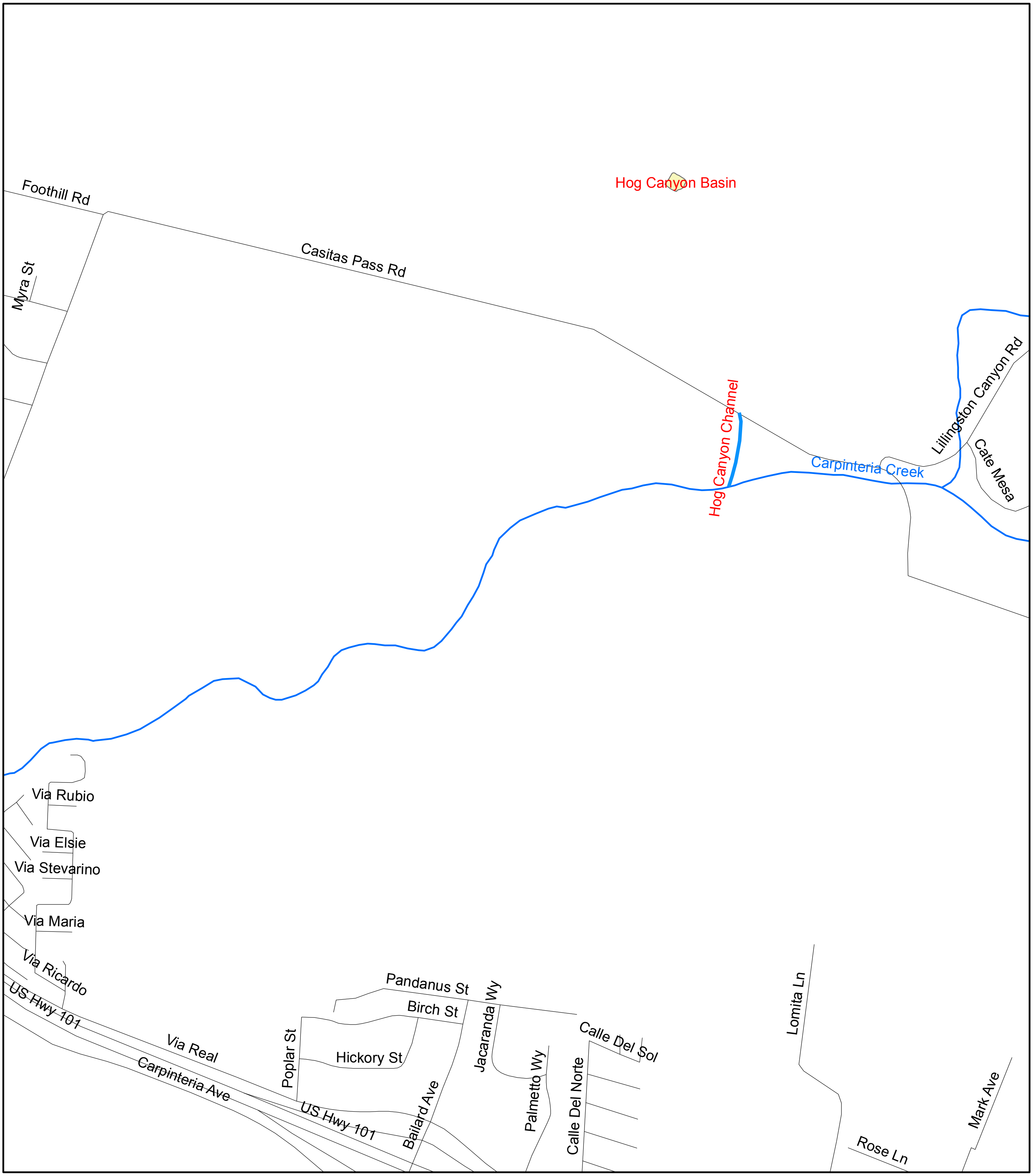

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Hog Canyon Channel
Hog Canyon Basin

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N W E S

Feet

750 375 0 750

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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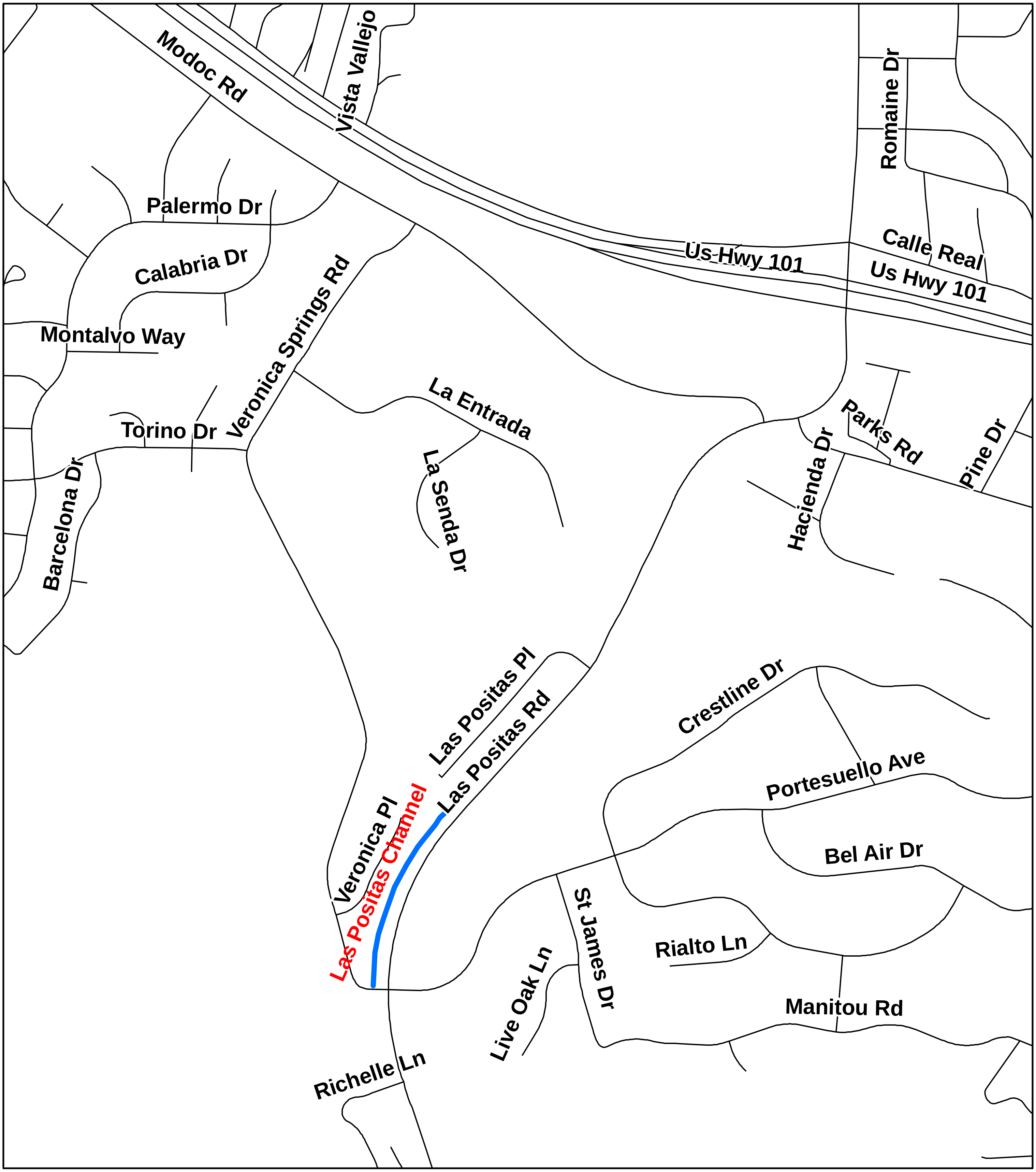

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Las Positas Channel

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N W E S
Feet
550 275 0 550

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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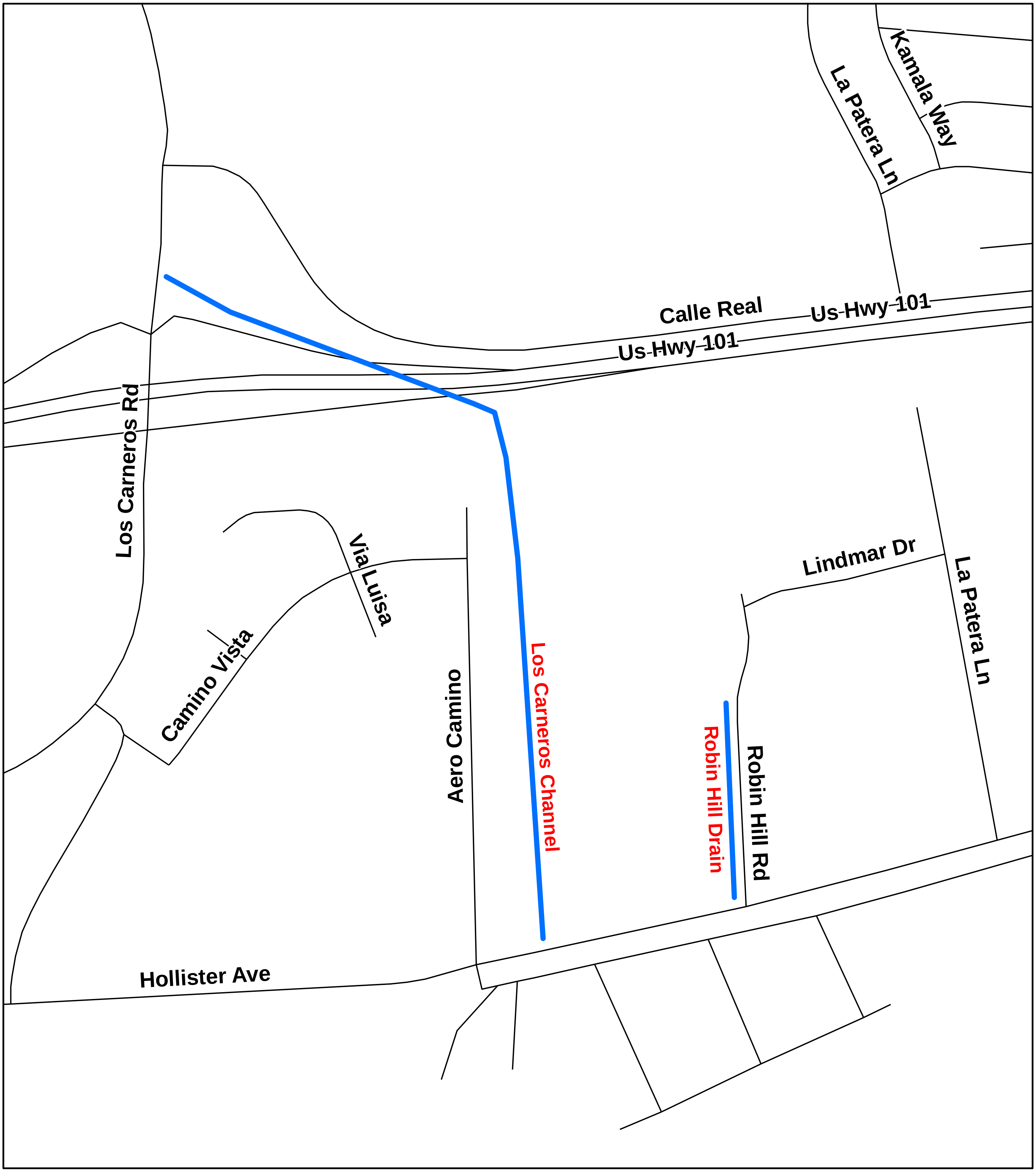

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Los Carneros Channel
Robin Hill Drain

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N
W E
S
Feet
440 220 0 440

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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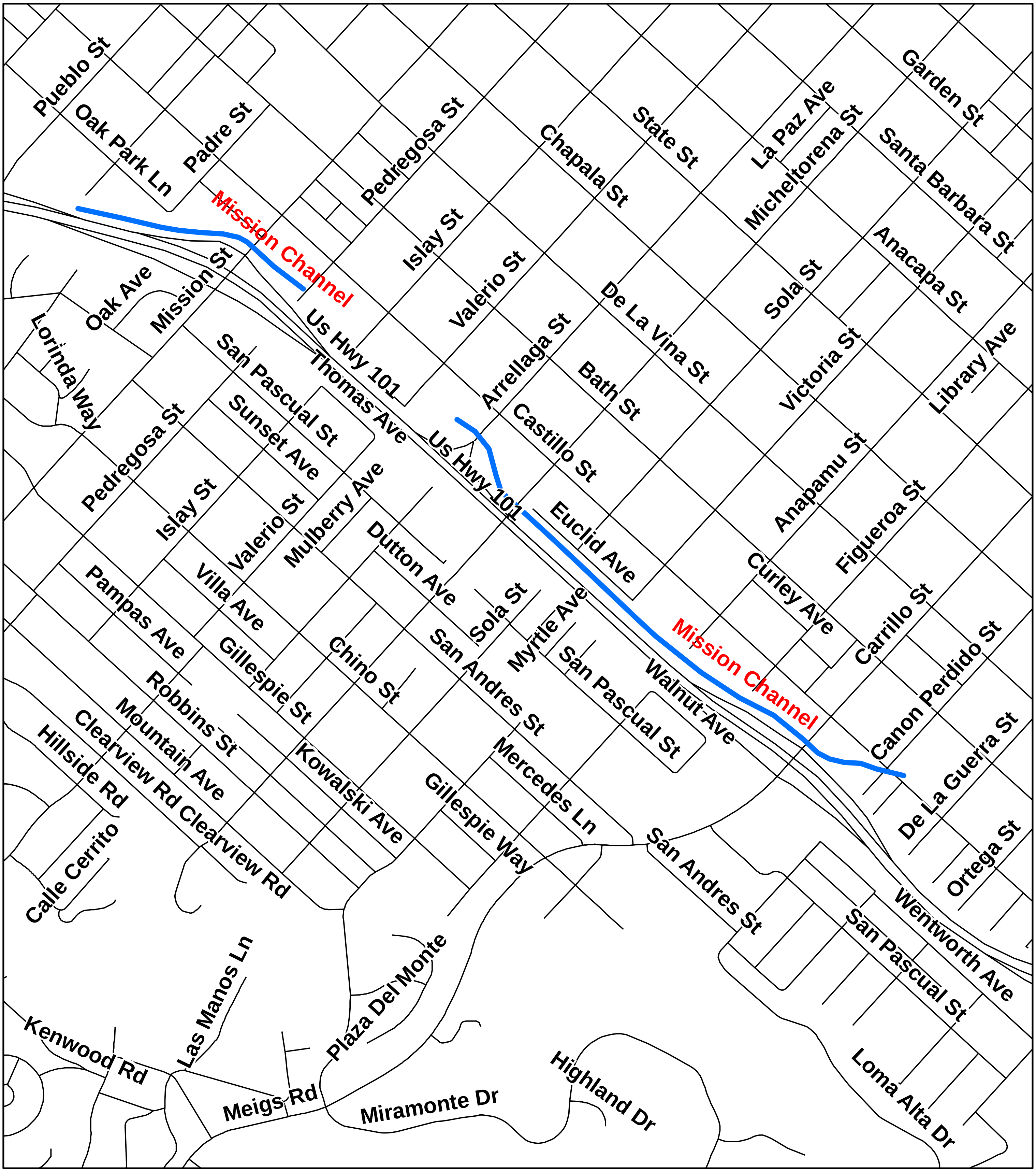

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Mission Channel

Page 14

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N
W E
S
Feet
730 365 0 730

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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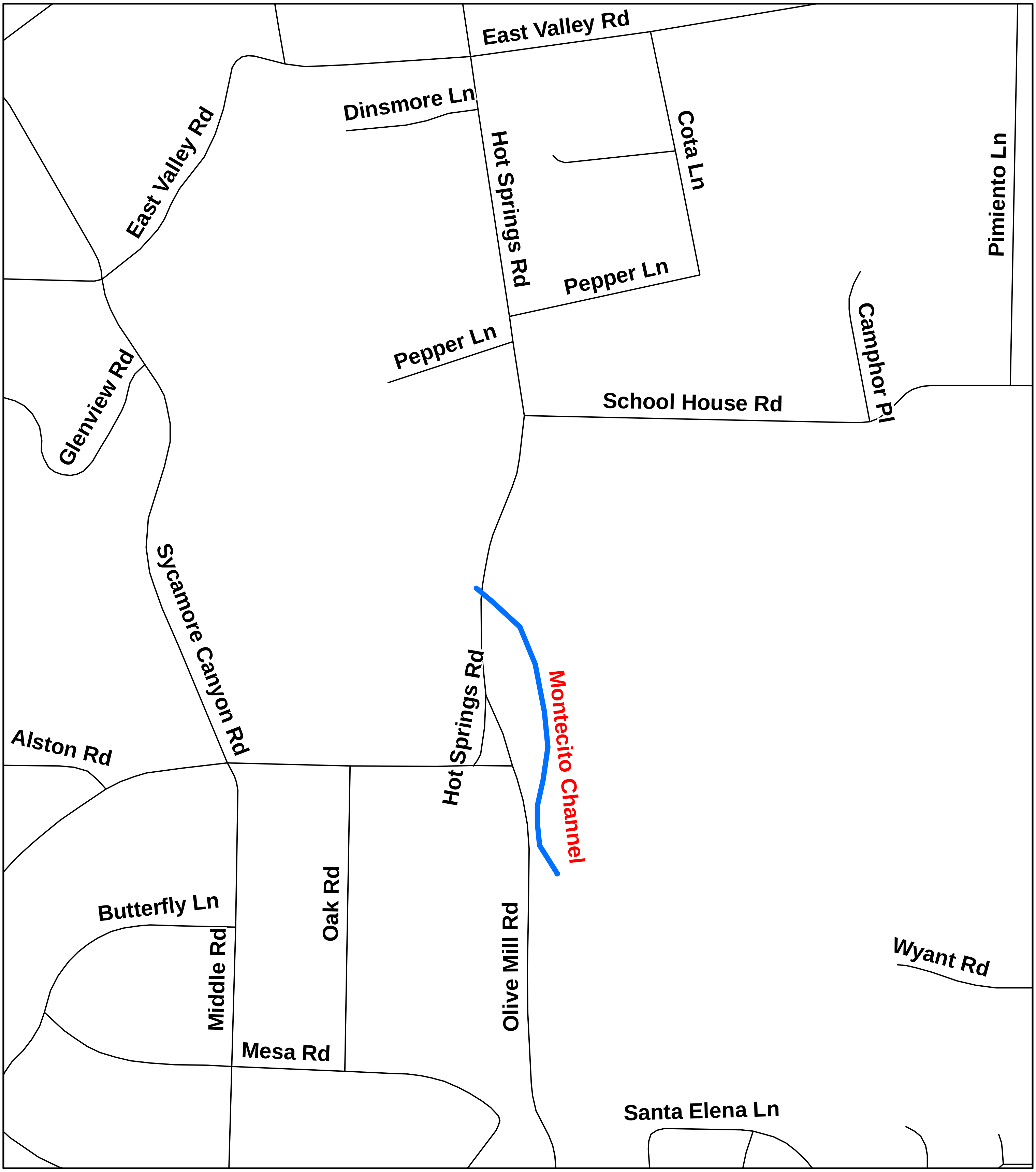

Department of Public Works County of Santa Barbara

Montecito Channel

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N W E S

Feet

390 195 0 390

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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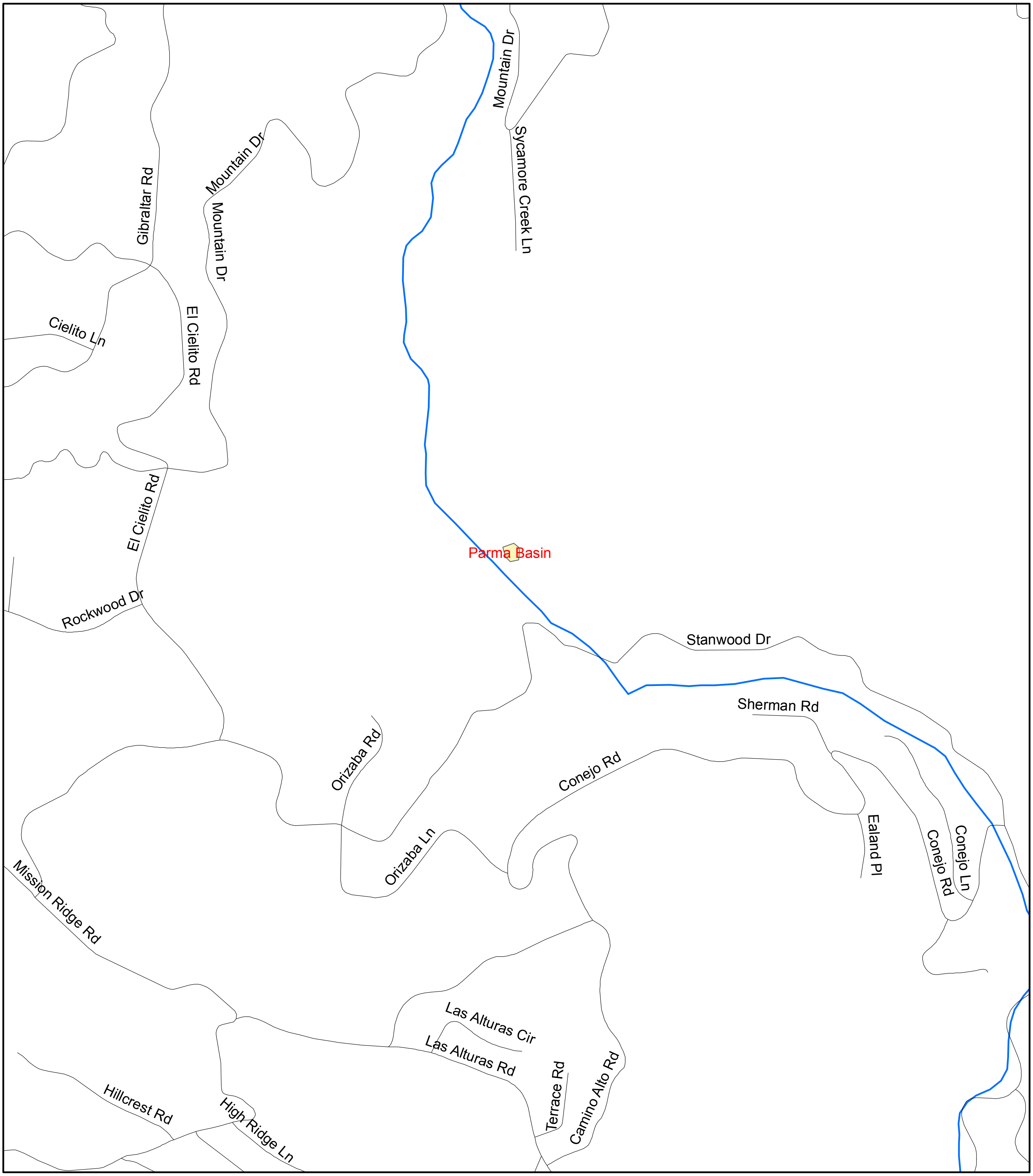

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Parma Basin

Public Works Enterprise GIS

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N W E S

Feet

580 290 0 580

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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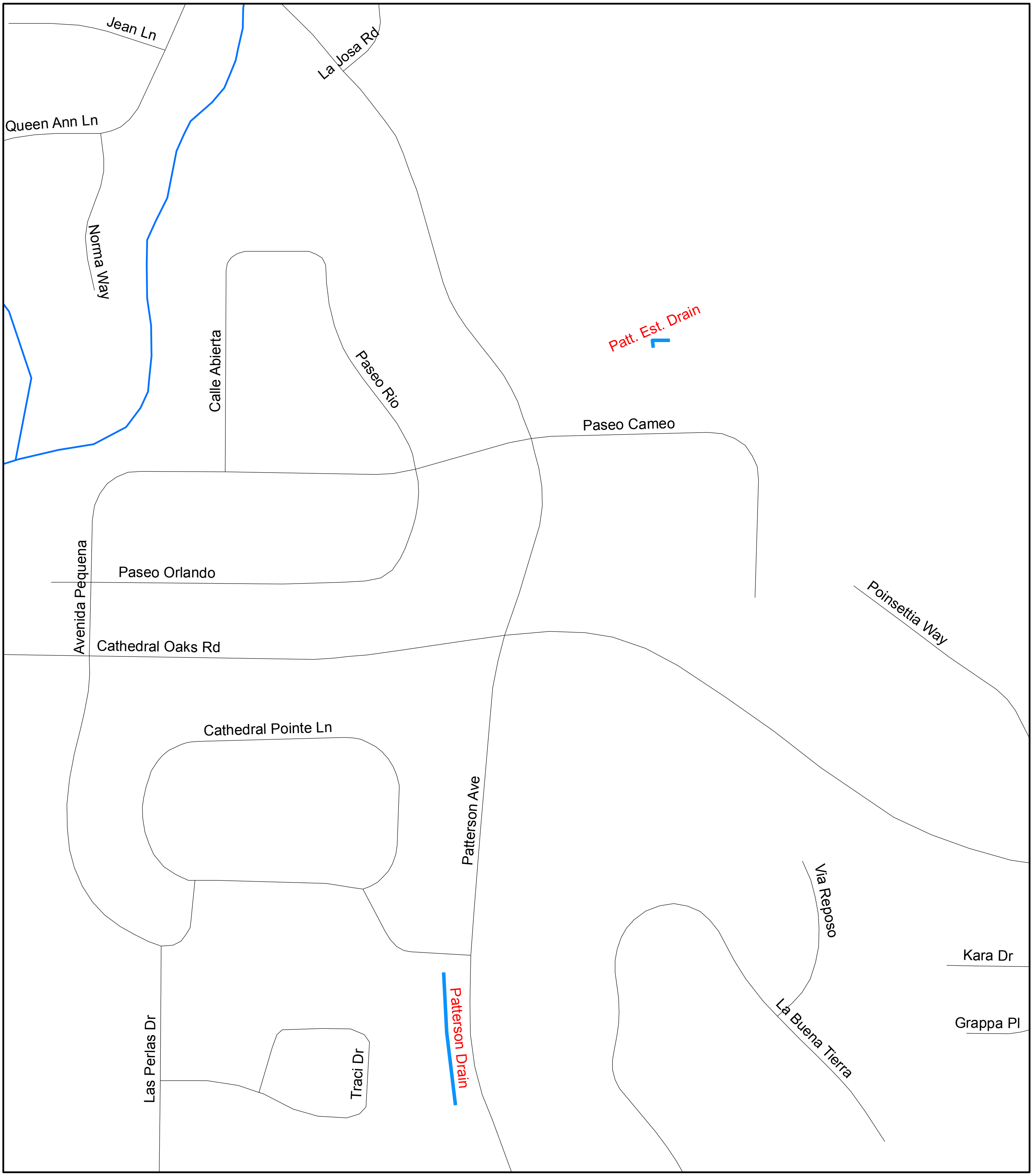

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Patterson Drain
Patterson Estates Drain

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N W E S

Feet

300 150 0 300

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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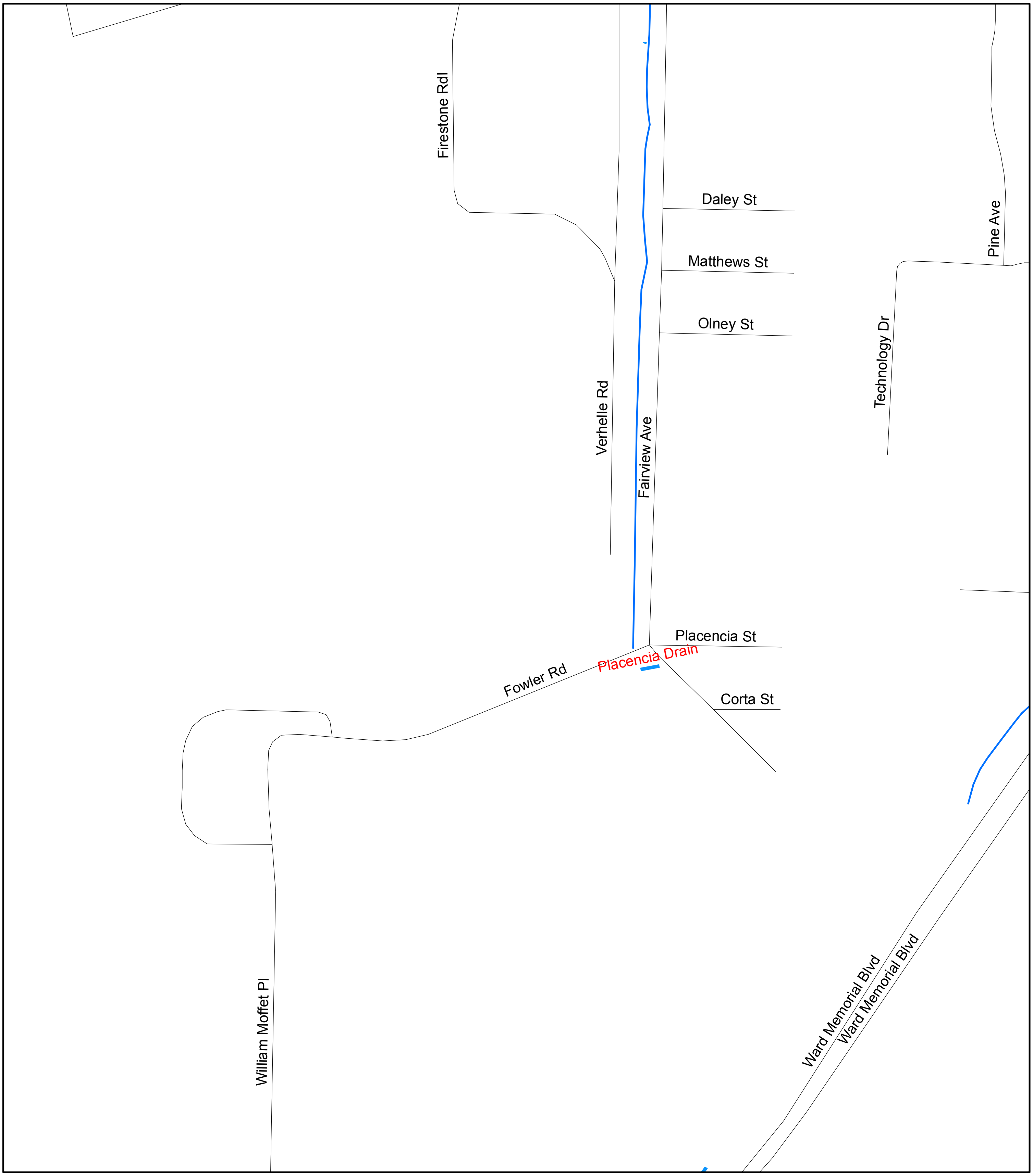

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Placencia Drain

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N
W E
S

Feet
440 220 0 440

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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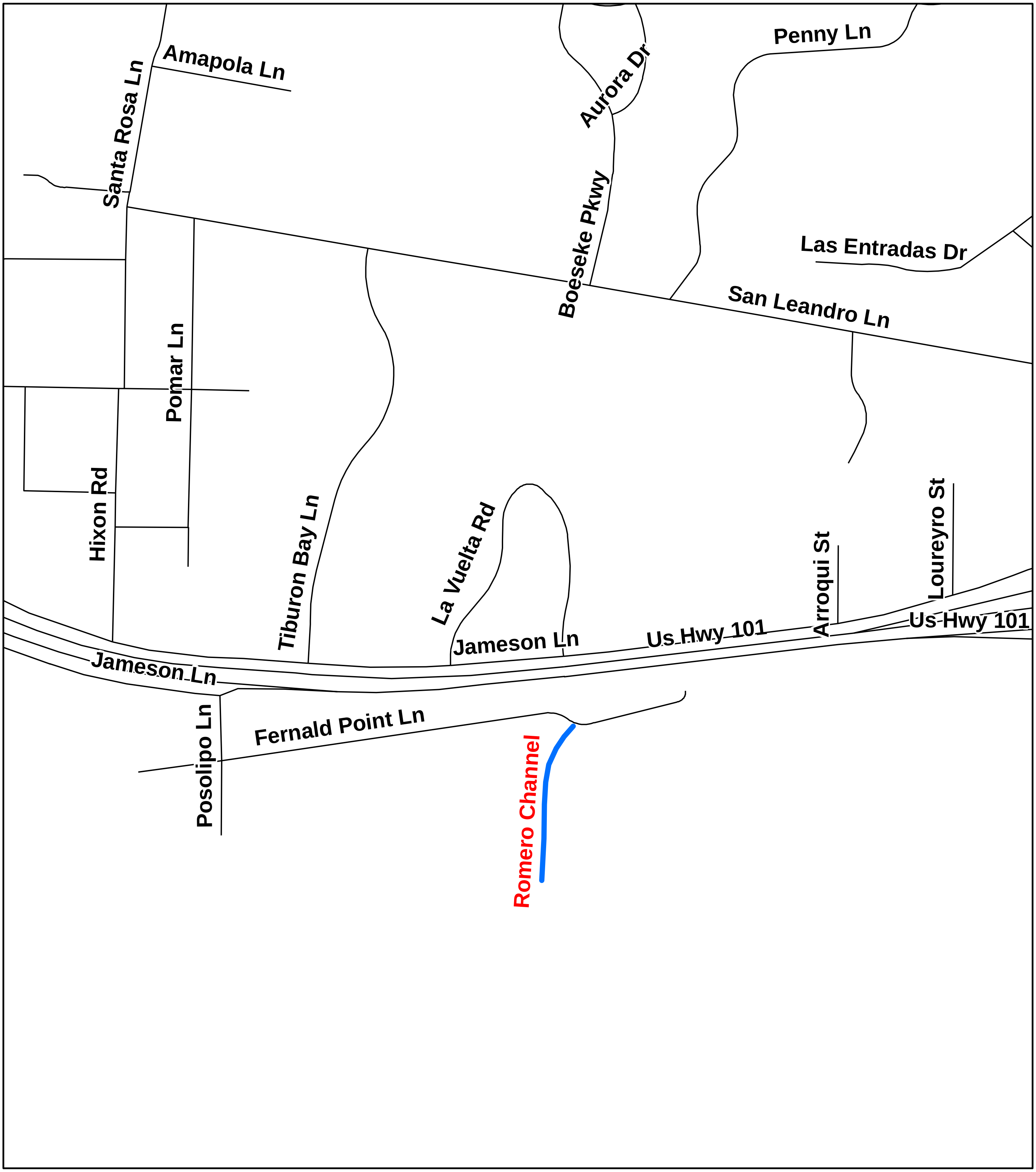

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Romero Channel

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N W E S

Feet 420 210 0 420

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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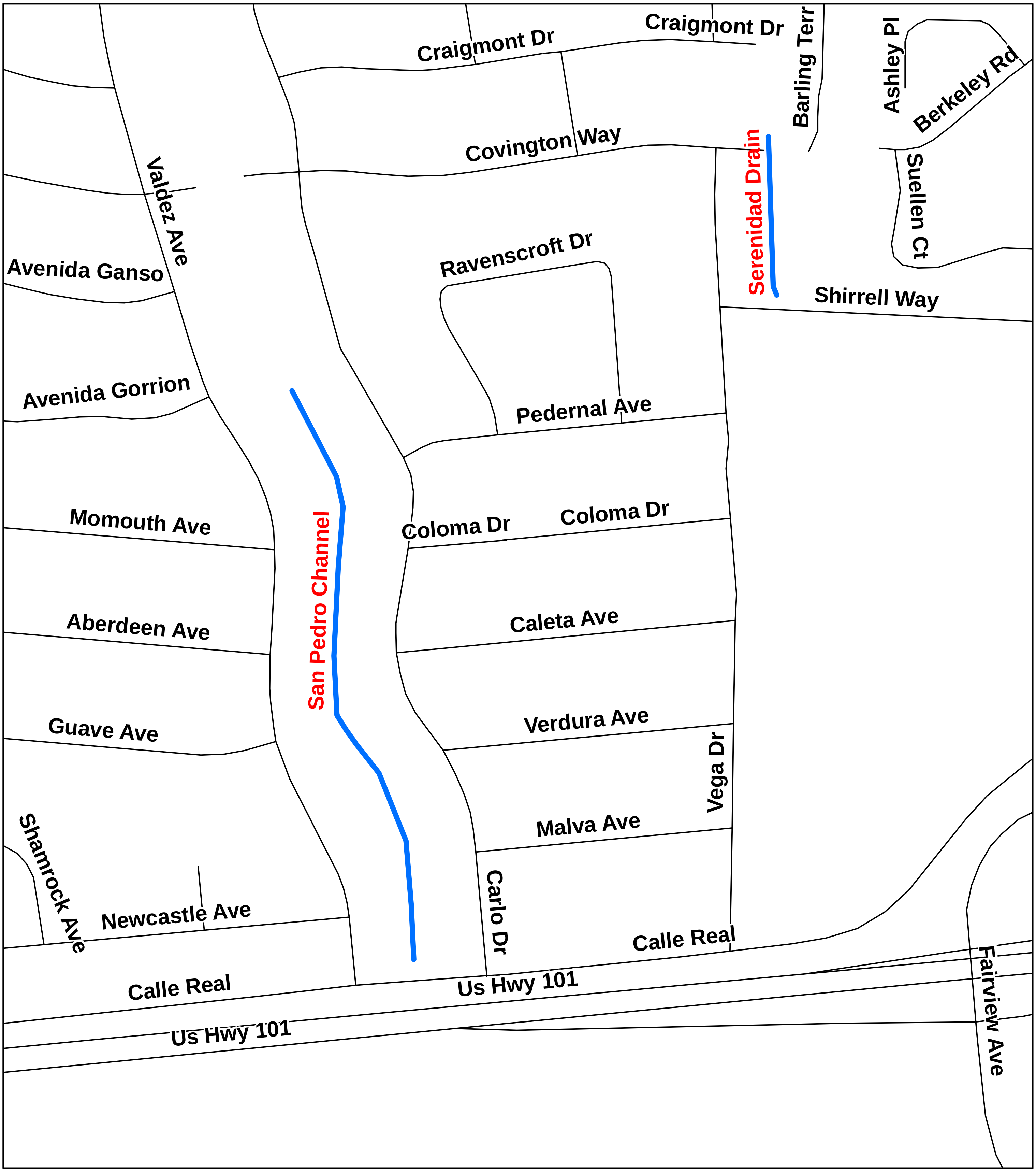

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San Pedro Channel
Serenidad Drain

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N W E S
Feet
275 137.5 0 275

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
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Shirrell Drain
Serenidad Drain

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N W E S

Feet

250 125 0 250

Coordinate System: State Plane California Zone V NAD 1983

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Santa Barbara County, California

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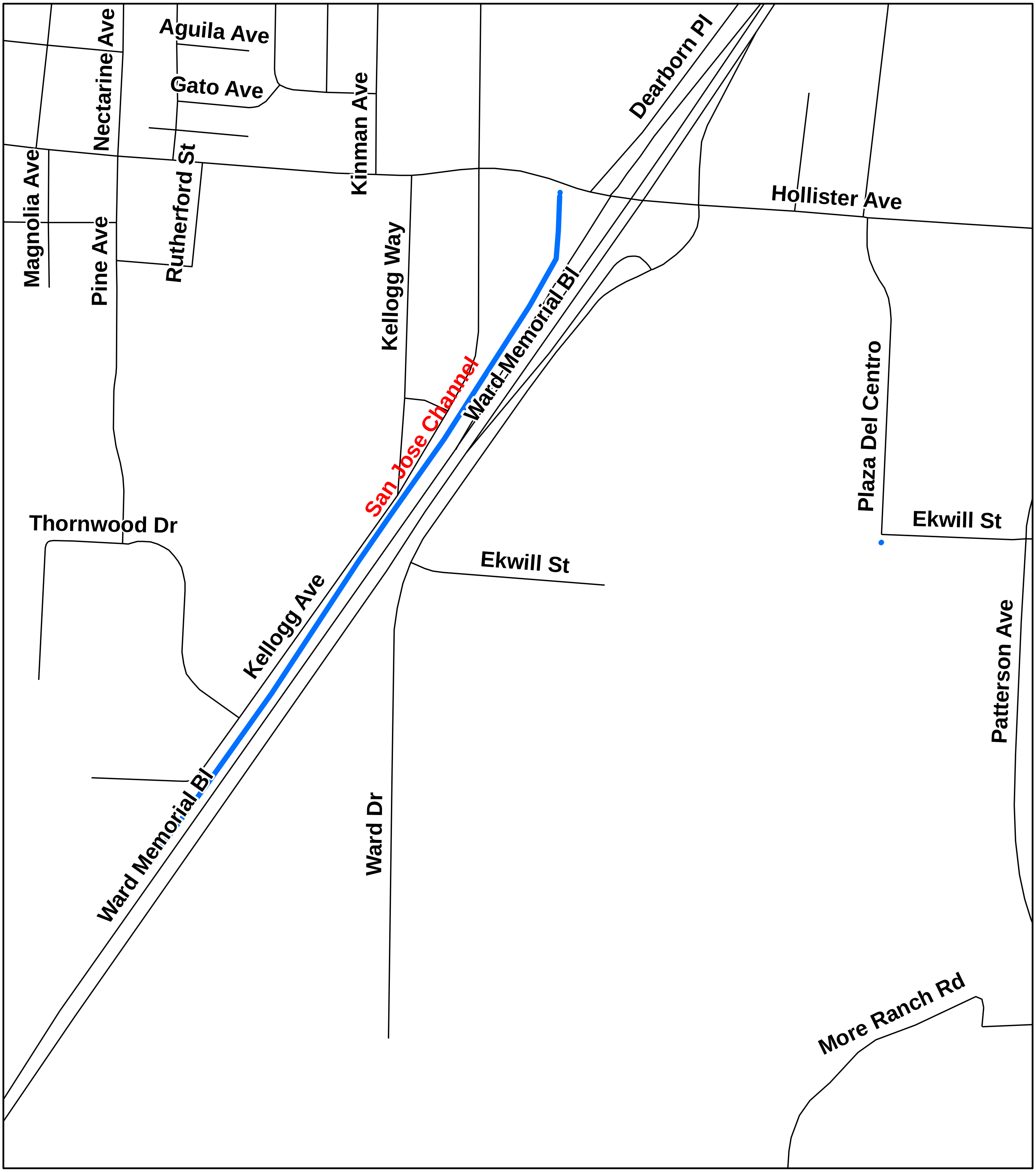

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San Jose Channel

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N W E S

Feet

550 275 0 550

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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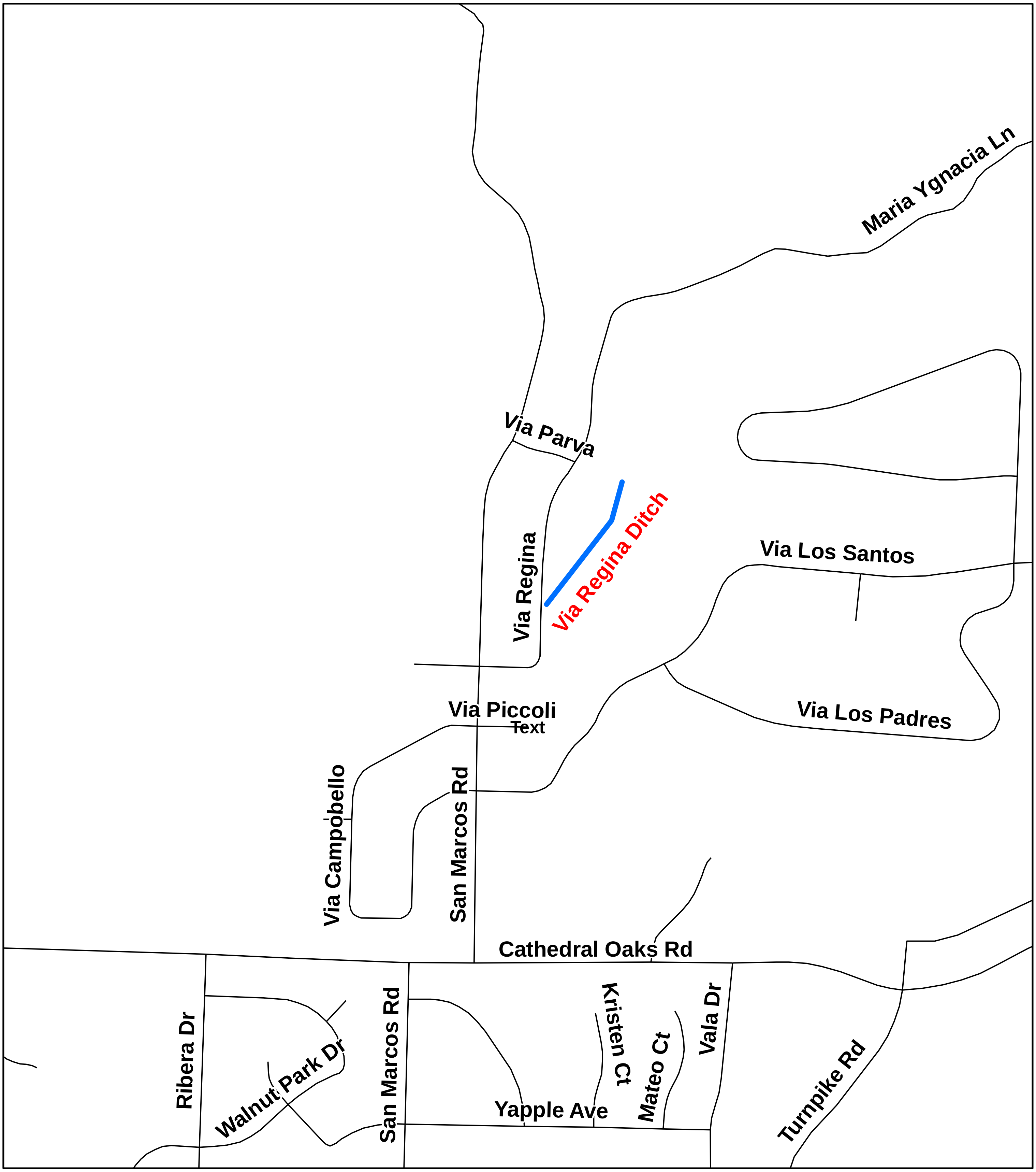

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Via Regina Ditch

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N
W E
S

Feet
450 225 0 450

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

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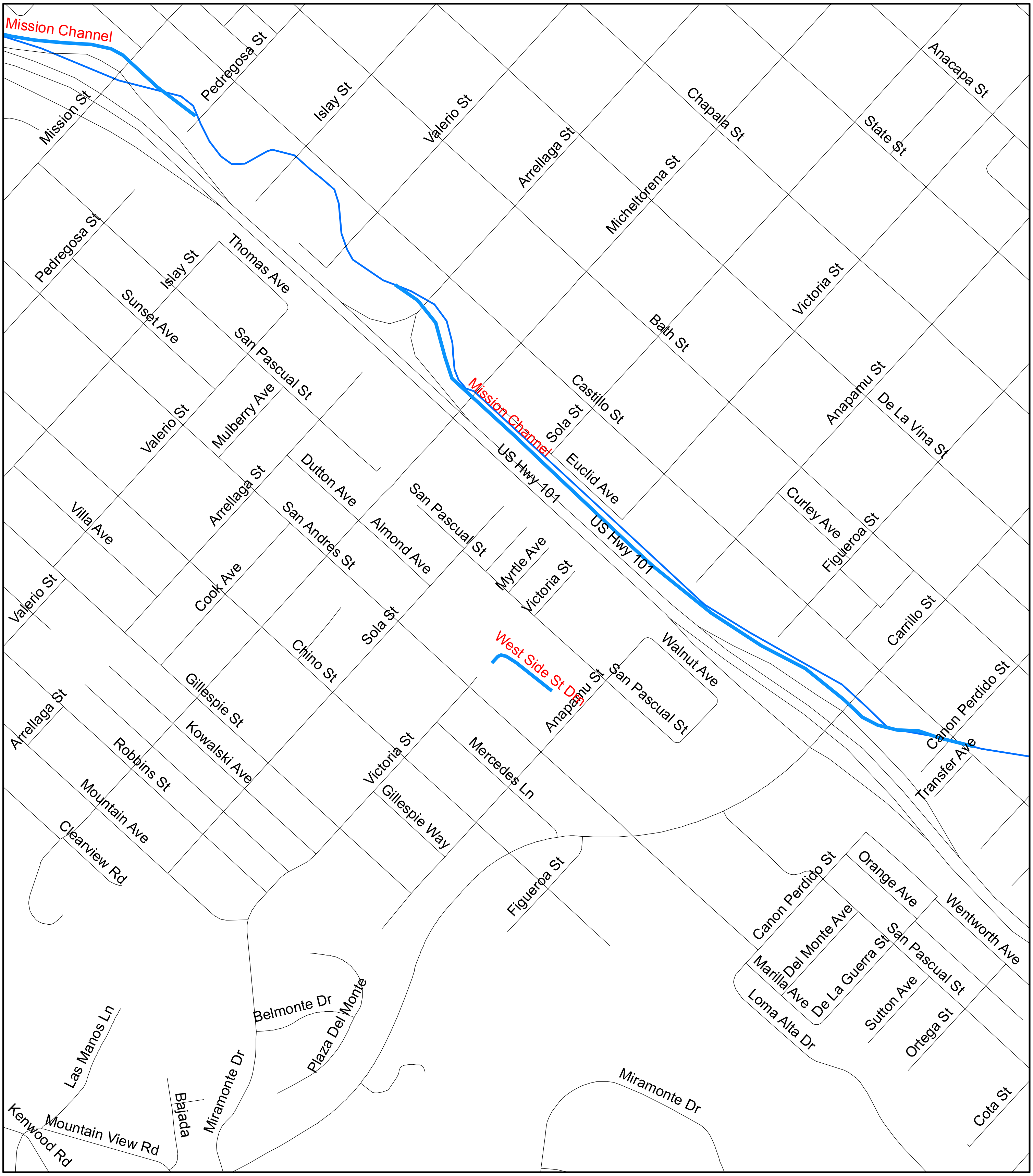

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West Side Storm Drain

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N W E S

Feet 640 320 0 640

Coordinate System: State Plane California Zone V NAD 1983

Annual Routine Maintenance Plan

Santa Barbara County, California

Prepared By:
The Santa Barbara County Flood Control and Water Conservation District

Compiled by the Public Works Enterprise GIS.

Maintenance Practices

Below is an explanation of typical Annual Plan maintenance practices for vegetation management and tabulation of impacts and compensatory mitigation. These explanations are provided here for reference and are not repeated in each corresponding creek description.

Maintenance tasks for each creek are identified by a “section number” and a maintenance task. Refer to the descriptions below for typical maintenance and mitigation requirements at each section. If a particular maintenance section in the Annual Plan requires more explanation, it will be stated as “Additional Info” within each creek addendum.

<u>Down Trees/Limbs</u>: Fallen trees and/or limbs that have accumulated within the bankful channel width are removed from the channel, cut into smaller pieces, and either hauled offsite or left within the riparian corridor for wildlife habitat and organic material along the upper banks.

<u>Limbing</u>: Low limbs and overhanging branches that project into the bankful channel and below a height of 6ft are trimmed to regain flow capacity. A crew using chainsaws and loppers will remove the obstructive vegetation from the active channel. The vegetation will be cut up and hauled out of the creek or left on the upper banks, depending on access.

<u>Brushing</u>: A crew with chain saws and loppers will cut the obstructive vegetation near the base. The vegetation will be removed with hand tools and a glyphosate herbicide registered for aquatic use may be applied to inhibit regeneration. A follow-up application of herbicide may be done in the spring/summer if the vegetation begins to resprout and needs additional treatment. The brushing area indicates the dimensions of the total area to be treated by brushing. The entire area is not typically uniformly vegetated, but rather has sporadic sprouts and clusters of vegetation within the perimeter. Brushing and spot spray is applied selectively to target only the obstructive sprouts and clusters within the larger work area.

<u>Impacts and Mitigation</u>: Impacts to native vegetation due to brushing or other live vegetation removal are tabulated for mitigation according to the Revegetation Plan. If a section includes brushing or removal of native vegetation, the associated mitigation quantity will be quantified in the associated table. For sites treated with brushing, the entire work area is not typically uniformly vegetated. The District calculates the total square footage of impacts to native vegetation within the work area using visual density estimates and the CNPS Relevé protocol.

Limbing trees and removal of down trees/limbs does not result in impacts to standing live vegetation, therefore the Annual Routine Maintenance Program does not mitigate for these tasks with riparian restoration. The Maintenance Program incorporates BMPs and other mitigation measures to reduce temporal impacts to a less than significant level.

ADOBE CANYON CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins at Del Prado Road and ends 250 feet upstream of Viborg Road in the Solvang area.

Setting:
Inspected on March 31, 2022.

Adobe Canyon Creek is a tributary to the Santa Ynez River which runs southward along Fredensborg Canyon and continues through Solvang. The upper reach is mostly a roadside ditch along a narrow suburban road, leading into a dense riparian/oak ravine running under several roads and bridges. The banks are well vegetated with mature coast live oak trees that are prone to dropping limbs. The understory is shaded and vegetated with a mix of native shrubs, weedy grasses, and oak sprouts.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included to more easily display and track the District's restoration efforts.

Adobe Canyon Creek							
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Restoration Bank Credits Utilized*	Surplus Restoration (ft2)	Lg Tree Impacts	Tree mitigation installed
2004/2005	500	500	500		0		
2011/2012	70	0	0		-70		
2012/2013	50	0	0		-120		
2014/2015	50	0	0	170	0		
2017/2018	400	0	0	400	0	1 willow 6" DBH	
2019/2020	0	0	0	0	0		10:1 willows
2022/2023	50	0	0	50	0		

*The District has undertaken a large bioswale/restoration project in Zanja De Cota watershed. The surplus square footage at this site is used to offset small impacts in the drainage network (Zaca, Zanja de Cota, and Adobe Creeks)

Engineering Analysis:

Obstructive vegetation impedes flows and adds to the debris load generated during high runoff. This drainage passes very close by several homes that are accessed by individual private bridges across the creek. This debris can plug these bridges and downstream culverts and cause flooding to adjacent properties. Additionally, since Adobe Creek generally has a narrow channel (approximately 4'-6'-wide through the residential areas), obstructive vegetation can direct flows against the banks and increase erosion and sedimentation. Removing obstructive vegetation and debris from the active channel can reduce the potential for flooding.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (inches)	Length (feet)	Impacts to be Mitigated (ft2)	Additional Info
Section 1			x	oak/poison oak				
Section 2			x	eucalyptus				
Section 3			x	oak				
Section 4		5x100		poison oak			50	

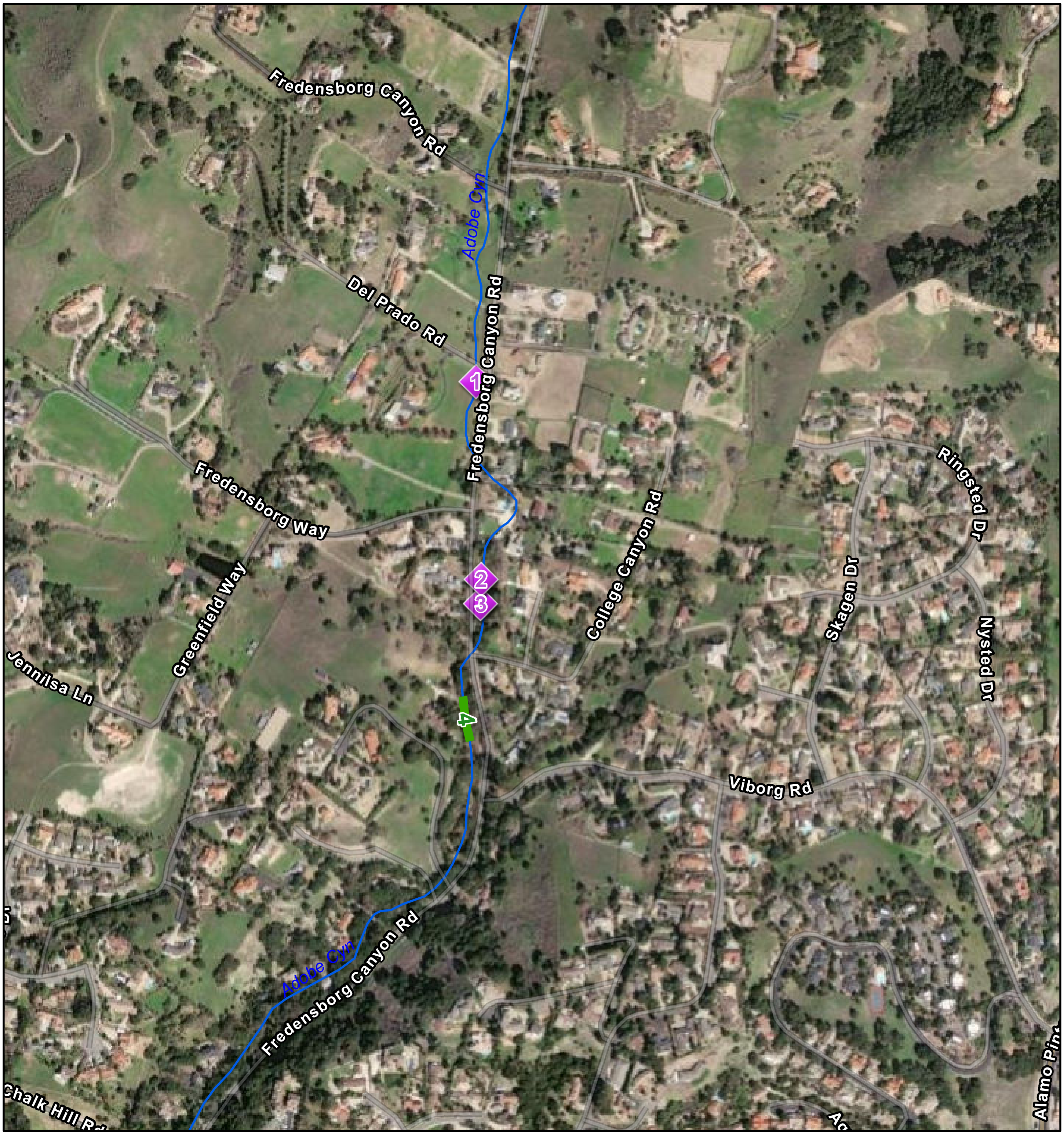
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

This project will take 2-4 days to complete.

Adobe Creek



5/18/2022

1:9,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Adobe Creek

Section 2

Section 4

ALAMO PINTADO CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
Maintenance on Alamo Pintado Creek begins 150 feet downstream of Highway 154 and terminates approximately 150 feet downstream of Highway 246 in the City of Solvang.

Setting:
Inspected on March 24, 2022.

Alamo Pintado Creek originates in the San Rafael Mountains and flows southward through pasture, cultivated fields and the towns of Los Olivos, Ballard and Solvang before flowing into the Santa Ynez River. Alamo Pintado Creek drains a 19,000-acre watershed along the western boundary of the Santa Ynez Valley capable of producing 7,400 cfs at Highway 246 during a 100-year return period precipitation event.

Surrounding land uses within the management area vary from suburban, agriculture, pasture, and open space. In some areas, the riparian corridor is wide with minimal disturbance; other reaches are degraded with almost no riparian buffer. The majority of the creek was dry, with the lower downstream end of the project area wetted with flowing water. The creek channel was mostly open under a dense willow canopy. Other characteristic tree species include sycamore and walnut. Based on the District's observations, downed trees and limbs are relatively common in Alamo Pintado Creek in most years. The dense canopy tends to drop limbs and trees frequently in this system, creating a potential flood risk.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included to more easily display and track the District's restoration efforts.

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2002/2003	200	200	200	0
2004/2005	700	4,000	0	-700
2005/2006	700	3,000	3,000	1,600
2007/2008	1,650	0	0	-50
2008/2009	0	5,300	0	-50
2009/2010	0	5,300	5,000	4,950
2013/2014	100	0	0	4,850
2017/2018	20	0	0	4,830
2020/2021	0	50	0	4,780
2022/2023	30	0	0	4,750

Engineering Analysis:

There are many downed trees in various places along the channel. There are several public and private bridges along the course of the creek which are susceptible to plugging from this downed vegetation. Removal of downed trees as well as trimming back tree limbs hanging into the active channel is necessary to prevent plugging of bridges, to prevent local scour due to diversion of flow, and to prevent debris plugs from forming on the downed vegetation.

The bankfull width as determined by field indicators is approximately 12 feet. Therefore, removal of obstructive vegetation should result in a cleared cross-section that mimics the stable channel geometry found in the vicinity of the proposed project.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

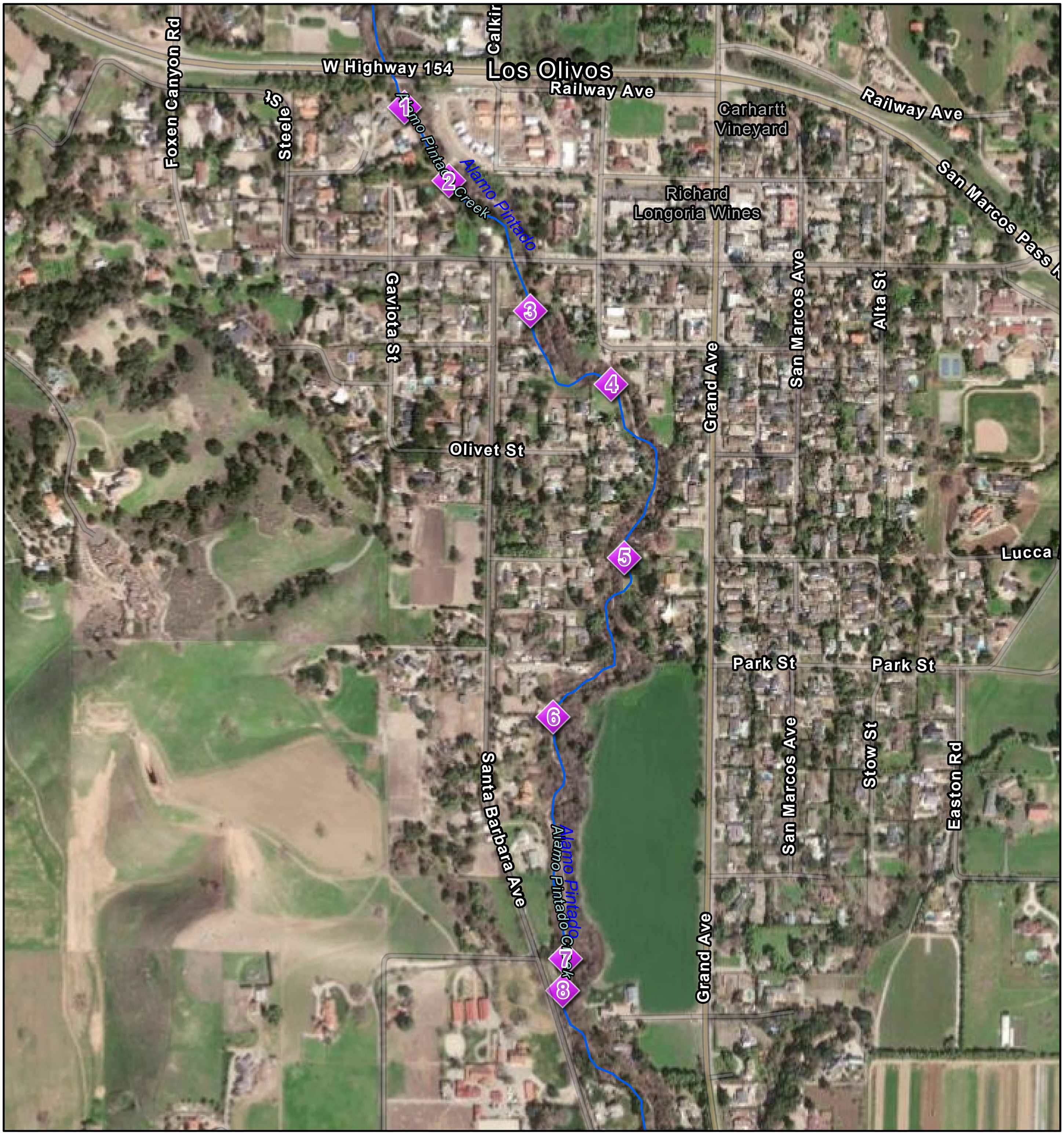
Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		100x10		tree of heaven			0	
Section 2	x			willow	4	8		
Section 3	x			willow	<4	12		
Section 4	x			willow	8	20		
Section 5				willow	4	15		
Section 6	x			willow	6	15		
Section 7	x			willow	7	20		
Section 8	x			willow	5	20		
Section 9	x			willow				debris
Section 10	x			eucalyptus				multiple
Section 11		5x5		arundo			0	
Section 12	x			willow	10	25		
Section 13	x			willow				multiple
Section 14	x			willow				debris
Section 15	x			willow	6	10		
Section 16	x			willow				multiple
Section 17	x			willow	7	15		
Section 18	x			willow				multiple
Section 19	x			willow	4	15		
Section 20		20x20		arundo			0	
Section 21	x			willow eucalyptus				multiple
Section 22	x			willow	4	12		
Section 23	x			willow	9	12		
Section 24		30x10		arundo			0	
Section 25	x			cottonwood	4	15		

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 26	x			cottonwood	<4	12		
Section 27	x			eucalyptus	7	15		
Section 28	x			willow	5	15		
Section 29	x			oak	6	20		
Section 30	x			willow				multiple
Section 31	x			willow	5	15		
Section 32	x			willow				multiple
Section 33	x			willow	6	15		
Section 34	x			willow				multiple
Section 35	x			willow	7	15		
Section 36	x			willow	7	20		debris
Section 37		250x10		cottonwood willow			30	
Section 38	x			willow				multiple
Section 39	x			willow				multiple
Section 40	x			willow	<4	20		
Section 41			x	willow				
Section 42	x							trim back stump

<u>Impact Analysis and Mitigation Measures:</u>
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 12 days to complete.

Alamo Pintado Creek - A



5/19/2022

1:9,015

0 0.05 0.1 0.2 mi

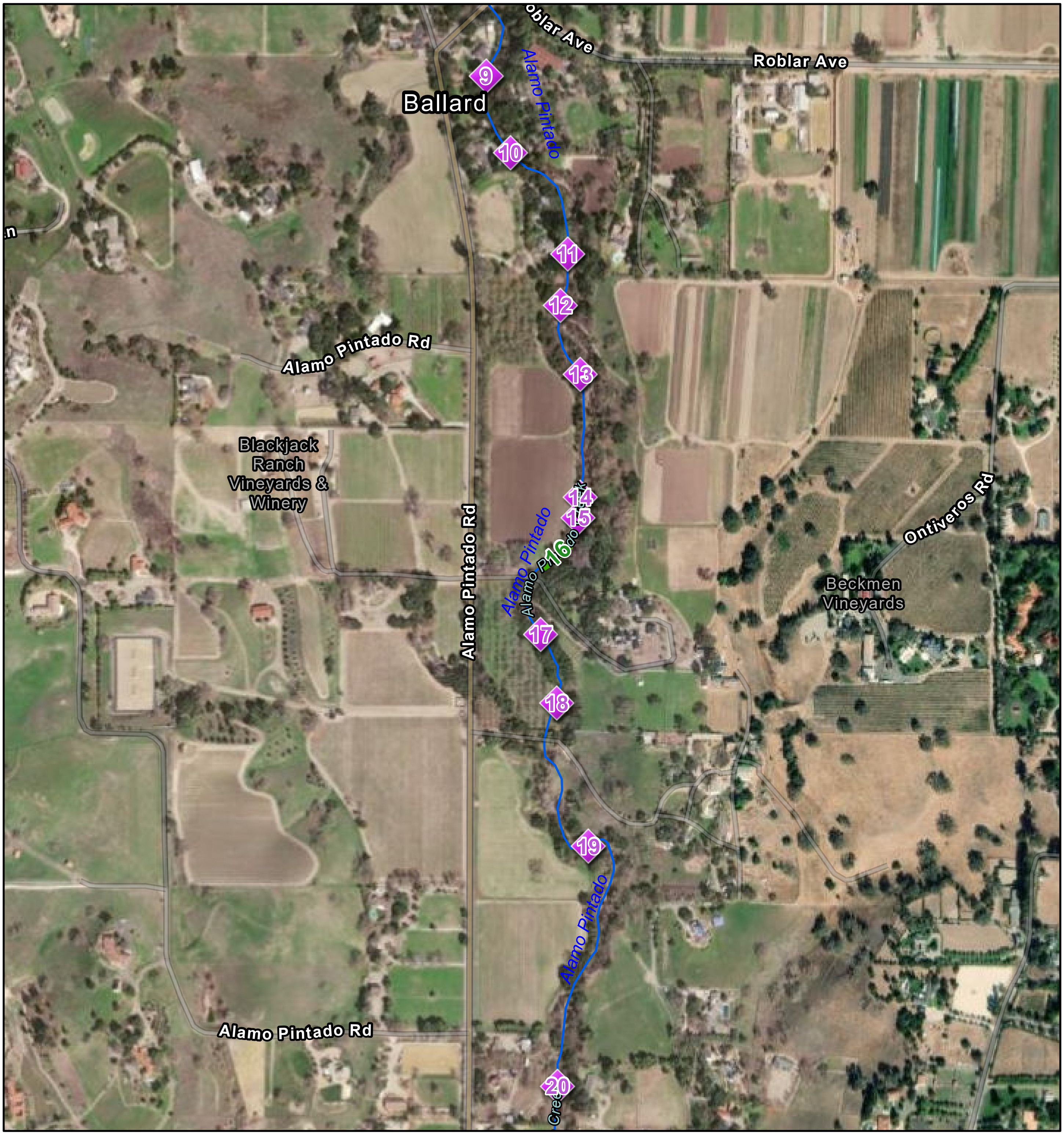
0 0.1 0.2 0.4 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Alamo Pintado Creek - B



5/19/2022

1:9,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

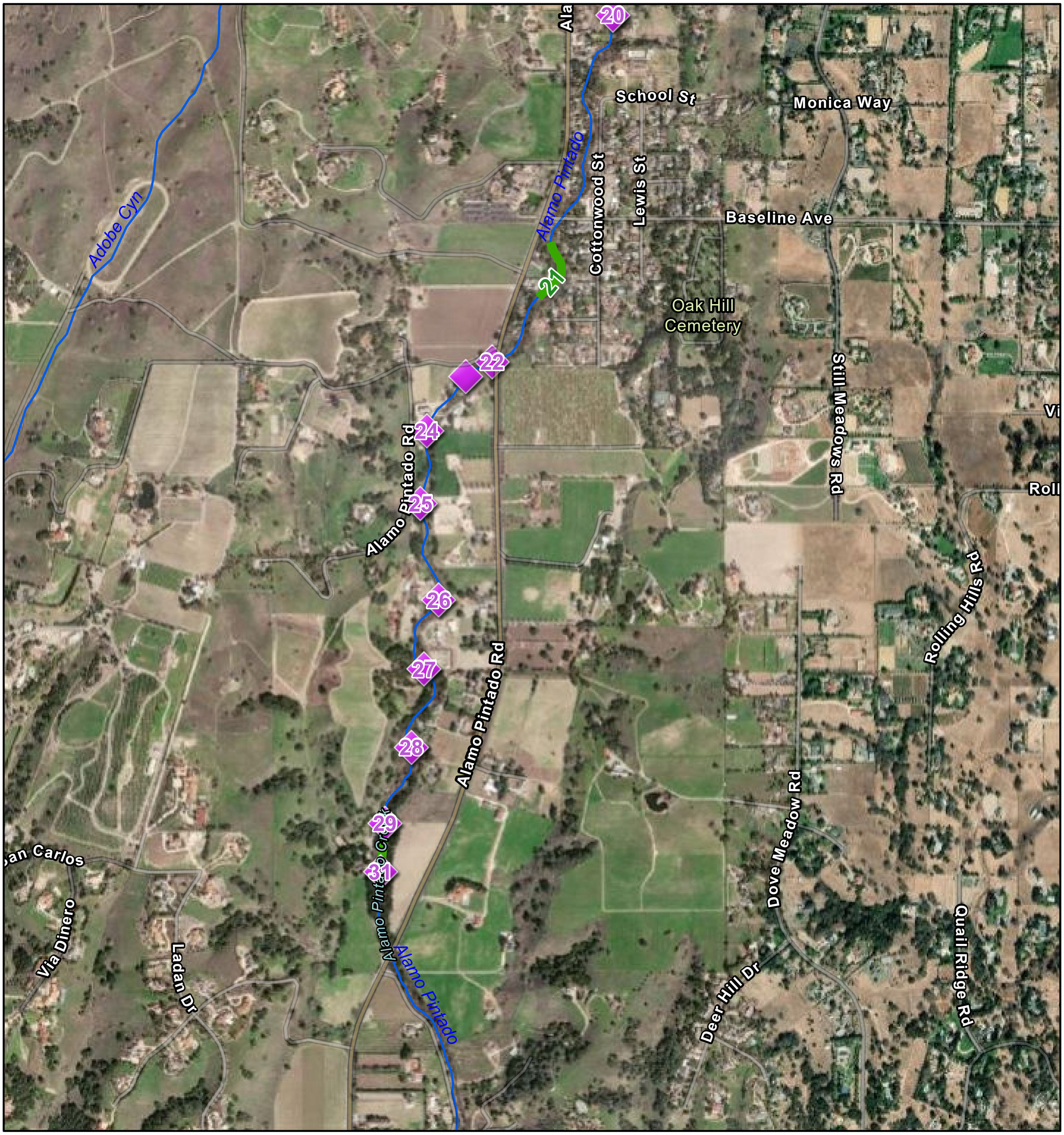
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Alamo Pintado Creek - C



5/19/2022

1:18,031

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

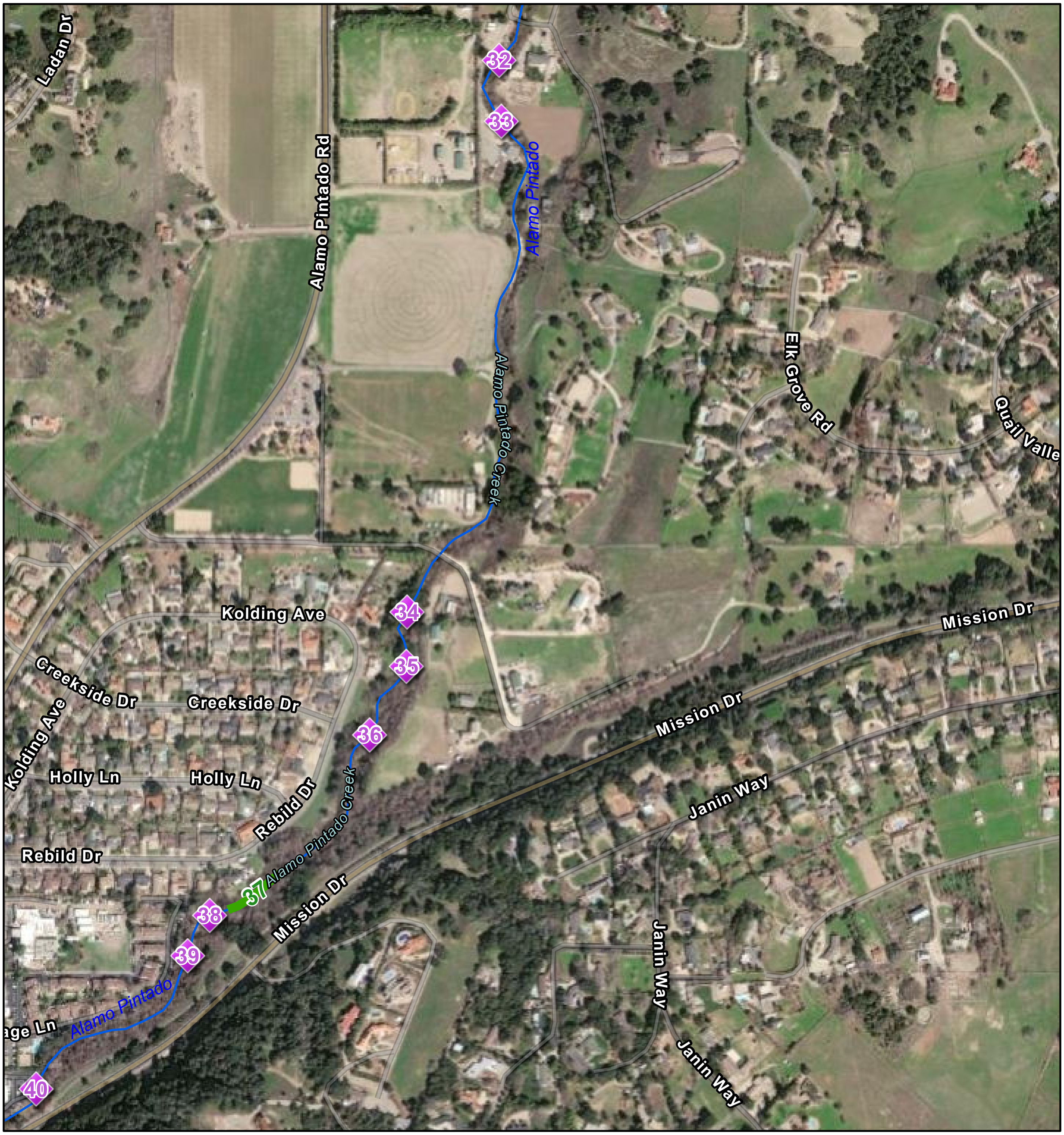
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Alamo Pintado Creek - D



5/19/2022

1:9,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

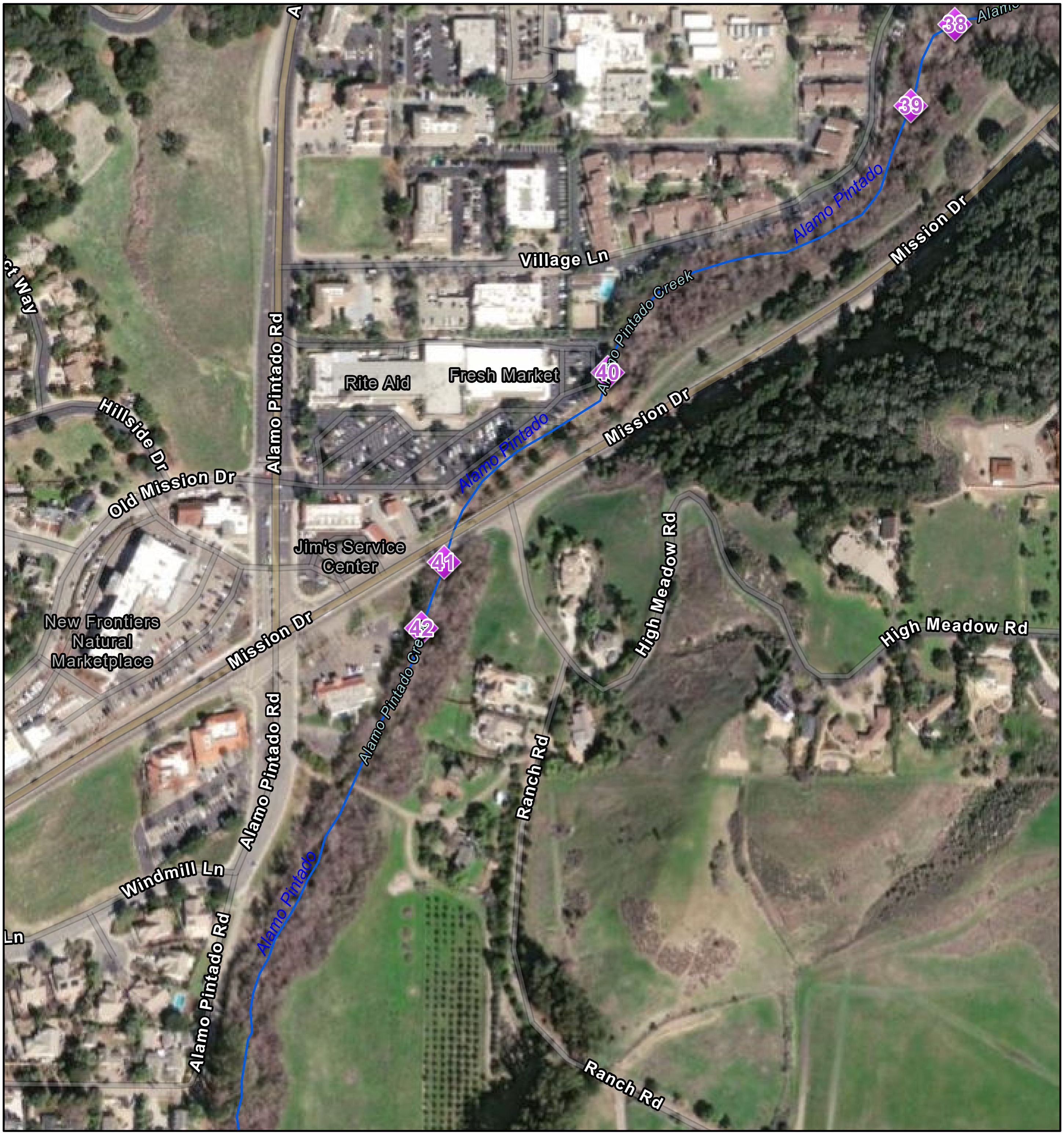
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Alamo Pintado Creek - E



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Alamo Pintado Creek

Section 10

Section 14

BRADLEY CANYON CHANNEL ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
Bradley Canyon Channel is located approximately 3.5 miles east of Santa Maria. Work within Bradley Canyon Channel will occur between Foxen Canyon Road and East Battles Road.

Setting:
Inspected on March 21, 2022.

Bradley Canyon Channel begins approximately 0.7 miles upstream (south) of Betteravia Road and flows northward to the Santa Maria River, a total distance of approximately 2 miles. This drainage is confined by a levee on the west side of the 100-foot wide channel and an earthen slope on the east side. An established earthen low flow channel ranging from 5 to 10 feet wide flows down the middle of the drainage, but this low-flow channel periodically is washed away during storms, leading to a situation where flow meanders through the channel and erodes the levee toe. Surface water, almost entirely attributed to agriculture run-off, ranges from three feet to only a few inches in depth during the dry season. Vegetation is comprised mostly of wild radish, poison hemlock, mustards, and weedy grasses. Overstory vegetation is almost entirely lacking.

Upstream (south) of Betteravia Road, the landowner has repeatedly disked the channel and excavated a few trenches, which further diminishes the effectiveness of the low-flow channel. Downstream (north) of Betteravia Road, the low-flow channel is still evident, but is mostly filled in with sediment. As Bradley Canyon Channel bends to the west adjacent to the Santa Maria River, intermittent patches of high-density cattail and bulrush grow in the stream. An overstory comprised of arroyo willow, narrow leaved willow and mulefat occurs along some portions of this lower segment.

Red legged frogs have been observed in the project area and are assumed to be present. Until the past few years, the channel remained wetted throughout the year in the vicinity of Betteravia Road upstream through the agricultural areas. Over the last several years, agriculture adjacent to Bradley Canyon Channel has changed from row crops that were flood irrigated to strawberries and other berries that are drip irrigated. As such, Bradley Canyon Channel has markedly less water overall and the lower portions of the channel (where most of the District maintenance occurs) dry up during the summer months where it remained wetted in previous years.

Revegetation:

Bradley Canyon Channel				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2004/2005	2,000	2,000	2,000	0
2005/2006	500	500	500	0
2007/2008	1,000	42,688	42,688	41,688
2008/2009	14,800	14,800	0	26,888
2015/2016	210	0	0	26,678
2016/2017	100	0	0	26,578
2017/2018	1,200	0	0	25,378
2019/2020	2,000	2,000	0	25,378
2020/2021	1,750	0	0	21,628
2022/2023	0	0	0	21,628

Wildlife Survey:
As described in the project description, maintenance will involve using equipment to excavate and move sediment in the channel. This type of maintenance has the potential to impact wildlife, particularly the California red legged frog (RLF).

RLF individuals of various age classes have been detected in segments of Bradley Canyon Channel since 2004. The District assumes that RLF may be present and implements mitigation measures and best management practices to protect the species. The District has developed a management strategy and special conditions through a Biological Opinion issued by the US Fish and Wildlife Service

Previous observations and relocation efforts during the last several years of detected a variable number of RLF in the project area where standing water is present.

The landscape draining into Bradley Canyon has been converted from flood irrigation to more drip irrigation in recent years, resulting in less water in the channel during summer months. In fact, for the past several summers the lower end of Bradley Canyon has gone completely dry. The declining number of frogs during the last 3 years is most likely due to the low water levels in the system from a change in agriculture practices and extensive drought. The proposed project will allow a deeper channel to persist within the vegetated channel, which will enhance RLF suitability.

During maintenance work that involves heavy equipment and/or disturbance of the wetted channel, the District Biologist monitors all maintenance activity. The Biologist inspects the site before work begins and flushes animals from the work area. If animals are exposed during operations, the work is paused while the animal is captured and safely relocated upstream or downstream of the work area.

No other sensitive species have been observed within this drainage. Impacts to RLF and other species addressed in the Program EIR are expected to be less than significant with the incorporation of the proposed mitigation measures and monitoring conditions specified in the Biological Opinion.

Engineering Analysis:
Bradley Canyon Channel is a tributary to the Santa Maria River and is an integral part of the Santa Maria River Levee Project. It drains a very large watershed south of the Santa Maria River. The Levee system was constructed in the 1960s by the Corps of Engineers and is owned and maintained by the District. The Operations & Maintenance Manual provided by the Corps requires that the channel remain clear of vegetation and that a low-flow channel be maintained. The downstream end of the channel upstream of the confluence with the Santa Maria River has experienced some sedimentation and has been colonized by vegetation. Therefore, maintaining the width and clearing with the low-flow channel by controlling the vegetation will comply with the terms and conditions of the O&M Manual.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:
Bradley Canyon is typically maintained with a narrow trench installed in the center of the wider channel to allow low-flows to drain through to the Santa Maria River. This center trench periodically becomes colonized with vegetation, which traps sediment and impedes drainage.

The work area is defined as a 2600-ft long reach of the low flow channel, within which there are patchy accumulations of sediment and weedy vegetation. Using an excavator staged on the adjacent dry terrace, the District crew will desilt obstructive sediment where needed to return the low flow channel to approximately 3 feet deep and 4 feet wide. Material will be deposited behind the excavator on the flat terrace and once dry, groomed back into the existing soil. The work area is partially vegetated with a blend of non-native grasses, wild radish, and curly dock. There are no trees or riparian canopy that would be affected. The District crew will spot-treat with a registered approved product approximately every 4-6 weeks during the maintenance season. Follow-up spring/summer treatments will be made as necessary to retain the center trench. A buffer of vegetation will be left along the edge of the channel for wildlife habitat and to help the channel retain the shape of its banks.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 4 days to complete.

Bradley Canyon

5/18/2022

Lengths_22

1:18,031

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Bradley Canyon Channel

Section 1

CAT CANYON CREEK ROUTINE MAINTENANCE
ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The proposed project is the short portion of Cat Canyon Creek that flows through the town of Sisquoc between Union Avenue and Foxen Canyon Road.

Setting:
Inspected on March 21, 2022.

Cat Canyon Creek originates in the Solomon Hills to the south of the town of Sisquoc and flows to the Sisquoc River just south of the town. Cat Canyon Creek is a relatively shallow dry drainage that only flows for a short time after a rain event. Due to its dry regime, the creek banks are not vegetated with typical riparian vegetation but are instead vegetated with more drought tolerant species such as grasses, coyote bush, goldenbush, tree tobacco and an occasional willow. As the drainage flows through the town of Sisquoc, it deepens and contains both native and non-native species, with the predominance in the non-native category. This reach is most likely an important wildlife movement corridor between the Sisquoc River and the Solomon Hills.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Cat Canyon Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (square feet)	Proposed Restoration (square feet)	Restoration Implemented (square feet)	Surplus Restoration (square feet)
2006/2007	0	0	0	0
2010/2011	0	0	0	0
2013/2014	0	0	0	0
2022/2023	100	0	0	-100

Engineering Analysis:
Obstruction of the active channel by vegetation causes several problems in creeks such as Cat Canyon. First, the vegetation reduces capacity of the channel which increases flood risks to surrounding areas. Second, many creeks like Cat Canyon can sustain severe erosion from flood flows redirected to the banks when the active channel has become obstructed. This erosion also can create additional flood hazards downstream as ultimately the eroded material will deposit in a lower reach of the creek thereby causing additional flood hazards due to reduced channel capacity in downstream reaches.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (inches)	Length (feet)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		400x3	x	willow, mulefat, sandbar willow			100	
Section 2	x			oak	4	12		

Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

This project will take 1 day to complete.

Cat Canyon

5/18/2022

1:2,254

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cat Canyon Creek

Section 1

Section 2

CEBADA CANYON CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins near the intersection of Purisima Road and State Highway 246 and terminates downstream approximately 500 feet.

Setting:
Inspected on March 16, 2022.

Cebada Canyon Creek originates in the Purisima Hills approximately 2 miles north of the end of Cebada Canyon Road northeast of Lompoc. The drainage is a natural creek until the last approximately 1.6 miles of the drainage where is turns into a concrete U-shaped channel and eventually drains into the Santa Ynez River near the south end of Rucker Road. The channel contains flows for a limited time after a rain event but usually quickly dries up and contains no persistent pools within the maintenance reach.

The stretch of creek proposed for maintenance runs parallel to and immediately south of Purisima Road. Surrounding land use is open space and agriculture. Substrate in the creek invert is sand and gravel with evidence of sediment transport from the adjacent agricultural property. The creek banks are very well vegetated mainly with shrubby willows but also with coyote brush, elderberry, blackberries and poison oak, along with many non-native weedy species.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Cebada Canyon Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2006/2007	0	0	0	0
2007/2008	4,800	4,800	0	-4,800
2009/2010	200	5,000	5,000	0
2010/2011	0	0	0	0
2014/2015	0	0	0	0
2016/2017	200	1000	0	-200
2018/2019	0	0	0	-200
2019/2020	0	0	0	-200
2020/2021	0	500	500	300
2022/2023	0	0	0	300

Engineering Analysis:
The maintenance area of Cebada Canyon Channel drains culverts from La Purisma Road and a traffic roundabout on Highway 246. The Channel is low-gradient and tends to collect sediment and debris, which can plug theses culverts. Low-hanging limbs and debris in the channel can further trap sediment and lead to debris plugs within the channel and downstream. Potential obstructions must be removed periodically or La Purisima Rd. and Hwy 246 will flood.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

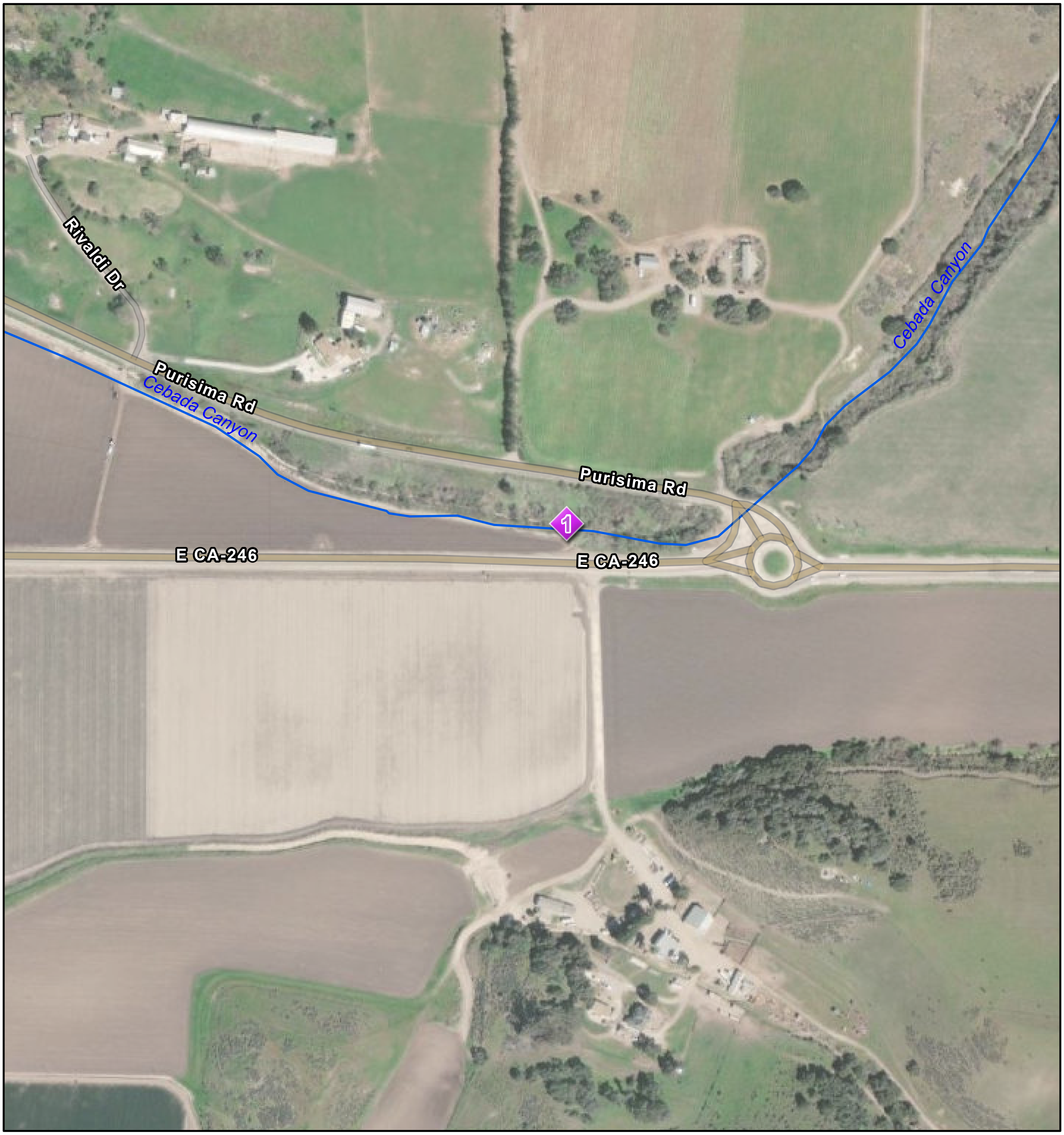
Section 1:
This reach of the creek collects drainage from Purisima Road and the traffic roundabout drainage culvert at Highway 246. The narrow riparian corridor features low, dropping willow limbs and fallen woody material in the center of the drainage trench.

District crew will cut the fallen material and remove from the creek channel to prevent obstructions. The work area will be completely dry during operations. The work will not result in impacts to live native vegetation.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 2 days to complete.

Cebada Canyon



5/16/2022

Sites 22

1:5,467

0 0.04 0.07 0.15 mi

0 0.05 0.1 0.2 km

Cebada Canyon Creek

Section 1

DAVIS CREEK ROUTINE MAINTENANCE
ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project is located north of the City of Lompoc between the communities of Vandenberg Village and Mission Hills immediately north of Highway 1, approximately 0.8 miles from the intersection of Hwy 1 and La Purisma Road.

Setting:
Inspected on March 28, 2022.

Davis Creek is a small drainage that flows through the Burton Mesa Ecological Reserve near Lompoc. The area is owned by the State Lands Commission and leased to the California Department of Fish and Wildlife. This drainage is a tributary to Santa Ynez River, however development and agriculture downstream of Hwy 1 has altered the drainage so it no longer flows all the way to the Santa Ynez River. The drainage is surrounded by the 5,367 acre Burton Mesa Ecological Reserve upstream of Hwy 1 and downstream of Hwy 1 the surrounding area is undeveloped private open space with some small areas of agriculture. Davis Creek contains some flow year-round.

The Vandenberg Village Community Services District (VVCSD), through perpetual easements, operates water wells, water storage tanks and a water treatment facility adjacent to Davis Creek. The portion of the channel receiving maintenance is bordered along the east by a paved access road leading to VVCSD facilities. Between the west side of the creek and Hwy 1, the corridor is surrounded by high quality mature willow woodland habitat. Species such as arroyo willow, stinging nettle, blackberry, cattail, and poison oak are found throughout the maintenance reach. The channel ranges from 4' to 12' wide through the maintenance reach. The VVCSD waterline is located within the bank between the creek and the access road.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts. The proposed maintenance may result in up to 6,000 square feet of impacts to native vegetation. A restoration site will be identified either on the reserve property, nearby County-owned property, or the adjacent Allan Hancock Jr. College Campus property located downstream of Hwy 1 along Davis Creek.

Davis Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2017/2018	4,800	6,000	16,300	11,500
2018/2019	600	0	0	10,900
2019/2020	0	0	0	10,900
2020/2021	0	0	0	10,900
2022/2023	1000	0	0	9,900

Wildlife Survey:
A biological assessment was completed in 2016, including protocol level surveys for Red Legged Frog, by the consulting firm Althouse and Meade. No sensitive animal or plant species were found within the maintenance areas. The potential exists for RLF to be present near the site, as the habitat is considered suitable for this species. The work area will be assessed prior to maintenance to ensure that impacts will be less than significant with the incorporation of proposed mitigation measures.

Engineering Analysis:
As a public agency, the VVCSD provides approximately 2,000 acre-feet per year of potable water to approximately 7,400 residents of the Vandenberg Village community. Over many years, overhanging vegetation, downed and standing dead trees, and obstructive vegetation in the channel bottom has resulted in the accumulation of sediment through the maintenance reach to a point where creek capacity is greatly compromised in some areas. If water overtops the channel, the VVCSD facility and access road can flood and restrict access to the operations yard and wells that provide water to residents. If the drainage continues to become obstructed, it is likely that escaped water will flow down the access road and onto Hwy 1, presenting a safety concern for motorists.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section. Maintenance along Davis Creek will be implemented with BMPs to minimize impacts to riparian vegetation.

Section 1:
This site was trimmed and excavated to remove an obstruction from the culvert under the VVCSD access road 5 years ago. The culvert has gradually accumulated more sediment and associated weedy growth and obstructive vegetation.

Working from the top of the bank with an excavator or Gradall, from approximately 15’ upstream of the road crossing into the VVCSD well site, downstream approximately 200’, the creek will be desilted for a width of approximately 10’ wide. Sediment at the road crossing will be removed to a depth of approximately 4’ deep and the desilting depth will be tapered to approximately 2-3 feet deep away from the road crossing. The east bank of the creek within this section is not vegetated with trees therefore the equipment can work over any low growing vegetation along the bank. Desilting will result in approximately 1000 square feet of impacts to native vegetation. The work will be performed by crew contracted by VVCSD and District Environmental Staff will oversee the project and perform biological monitoring.

Section 2:
Section 2 involves 800 linear feet of the channel upstream from the Highway 1 culvert. This area has a braided drainage channel with a narrow but mature willow riparian corridor. The aging willow trees periodically drop limbs and trunks into the center channel.

Using chain saws and hand tools, the crew will cut downed trees, limbs, and debris limbs from the active channel. Woody material will be cut into smaller pieces and left in the upper banks, and/or gathered and winched out of the work zone at established gaps in the willow corridor for offsite disposal.

This section may also be spot-sprayed to reduce mats of vegetation from obstructing the channel. Spray treatments will be minimal. District Environmental Staff will inspect the site prior to work. The tree-trimming and debris removal will be performed under contract by VVCSD crew and District Environmental Staff will oversee the project and perform biological monitoring. Herbicide application will be contracted with a licensed applicator by VVCSD.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 10 days to complete.

Davis Creek

5/20/2022

1:6,238

0 0.04 0.09 0.17 mi

0 0.05 0.1 0.2 km

Lengths 22

Sites 22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Davis Creek

Section 1

Section 2

FOXENWOOD 3 BASIN ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
Foxenwood 3 Basin is located within the Foxenwood Subdivision in Orcutt near the intersection of Clubhouse Drive and Foxenwood Drive.

Setting:
Inspected on April 5, 2022.

Foxenwood 3 Basin collects runoff from the surrounding residential development where it slowly evaporates over the summer months, rarely going completely dry due to a hard pan underlying the basin. The basin receives runoff even during the summer months from residential landscape irrigation and urban tailwater. If the basin overflows, the water exits via a concrete spillway and flows into the large surrounding open space owned by the Airport where it seeps into the ground. When the valves are in working order, water can be released via a pipe and flows to Getty Basin where it contributes to groundwater recharge of the Santa Maria Valley. The District is proposing the following maintenance to repair the valve so the water in the basin can be drained through the system to Getty Basin prior to forecasted rainfall as opposed to uncontrolled spilling during high rain years. During the summer months, the District treats the basin with Vectobac G to prevent the successful maturation of any mosquito larvae that may be present in the basin.

Revegetation:
The proposed project will not result in the removal of native vegetation. Therefore, restoration is not proposed for this project. Routine maintenance in the concrete V-ditches does not affect habitat value, while the basin itself is a man-made feature that provides aquatic habitat year round. The District allows and encourages natural regrowth in the basin and the perimeter of the wetted area. The District also performs mowing and weed control on the banks. Willow and cattail habitat at the constructed basin serve as surplus “revegetation” for any small incidental effects due to clearing sprouts in the V-ditches. While the amount of riparian/wetland habitat created by the Basin has not been formally quantified, the extent of the created habitat far exceeds the small amount of disturbance that occurs every few years to manage the ditches.

Wildlife Survey:
The basin is full of water and is estimated to be approximately 6 feet deep at the deepest point. A short fringe of vegetation (mostly *Eleocharis* sp.) is present along the perimeter and a willow thicket occurs in the northeast corner of the basin. Otherwise, the basin is open water with mowed grassy banks.

The California red-legged frog (RLF) has been detected in the past at this facility. A field survey was performed in 2006 to determine presence of RLF. Large amphibians and tadpoles, most likely RLF but possibly bullfrog and/or western toad were detected during the survey. Other species observed during the night time survey were Pacific chorus frog adults and larvae.

Depending on annual weather, this basin sometimes goes completely dry in summer (likely extirpating any local RLF), and in other yeas the basin may retain water for the entire year.

Based on previous surveys and habitat suitability, the District presumes that RLF could be present when standing water is present for prolonged periods. The District will implement mitigation measures and special conditions described in the Biological Opinion issued by the United States Fish and Wildlife Service.

Work will be scheduled in the fall to avoid the RLF breeding season, per the Biological Opinion. Direct impacts to the individual red-legged frogs and larvae as well as species discussed in the Program EIR are expected to be minor and temporary incidental response such as flushing away from District crews when walking through the site.

Engineering Analysis:

Retardation basins are engineered to reduce runoff from developed areas. Without an operable basin, downstream areas can suffer flood damages from the increased flows from development. This basin was designed to reduce the impacts of the development of the Foxenwood Tract in Orcutt. Damage to the outlet works and adjacent channels requires repair work so the facility can function as designed.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:

Maintenance for Foxenwood 3 basin will consist of herbicide application to vegetation growing where the inlet ditches meet the basin, to retain the functionality of the inlets, and limbing overhanging willow branches to maintain unrestricted flow into the basin. Two concrete V-ditches enter the basin from the northeast and southeast. Where the ditches meet the basin, a thicket of vegetation has emerged and encroached in the ditch, blocking the flow of water. Maintenance will involve spot-spray of vegetation to retain a central flow pathway. Vegetation along the edges will be left in place. Follow-up treatments with herbicide will be applied as needed in the following season to retain the corridor. Spray will be minimized from February to April during the breeding season.

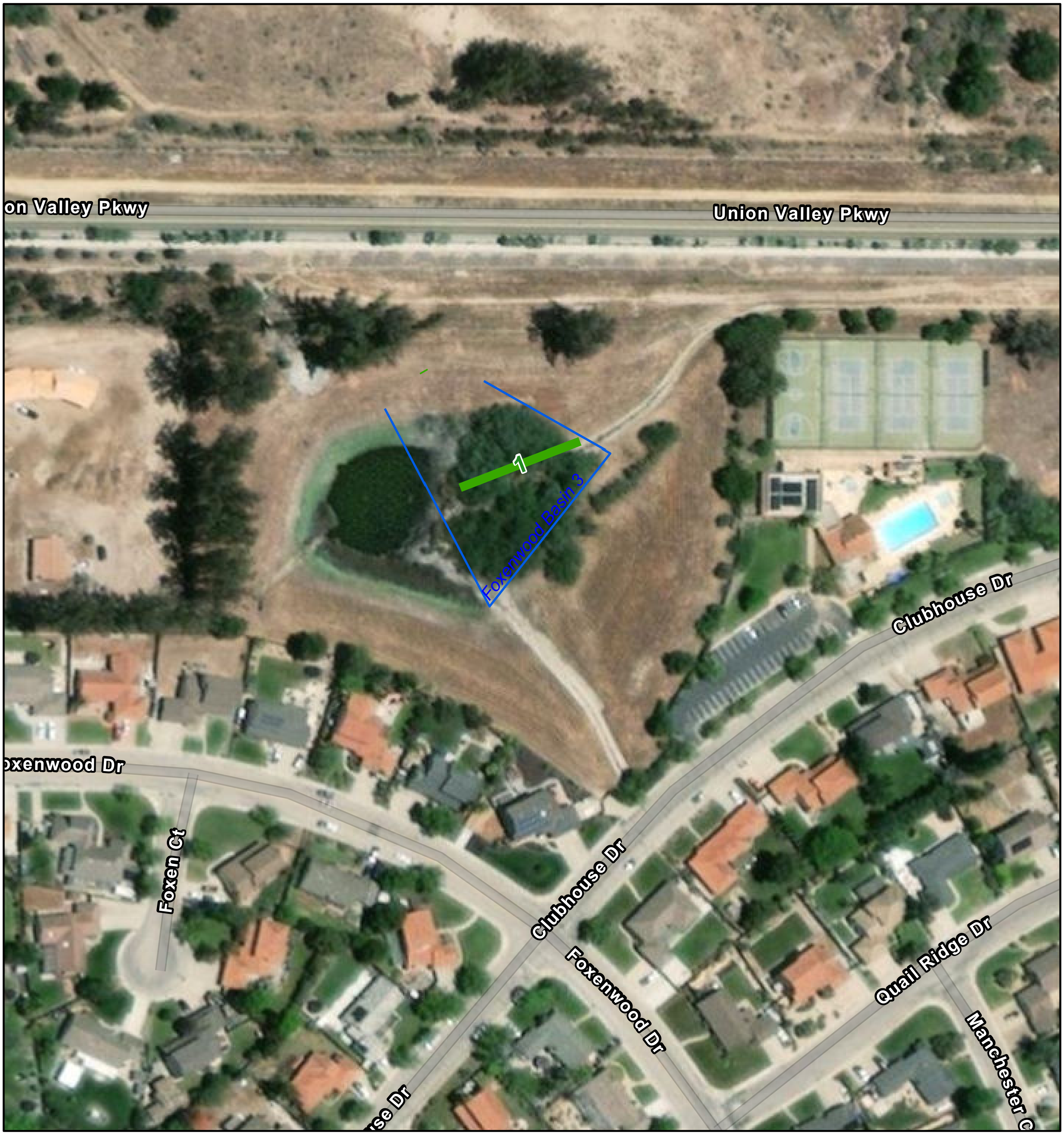
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

The project will take 2 days to complete.

Foxenwood 3 Basin



5/18/2022

Lengths_22

1:2,254

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

Foxenwood 3 Basin

Section 1

GREEN CANYON DRAINAGES ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:

Routine maintenance of the Green Canyon drainages begins south of the town of Guadalupe and terminates approximately 1.5 miles east of the confluence with Orcutt/Solomon Creek. The Green Canyon system is divided into 3 channels: South, Middle, and North. South Green Canyon flows into Orcutt/Solomon Creek in agricultural fields near Highway 1. North Green Canyon flows into Middle Green Canyon, which meets Orcutt/Solomon Creek near the Santa Maria River.

Setting:

Inspected on March 21, 2022.

Middle Green Canyon Channel begins approximately 1,500 feet upstream of Highway 1 and flows to the confluence with Orcutt/Solomon Creek just upstream of West Main Street, a distance of approximately 4 miles. This is a highly degraded agriculture tailwater channel. This earthen trapezoidal channel carries highly turbid agricultural tailwater through row crops along most of its length. The lower 2,000 feet of the drainage flows through a cattle pasture to the confluence with Orcutt/Solomon Creek. Dirt access roads run parallel to both sides of the drainage at the top of the bank. The banks are vegetated with weedy species such as wild radish, black mustard, cheeseweed and annual grasses. Vegetation within the invert is mainly watercress with an occasional clump of bulrush and patches of willows along the banks of portions of this drainage.

North Green Canyon Channel begins approximately 1,200 feet south of the intersection of Sal Dunes Way and West Main Street near the town of Guadalupe and flows to the southwest for a distance of approximately 1 mile to its confluence with Middle Green Canyon Channel. This agricultural drainage ditch carries highly turbid tailwater and varies from 2 feet deep at the upstream end to almost 10 feet deep near its confluence with Middle Green Canyon Channel. Vegetation on the banks is wild radish, black mustard, cheeseweed and annual grasses. Invert vegetation is intermittent and patches of watercress and bulrush can develop. One patch of willows, approximately ¼ acres in size, is growing along the banks halfway down the drainage. Dirt access roads run parallel to both sides of the ditch. Row crops grow beyond the access roads. Sediment input into this channel is high due to agricultural runoff and limited or absent bank vegetation.

Revegetation:

Green Canyon Drainages (North, Middle, South)				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2002/2003	0	1,200	0	0
2004/2005	3,000	3,000	3,000	0
2005/2006	1,000	1,000	1,000	0
2007/2008	0	0	0	0
2008/2009	0	0	0	0
2009/2010	0	0	0	0
2010/2011	0	0	0	0
2011/2012	0	0	0	0
2012/2013	300	0	0	-300
2013/2014	100	0	1,900	1,500
2014/2015	2,070	0	0	-570
2015/2016	215	0	0	-785
2016/2017	1,000	0	0	-1,785
2017/2018	550	0	0	-2,335
2018/2019	410	0	0	-2,745
2019/2020	0	0	0	-2,745
2020/2021	310	0	0	-3,055
2021/2022	300	10,000	0	-3,355
2022/2023	1,125	0	0	-4,480

Wildlife Survey:

As described in the project description, maintenance will involve using equipment to desilt, mow, and remove obstructive vegetation to restore flow capacity. This type of maintenance has the potential to impact wildlife, particularly the California red legged frog.

The California red legged frog has been consistently detected in the Green Canyon drainages since 2004. The District assumes that red legged frogs may be present in any part of the Green Canyon drainages and implements mitigation measures and best management practices to protect the species. The District has developed a management strategy and special conditions through a Biological Opinion issued by the US Fish and Wildlife Service

No other sensitive species have been observed within this drainage. Impacts to red legged frogs and other species address in the Program EIR are expected to be less than significant with the incorporation of the proposed mitigation measures and monitoring conditions specified in the Biological Opinion.

Engineering Analysis:

The Western Santa Maria Valley is an old floodplain formed by historic flows of the Santa Maria River. As agricultural activity intensified in the Valley, a network of channels/ditches evolved. One of the most prominent drainage features is the Green Canyon system of channels. The valley floor is very flat and there is insufficient energy to convey the sediments to the river. Year-round sediment laden flows from agriculture operations results in excessive sedimentation, bulrush growth, and reduced capacity along this drainage course. Removal of the recently deposited sediment will restore channel capacity and reduce the risk of flooding to west Main Street, Highway 1 and surrounding properties. In addition, it is necessary to control vegetation to maintain higher velocities that will transport sediment more efficiently.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Work Task:	*Mowing*	*Desilting*	*Other*	*Work Area*	*Impacts to be mitigated (ft2)*
Middle Green Canyon Channel					
Section 1	Mow and weed-eat cattail clumps			5x5 ft	25
Section 2			Downed willow tree limb		0
Section 3			Downed willow tree limb		0
Section 4		Desilt to open plugged culvert		50x5 ft	0
Section 5		Desilt channel as needed to drain culvert		Up to 200x5 ft	0
Section 6		Desilt both sides of plugged culvert		Upstream: 200x5 ft Downstream: 100x5 ft	300
Section 7		Intermittent desilting of sediment, non-native species and cattail clumps. Follow-up retreatments with herbicide		200x5 ft	400
Section 8			Brush and spot-spray intermittent clusters of non-natives, cattails and bulrush in center channel	400x4 ft	400

North Green Canyon Channel					
Section 1			Downed willow trees and limbs		0

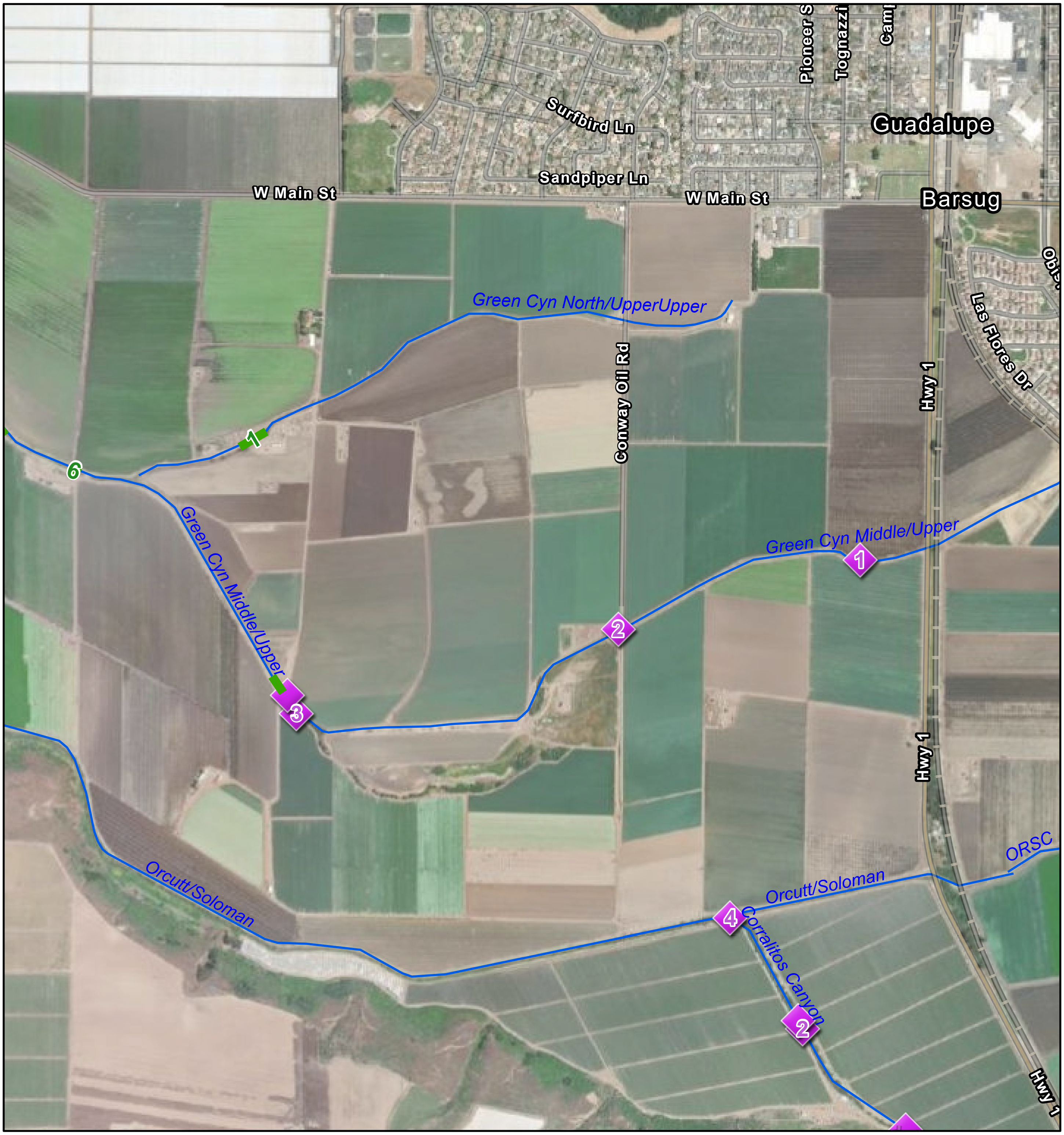
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

The Green Canyon Drainage projects will take 6 days to complete.

Green Canyon Drainages - A



5/19/2022

1:18,031

0 0.13 0.25 0.5 mi

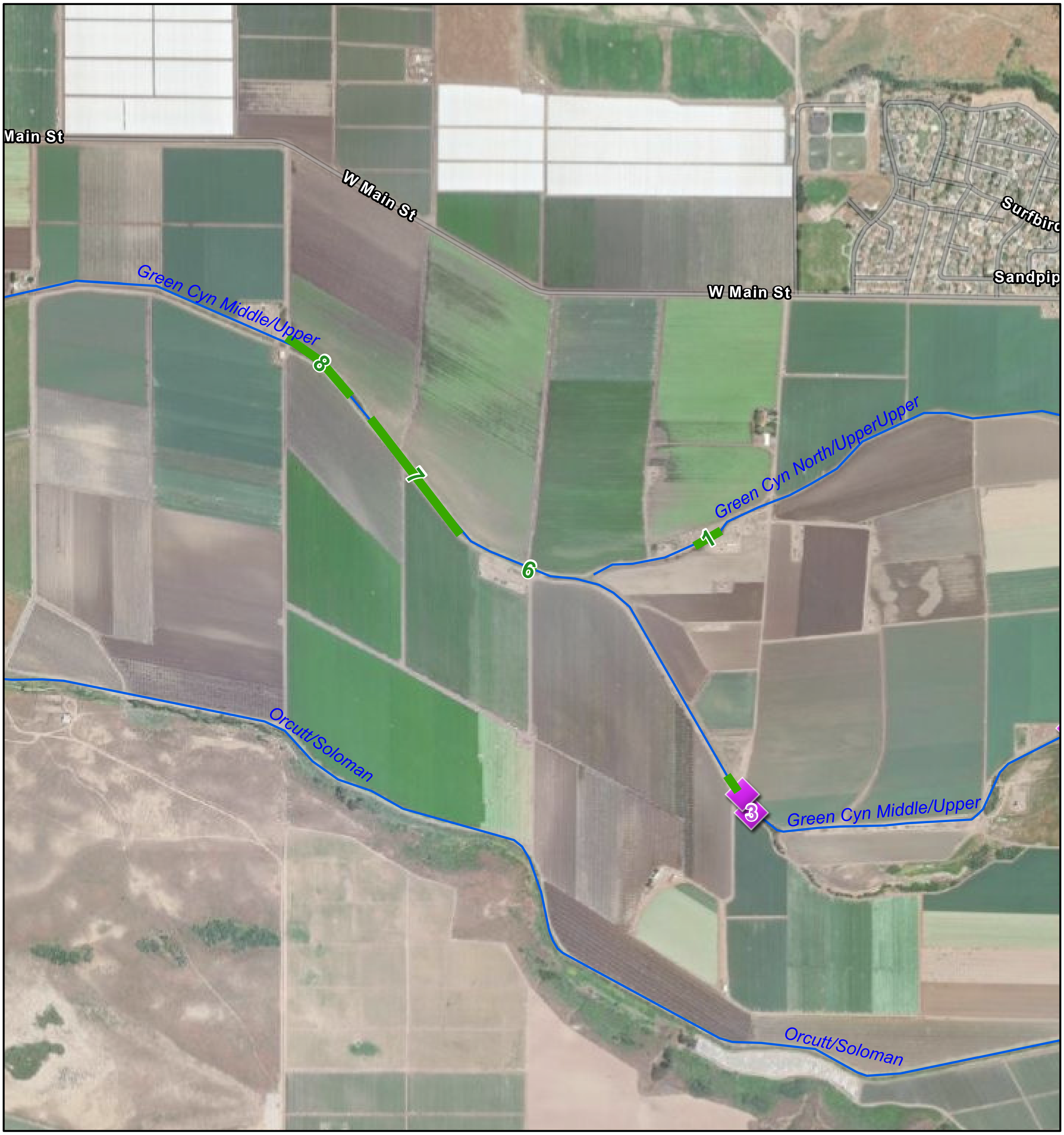
0 0.2 0.4 0.8 km

Lengths 22

Sites 22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Green Canyon Drainages - B



5/19/2022

Lengths 22

Sites 22

1:18,031

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Green Canyon Drainages

North Green Canyon Section 1

Middle Green Canyon Section 1

Green Canyon Drainages

Middle Green Canyon Section 2

South Green Canyon Section 4

MIGUELITO CHANNEL OUTLET ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:

The project is located adjacent to the Lompoc Wastewater Treatment Plant northeast of the intersection of V Street and Central Avenue.

Setting:

Inspected on March 16, 2022.

Miguelito Creek runs through Lompoc and is a tributary to the Santa Ynez River. Miguelito Creek drains an 11.6 square mile watershed capable of producing 4,200 cfs during a 100 year return period event.

The upper portions of Miguelito Channel running through the City do not contain riparian habitat, however the lowest portion of the channel, proposed for maintenance, traverses the riparian corridor on the southern bank of the Santa Ynez River. Over many years, the channel has become overgrown and plugged with downed trees, other vegetation, debris and trash. Flows through Miguelito Channel are forced to slow down and spread through the riparian corridor. Because the channel is blocked with debris and vegetation, it also contains stagnant pools. The riparian corridor surrounding the channel is densely vegetated. Native plant species include willows, cottonwood, sycamore, blackberry, mugwort, stinging nettle, poison oak, creek clematis, and coyote bush.

Revegetation:

Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Miguelito Channel drains mostly urban properties into the Santa Ynez River, therefore restoration opportunities in the River may be utilized as mitigation for impacts associated with Miguelito Channel.

Miguelito Channel				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2019/2020	150	0	0	-150
2020/2021	0	200	200	50
2022/2023	0	0	0	50

Wildlife Survey:
Miguelito Channel connects to the Santa Ynez River, an area with dense wildlife habitat. In particular, the California red legged frog is known to occur within the adjacent Santa Ynez River. A nighttime survey of Miguelito Channel was conducted by the District Biologist on May 23, 2006 to look specifically for red-legged frogs. No red-legged frogs were seen during the survey. Other species observed during the survey and creek inspections include California tree frog, raccoon tracks, deer tracks and mosquito fish.

Impacts to the observed species as well as those discussed in the Program EIR are expected to be less than significant with the incorporation of proposed mitigation measures. Maintenance will not involve disturbance to the wetted channel. Crews will enter the channel on foot and use only hand tools to trim fallen limbs and debris.

Engineering Analysis:
Miguelito Channel is an engineered facility protecting most of the City of Lompoc. For the channel to function as designed, the outlet must be open to allow these flows to be conveyed to the Santa Ynez River. The build up of sediments and blockage of the outlet can result in overflows in the City additionally threatening the City's Wastewater Treatment Plant.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:
This deep V-shaped channel has weedy growth along the banks and a small trench with standing water at the base. The wetted channel will be spot-sprayed to reduce thickets and weedy obstructions within a 3 to 4-ft width in the center channel. A followup application may be applied in spring and summer as needed to minimize regrowth. The area is sparsely vegetated with weeds.

In addition, the access road will be mowed. Lower limbs from the adjacent willow trees will be cut and removed.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 3 days to complete.

Miguelito Channel

5/18/2022

Lengths_22

APCreeks

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

MISSION HILLS CHANNEL AND BASIN ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins near the intersection of Purisima Road and State Highway 246 and terminates downstream approximately 500 feet.

Setting:
Inspected on March 16, 2022.

The Mission Hills Channel runs along the northeast area of Lompoc, along the east side of the Mission Hills subdivision. The channel widens into a basin of approximately 1 acre on the west side of the channel. The basin provides overflow capacity and sediment capture upstream of the Mission Hills Community Services District water treatment facility.

Surrounding land use is suburban housing, open space and agriculture. The channel drains south toward Cebada Canyon and eventually to the Santa Ynez River. The channel is generally dry and only conveys water during rain events. The area is typically maintained as an exempt facility via periodic mowing of the access road and spot-spraying weeds.

The Mission Hills channel and basin are prone to sedimentation and culver blockage at the basin outlet. These conditions present a flood hazard adjacent to the Mission Hills Community Services District treatment facility and the upstream neighborhoods adjacent to the basin.

Revegetation:
The Mission Hills Basin has not required desilting in many years. As a result of minimal maintenance, a strip of willow trees has developed along both sides of the channel. The District's typical practice in detention basins is to allow native vegetation to colonize and persist, as long as the obstructive vegetation does not interfere with proper function and drainage of the facility. When maintenance is required, vegetation may be removed, but then the site is recolonized with native vegetation again and left for several years before the next maintenance event is performed.

At Mission Hills Basin, the willow canopy will be left intact along the east side of the channel and the District will continue to allow this vegetation (~4,000 sq ft) to persist). Vegetation along the west channel (~5,000 sqft) must be removed occasionally in order to accommodate the necessary flow capacity and desilting.

Mission Hills Channel				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2018/2019	0	0	0	0
2019/2020	0	200	0	0
2020/2021	0	0	0	0

2021/2022	5,100	0	0	-5,100
2022/2023	0	0	0	-5,100

Engineering Analysis:
Accumulated sediment has gradually encroached, reducing the function of the basin and threatening to block the culverts through the basin. The basin must hold and drain properly to protect homes and properties in the Mission Hills Subdivision. The downstream properties, including the water treatment plant, would be subject to overtopping flows or flows breaking out of the channel if the current over-filled basin is not excavated.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:
Fallen limbs and dead trees along the drainage corridor behind Via Lato will be cut and removed. This area has been previously maintained and is dominated by roadside weedy species that periodically emerge.

Section 2:
The low-flow channel through basin was partially eroded during winter storms. The District will use a bobcat or similar small equipment to regrade the banks of the channel to keep proper drainage in line with the outlet culverts. The site will be dry base substrate during the maintenance season. Approximately 10 cubic yards of on-site material will be regraded and groomed.

Section 3:
The channel downstream of the culvert openings has filled with sandy sediment, backing up into the culverts. The District crew will use an excavator to desilt the culvert openings. Approximately 5 cubic yards of sandy material will be removed and stacked on the adjacent staging area, then dispersed over the access route. The work area will be dry during the maintenance season.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take approximately 4 days to complete.

Mission Hills Channel and Basin

5/16/2022

1:9,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sites 22

Lengths 22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Mission Hills Channel and Basin

Section 2

Section 3

ORCUTT/SOLOMON CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location: The project begins at Stillwell Road and ends at Ray Road in Orcutt, with an additional work location where the creek crosses West Main Street in Guadalupe.

Setting:
Inspected on March 29, 2022.

Orcutt/Solomon Creek originates in the Solomon Hills southeast of Santa Maria and drains a 27,357-acre watershed. The District's management area includes the semi-urban reach of the watershed running through the community of Orcutt, as well as portions of the creek near the Laguna Sanitation Water Treatment Plant and the downstream confluence of Orcutt Creek and the Santa Maria River.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included to more easily display and track the District's restoration efforts.

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2003/2004	2,600	4,000	4,000	1,400
2004/2005	8,600	9,000	9,000	1,800
2006/2007	6,000	6,000	3,000	-1,200
2007/2008	350	800	800	-750
2008/2009	800	0	0	-1,550
2009/2010	0	750	2,000	450
2010/2011	0	500	500	950
2011/2012	800	880	600	750
2012/2013	485	800	0	265
2013/2014	20	0	0	245
2014/2015	10	0	0	235
2015/2016	580	0	0	-345
2016/2017	1,760	0	0	-2,105
2017/2018	0	0	0	-2,105
2018/2019	0	0	0	-2,105
2019/2020	0	0	4,220	2,115
2020/2021	0	0	0	2,115
2021/2022	20	0	0	2,095
2022/2023	90	0	0	2,005

Wildlife Survey:

Red-legged frogs are known to inhabit the lower reaches of Orcutt/Solomon Creek near West Trails and the Laguna Sanitation Facility. Maintenance work upstream of Laguna Sanitation Facility involves only vegetation trimming/maintenance and the channel will be dry during the summer months. No RLF would be present or disturbed in these areas.

The proposed projects near Laguna Sanitation facility involve tree-trimming and removing fallen vegetation. The District assumes that RLF may be present in these areas whenever standing water is present. The District Biologist will monitor and inspect the project areas prior to commencement. Any RLF or other aquatic animals detected during the monitoring inspection will be flushed and/or temporarily relocated to the adjacent pools during operations. The District's existing Biological Opinion addresses these projects in this area. Any disturbance would be minor and temporary and would follow the requirements of the Biological Opinion. It is most likely that the work areas will be dry during the maintenance season and no disturbance to aquatic organisms would occur.

Engineering Analysis:

Maintenance of Orcutt/Solomon Creek requires vegetation and silt removal to preserve flood flow conveyance and to protect adjacent properties. Obstructive vegetation consisting primarily of downed limbs and trees, limbs projecting into the active channel, and several trees growing in the active channel, will be removed from the main channel at various locations to provide conveyance of flood waters as well as reduce the debris load which can cause debris plugs that divert flows towards banks causing erosion or raise water surface levels, and aggravate bridge and culvert plugging. The bankfull discharge width for Orcutt/Solomon Creek, based on field indicators is approximately 10'-12' wide.

The gradient through Orcutt is relatively low, and combined with sandy soils, culverts in this region are easily plugged by sediment. For the past 4-5 years, the creek has not had substantial flow to clear culverts or actively scour sediment and vegetation sprouts. As a result, sediment bars have been colonized by vegetation and root material. This material must be removed and/or loosened and vegetation removed to maintain flow capacity under highways and bridges.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		20x5		willow			30	
Section 2	x			willow				
Section 3		30x10		non native grass			0	
Section 4								three debris plugs
Section 5	x			willow	4	12		
Section 6	x			willow	4	10		

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 7	x			eucalyptus	4	10		
Section 8	x			eucalyptus	4	15		
Section 9	x			willow				multiple
Section 10		10x5		ice plant			0	
Section 11	x			willow				
Section 12			x	willow				
Section 13	x			willow				multiple
Section 14				cypress				see section 14
Section 15			x	willow				
Section 16	x			willow				two large trunks
Section 17	x			pine	<4	15		
Section 18		50x5		cottonwood			20	
Section 19	x			pine	7	10		
Section 20		20x3		sandbar willow			5	
Section 21		10x5		sandbar willow			5	
Section 22	x			willow	5	20		
Section 23								remove tire
Section 24		20x5		sandbar willow			15	
Section 25	x			willow	9	15		
Section 26		40x8		willow cottonwood			15	
Section 27	x			willow	5	12		
Section 28			x	willow				
Section 29	x			willow				
Section 30	x			willow	6	12		
Section 31	x			willow	8	10		
Section 32			x	willow				
Section 33	x			willow	7	15		
Section 34	x			willow				see section 34
Section 35								see section 35
Section 36								see section 36
Section 37								see section 37

<u>Section 14:</u>
Maintenance work in this section will remove a large cypress tree that has fallen across the channel and created a debris plug. The District crew will access the site from the open field to the south and use a winch to pull the material out of the channel.

<u>Section 34:</u>
The District crew will use a small backhoe operating from the top of bank to clear accumulated sediment from an outlet pipe. A down willow tree will also be removed from this location.

Section 35:
The property at Laguna Sanitation has several fallen willow trees within the creek corridor along the main creek and in the tributary creek. Dead fallen trees will be cut into smaller pieces. The cut woody material will be cut into manageable lengths and stashed in the adjacent riparian trees or hauled out and chipped, depending on access. Live trees and whole willow trunks will not be cut. The project will not result in impacts to native vegetation.

Section 36:
This site is the confluence of Orcutt/Solomon Creek and series of wetland adjacent to the main creek channel. Sediment and debris routinely collect here and threaten to block the ditch and outlet culverts.

Sediment will be desilted using an excavator, Gradall, and small dozer. Taking access from an existing ramp along the bank, the dozer will push sediment from the floor of the channel to one end, from which the material will excavated and loaded out into dump trucks.

The work area is approximately 100 ft long, 2 ft deep, and 10 ft wide. Approximately 75 cubic yards of material will be excavated and removed.

This area may be inhabited by red-legged frog, southwestern pond turtle, and other aquatic organisms. The District Biologist will perform a pre-project inspection and on-site biomonitoring during the excavation. Animals will be flushed out of the water area and relocated downstream during the project, according to the Biological Opinion.

The work area is bare sandy substrate and submerged mud. Desilting and grading will not result in impacts to native vegetation.

Section 37:
Extreme caution will be used to avoid the overhead power lines at this location

Orcutt-Solomon Creek joins with the Green Canyon ditches just upstream of West Main Street, near the road crossing for Guadalupe Dunes. The culvert at this location has accumulated silt and sediment. A sediment bar has formed downstream of the culvert, choking the culvert and slowing the rate of water flow, which causes additional sediment and debris to settle in the channel. To alleviate this problem, the District crew will use a Gradall to remove sediment. The desilted area will narrow to merge into the existing topography downstream.

The desilting area is approximately 80 by 12 by 3 feet deep at the downstream opening. Approximately 100 cubic yards of material will be removed. The sediment will be placed over the adjacent dirt access road and allowed to dry for several days, and then graded and compacted back over the dirt road.

The existing water quality at this location is extremely turbid from ag runoff, unstable soil, and cattle in the adjacent fields and in the creek itself. The following turbidity-control practices will be implemented: as the material is scooped out of the culvert, the operator will allow water to drain out of the bucket over the adjacent land before releasing the material over the road bed; the first few scoops of sediment will be stacked as feasible at the upstream and downstream ends to isolate the work site; a haybale/filter fabric barrier will be placed downstream where turbid water may leave the site. The practices will be adjusted for field conditions at the time of the work; in some years this location is nearly dry by later summer. This excavation will take place over a few hours on a single day; if standing water remains, any turbidity would be temporary.

The District Biologist will monitor the work for RLF and environmental controls. The area is bare soil, muddy water, and clumps of non-native watercress. The work will not result in impacts to native vegetation.

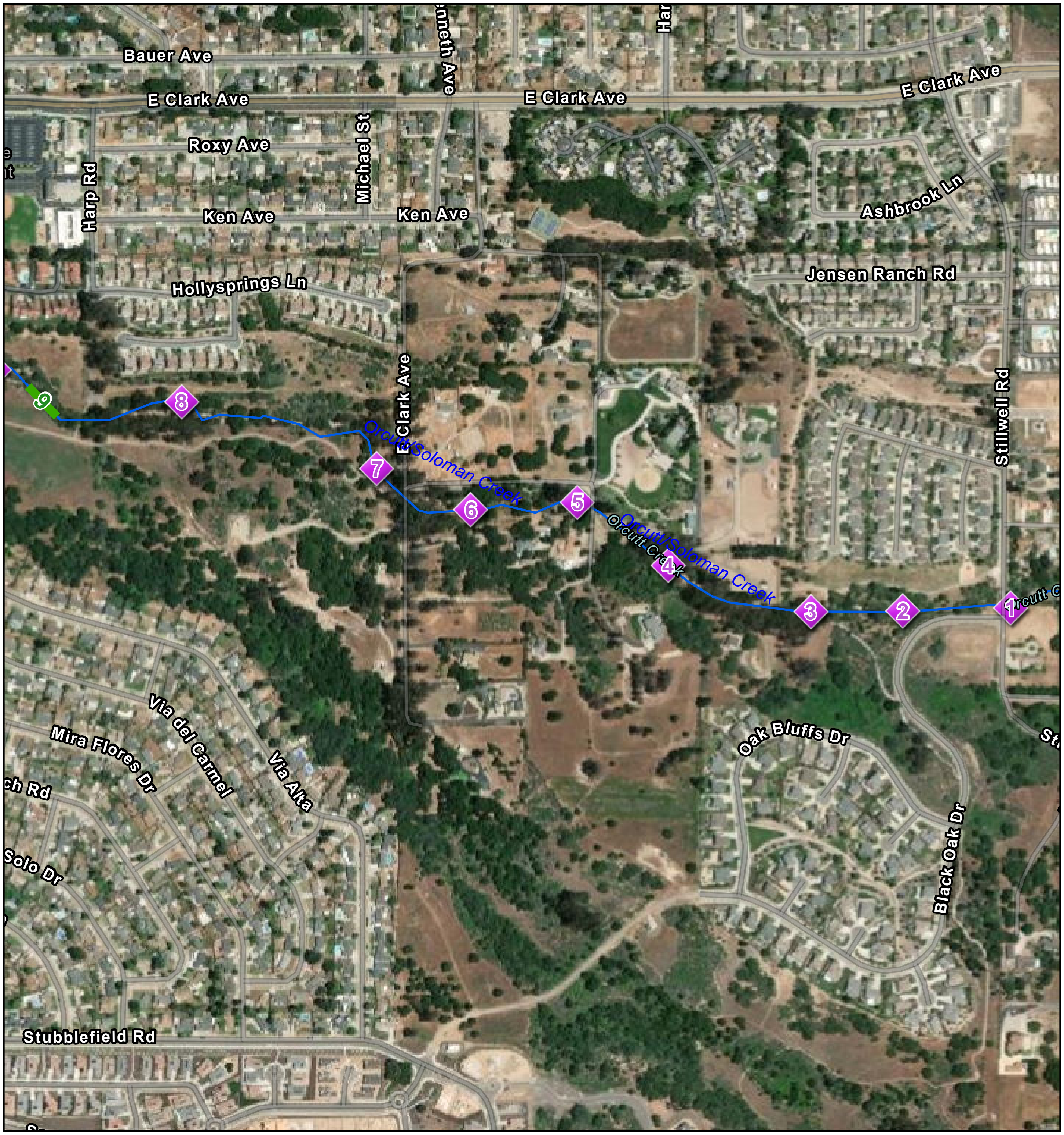
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore, the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

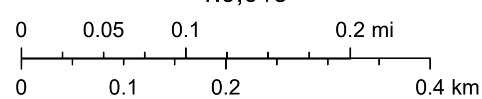
The project will take 6 days to complete.

Orcutt Solomon Creek - A



5/18/2022

1:9,015

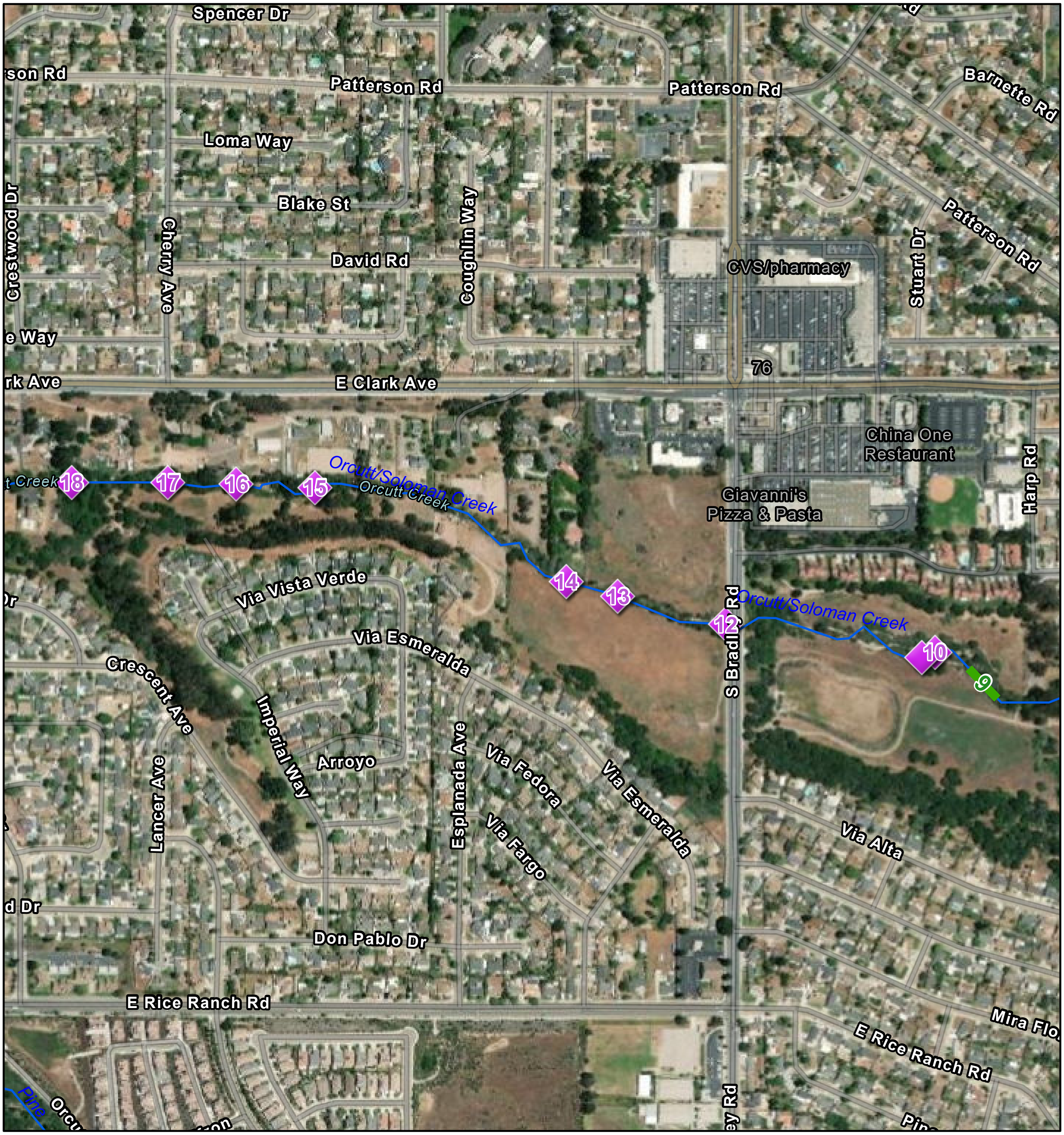


Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Orcutt Solomon Creek - B



5/18/2022

1:9,015

0 0.05 0.1 0.2 mi

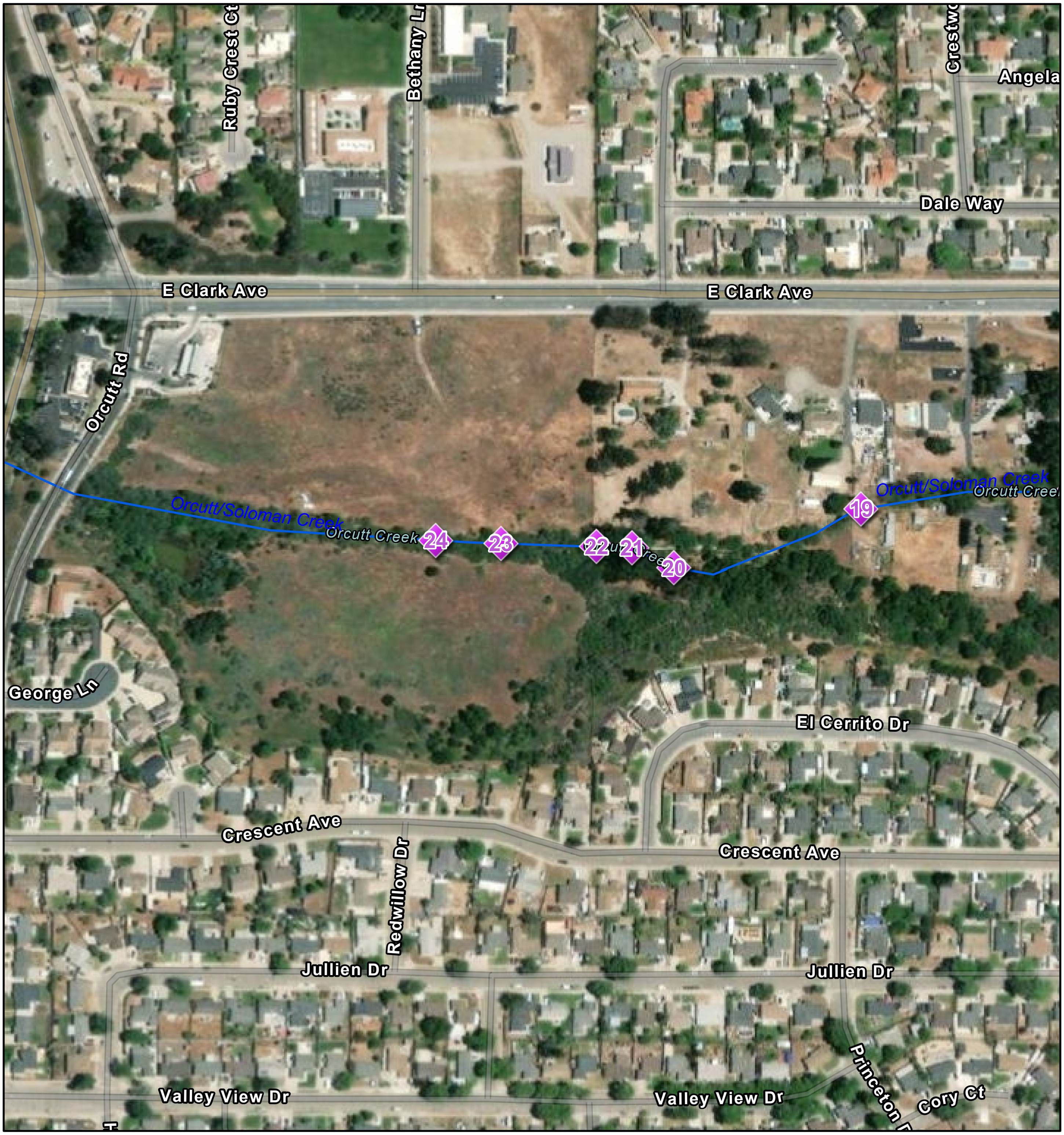
0 0.1 0.2 0.4 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Orcutt Solomon Creek - C



5/18/2022

1:4,508

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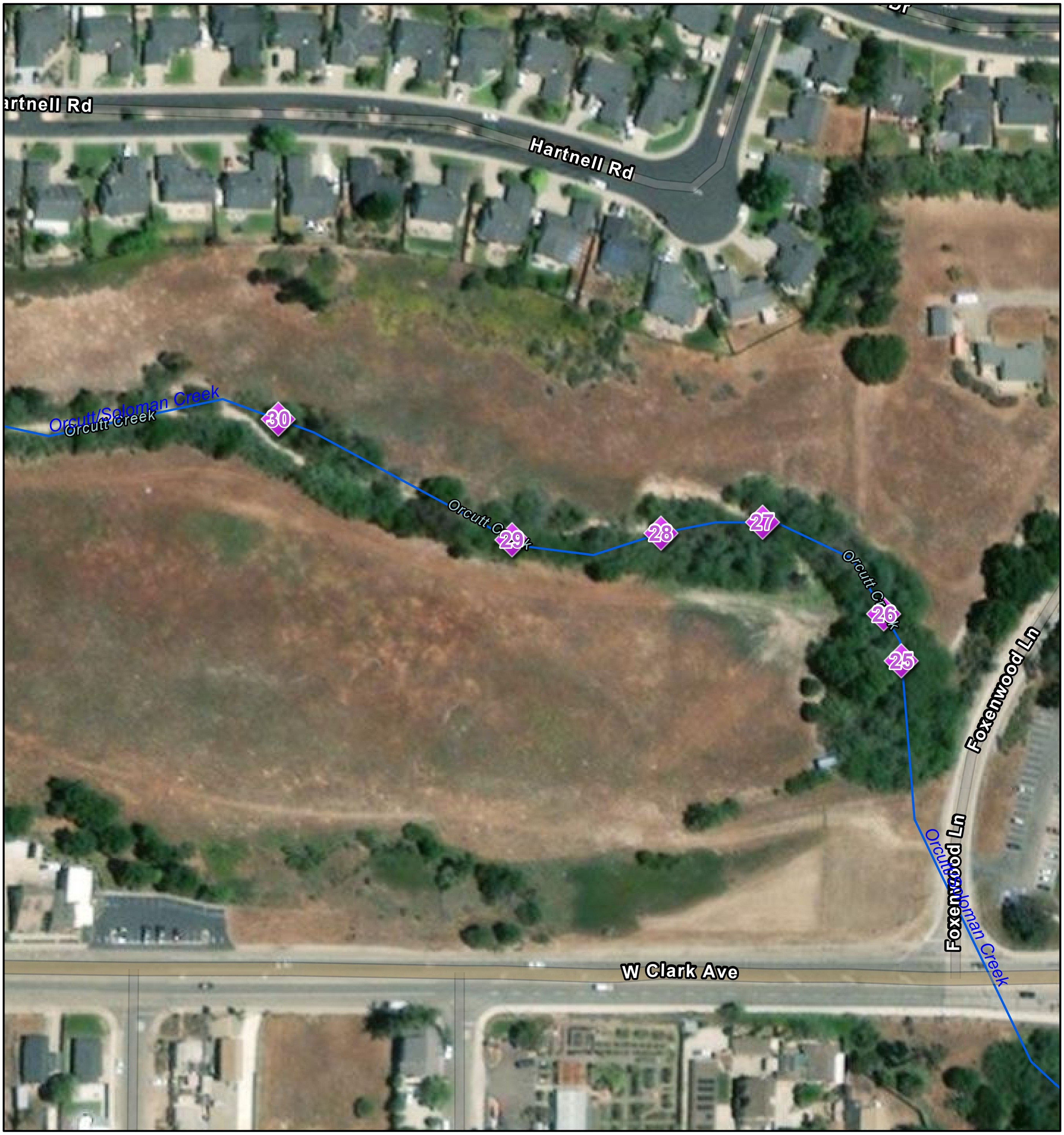
0	0.05	0.1	0.2 km

Sites_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Orcutt Solomon Creek - D



5/18/2022

1:2,254

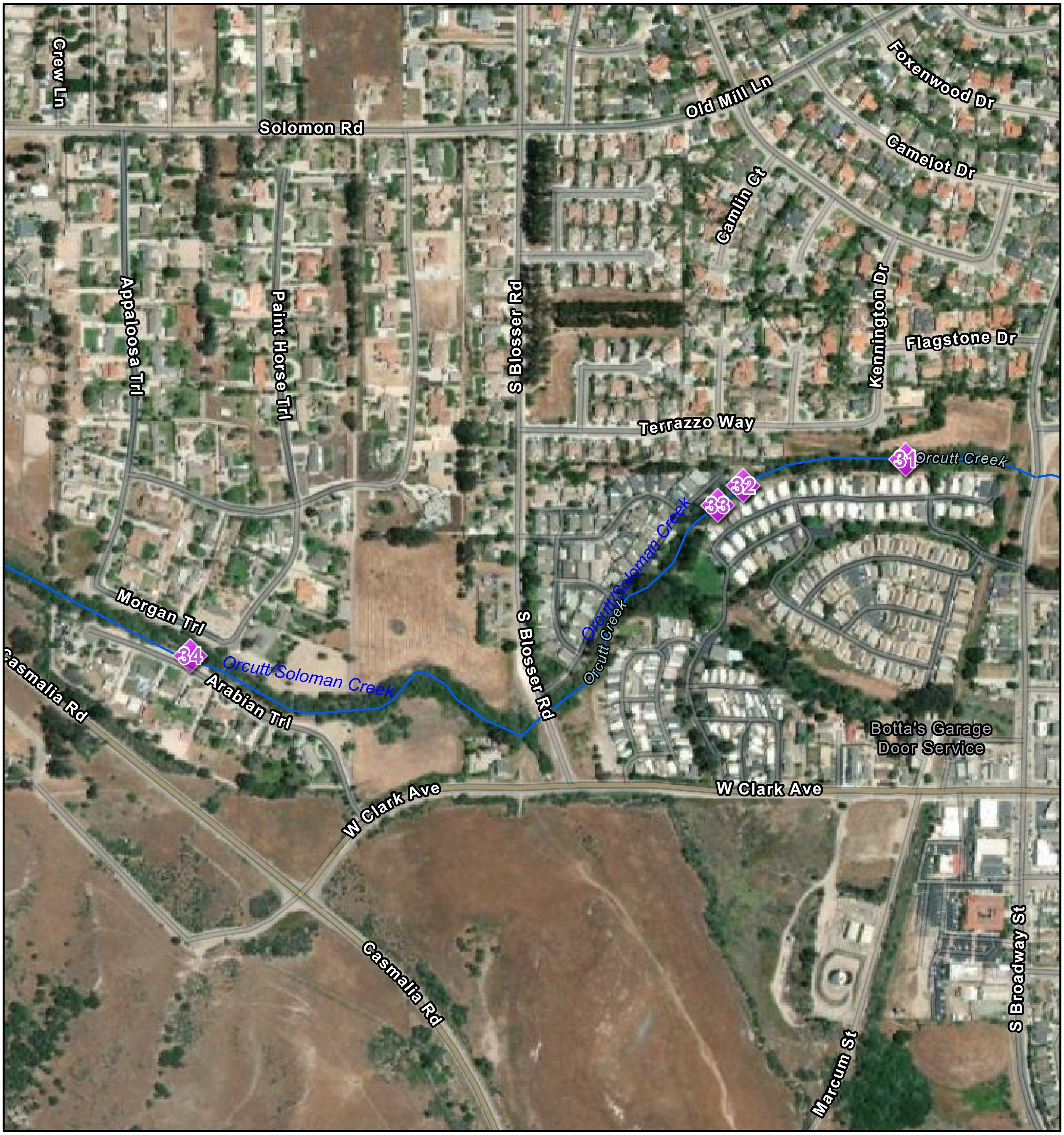
0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

Sites_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Orcutt Solomon Creek - E



6/8/2022

1:8,326

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0 0.07 0.15 0.3 km

Sites_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Orcutt Solomon Creek - F

6/8/2022

1:33,333

0 0.23 0.45 0.9 mi

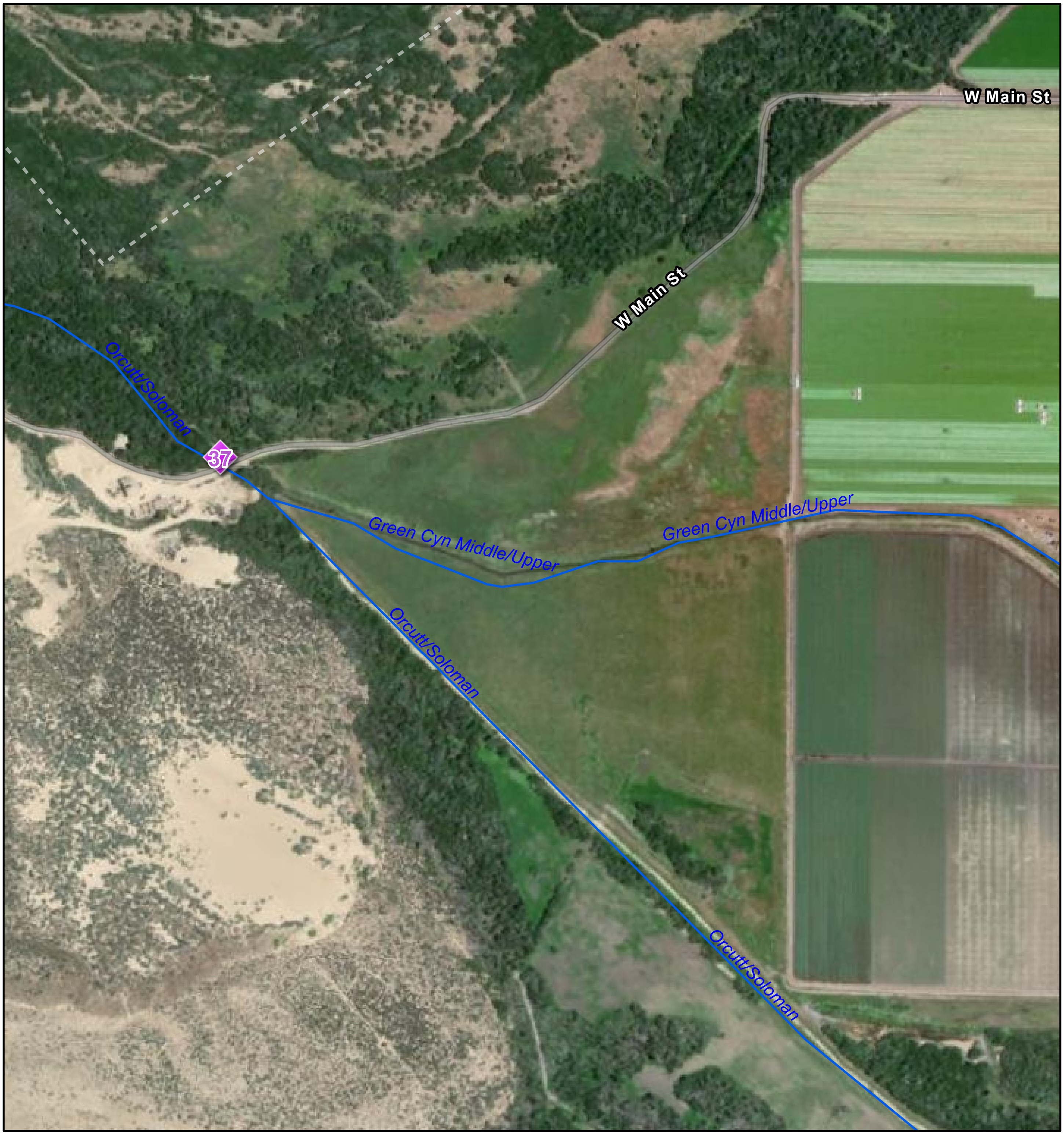
0 0.38 0.75 1.5 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Orcutt Solomon Creek - G



6/8/2022

1:8,244

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0 0.07 0.15 0.3 km

Sites_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Orcutt Solomon Creek

Section 14

Section 36

Orcutt Solomon Creek

Section 14

Section 36

RODEO-SAN PASCUAL CREEK AND BASIN MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project is located at Rodeo-San Pascual Basin and the northern end of the associated Rodeo-San Pascual Creek near the Santa Ynez River, approximately two miles west of the City of Lompoc.

Setting:
Inspected on March 16, 2022.

The Rodeo-San Pascual Basin is formed at the confluence of Rodeo Channel (also called La Salle Canyon) coming from the west and San Pascual Channel (also called Sloan Canyon) from the east. These two canyons run through the Lompoc Foothills into concrete lined channels, meeting south of Ocean Avenue, where each tributary flows through a concrete culvert under agricultural access roads. Rodeo Channel is concrete lined from approximately 2000' upstream of the basin and San Pasqual Channel is concrete lined from approximately 4600 feet above the basin. At the point of confluence, the drainages expand into a settling basin, approximately 1 acre in surface area. Flows into Rodeo-San Pascual Basin are mostly agricultural tailwater during summer months. The basin remains wetted year round due to natural seepage and irrigation in the watersheds.

Rodeo-San Pascual Basin has an earthen floor and sides. The banks are populated with weedy species 4 to 6 feet tall, including poison hemlock, black mustard, wild radish, fennel, and Italian thistle. A few native species such as willow sprouts, equisetum, and vervain are present mixed with the weedy species.

The basin has accumulated excessive sediment, nearing capacity and threatening to fill and flood adjacent properties and roadways. Ponded water exits the basin to the north through a concrete lined channel, eventually meeting the Santa Ynez River.

The concrete lined channel is maintained free of weeds and sediment. Cliff swallows utilize the water and small amounts of mud for building nests on nearby bridges and culverts. The last several hundred feet of Rodeo-San Pascual Creek, before it discharges into the Santa Ynez River (River), is earthen and contains mostly weedy vegetation on the upper banks along the first hundred feet of the earthen channel. After the first hundred feet beyond the concrete channel, the earthen channel is runs through a riparian corridor that blends into the Santa Ynez River banks. The area is well vegetated with species such as willows, blackberry, stinging nettle, cottonwood and poison oak. The tree canopy over the channel is very well developed and the channel bottom is usually clear of obstructive vegetation.

Ponded water exits the basin to the north through a concrete lined channel, eventually meeting the Santa Ynez River. The concrete lined channel is maintained free of weeds and sediment. Cliff swallows utilize the water and small amounts of mud for building nests on nearby bridges and culverts. The last several hundred feet of the channel, before it discharges into the Santa Ynez River (River), is earthen and contains mostly weedy vegetation on the upper banks along the first hundred feet of the earthen channel. After the first hundred feet beyond the concrete channel, the earthen channel is runs through a riparian corridor that blends into the Santa Ynez River banks. The area is well vegetated with species such as willows, blackberry, stinging nettle, cottonwood and poison oak. The tree canopy over the channel is very well developed and the channel bottom is usually clear of obstructive vegetation.

Revegetation:

Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Rodeo-San Pascual Watershed				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2006/2007	1,000	1,000	0	-1,000
2007/2008	500	1,500	0	-1,500
2010/2011	0	1,500	0	-1,500
2011/2012	0	1,500	1,500	0
2012/2013	70	0	100	30
2013/2014	0	0	0	30
2014/2015	0	0	0	30
2017/2018	0	0	0	30
2018/2019	0	0	0	30
2020/2021	0	0	0	30
2021/2022	0	0	0	30
2022/2023	0	0	0	30

Wildlife Survey:

The District Biologist has conducted wildlife surveys of Rodeo-San Pascual Basin in several times since 2010. A few adult red-legged frogs (RLF) were detected in the basin in 2010. RLF had also been observed in the lower channel and Santa Ynez River in 2017.

The District presumes that RLF may be present in the basin and lower channel. The basin was desilted in 2010, which involved relocation of several RLF and extermination of non-native crawfish from the entire basin during dewatering and desilting. The following year, over 100 RLF metamorphs were observed in the basin, strongly suggesting that breeding had occurred on site and that the extermination on non-native crawfish resulted in RLF recolonizing the site from upstream.

Further wildlife surveys in 2012 and 2014 indicated that crawfish had returned to the basin, as well as non-native bullfrogs, several of which were observed in the basin. RLF have not been detected in the basin since and no egg masses, tadpoles, metamorphs, or adult RLF were observed in 2017 through spring 2021.

The District will continue to inspect the area for RLF and will implement protective measures as needed to protect native aquatic organisms; however for the current season it is likely that RLF are no longer present in the basin at the site due to extreme predation. RLF may be present further downstream at the channel outlet and the confluence with the Santa Ynez River.

Engineering Analysis:

Rodeo/San Pasqual Channel and basin were built by the Soil Conservation Service to manage flows and sediment across the lower Lompoc Valley and maintenance of this facility is essential in providing flood protection to thousands of acres of agriculture. This basin periodically fills with sediment and must be desilted prior to the next rainy season. Removing the accumulated sediment in a staged approach will allow the majority of the basin to remain outside of the impact area and will also allow the retention of ponded water is other areas within the basin as the dewatering system is in operation.

Sediment has accumulated within the natural bottom portion of Rodeo-San Pasqual Channel between the concrete-lined channel and the confluence with the Santa Ynez River. The build-up of sediment impedes flows from the Rodeo-San Pascual Channel as they enter the river. This condition interrupts the sediment transport function of the channel and the river, slows flows down which raises water surface elevations, and reduces conveyance capacity within the Rodeo-San Pascual Channel, all of which exacerbates sediment accumulation within this channel. Additionally, downed vegetation is also obstructing flows through this facility. Maintaining an obstruction free channel at the outlet of the Rodeo-San Pascual Channel is also a required element of the maintenance of this federally funded project.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:

Desilting Rodeo-San Pascual Basin:

Dewatering Plan: The first step of the project will be to reduce the amount of water in the basin and allow the sediment to dry out. Water will be diverted from each incoming channel via a temporary sandbag or soil dam. A flexible pipe is installed around the perimeter of the basis for this purpose. The pipe will capture water from the channels and lead around the basin to the outlet channel. After the diversions are in place, water will flow around the basin and the sediments will start to dry. Water diversion will continue in this manner for 7 to 21 days, allowing water to percolate out of the sediment gradually and maintaining habitat for aquatic organisms.

After the diversion pipes are in place and the sediment has begun to dry around the edges of the basin, the District will begin pumping water out of the basin and into the downstream channel to retain water flow downstream. The pump inlet is fitted with screening and inspected daily when pumping. As the pump operates, the District periodically moves the intake and clears debris from the filter. As water receded, the District may need to use an excavator to dig a deeper pit to place the pump into.

Dewatering via the pump is a gradual, iterative process that takes several weeks. As was successfully performed in 2010, at one corner of the basin a temporary settling pit will be excavated first. This pit will allow standing water to drain into one smaller location, providing refuge for aquatic organisms and further allowing sediments to dry out. After the sediment has dried for several days, the settling pit will be excavated further, then the basin will be allowed to dry further for 1-2 additional weeks. This will encourage any remaining wildlife to move upstream, downstream, or into the settling basin. District Environmental Staff will monitor the site for special status species and will relocated any individuals downstream within the riparian corridor of Rodeo-San Pascual channel.

Due to the slow dewatering process and the limited work window, the District plans to begin mobilization and installation of the diversion/dewatering system in advance of the August 1 work window. The advance start date will facilitate the District crew to place diversion pipes, install temporary soil dams, pumping pits, and to begin pumping after June 1. The early mobilization also allows District Environmental Staff more time to monitor and relocate sensitive species, if present, because the diversion/dewatering process will be more gradual and strategic. The actual maintenance work of excavating the sediment will be more streamlined because the site will have more time to dry out over the course of the summer. The actual work of excavating the sediment would not occur until August 1, within the standard maintenance season. The District submitted a notice to RWQCB for the early-mobilization request, in accordance with Section C.1.b of the Water Quality Certification.

Desilting: An excavator or gradall with bucket extension will scoop out accumulated sediment and stockpile on the adjacent dirt road. A second excavator may work at the same time to speed up the desilting process. The District Biologist will monitor excavation and will capture and relocate any RLF as necessary. If present, RLF will be relocated upstream to suitable wetted habitat or downstream of the San Pascual Channel near the confluence with the Santa Ynez River where water is present year-round. This method of desilting with onsite monitoring has been implemented successfully for several years in the District's maintained drainages with RLF.

The estimated quantity of sediment to be removed is 5,000 cubic yards. Dewatering would begin in June or later, depending on the presence and density of RLF tadpoles and metamorphs. Desilting would begin after August during the routine maintenance season. Excavated sediment will be trucked to nearby farm fields along Ocean Road in the Lompoc valley.

The area is bare, exposed sediment and gravel with a strip of weedy vegetation along the edges. The project will not result in impacts to native vegetation.

Section 2:
Channel Outlet:

This section addresses the gap between the concrete lined section and the willow canopy further north downstream. This reach is approximately 200 feet long. The concrete liner ends and sediment laden water spreads over the floor of the earthen channel. This site frequently collects excess fine sediment.

The District will use an excavator or Gradall to remove the wedge of sediment, approximately 12 ft wide, 200 ft long, and 1-2 ft deep. The site is bare exposed sediment. Some material at the edge of the concrete liner will also be removed to provide a smooth transition. Approximately 150 cubic yards of material would be removed. The District Biologist will inspect the work area for RLF. If RLF are detected, the animals will be flushed and relocated downstream to the wetted channel.

The project will not result in impacts to native vegetation. The basin is bare exposed mud, standing water, and a fringe of roadside weeds.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take approximately 35 days to complete.

Rodeo - San Pascual Basin

5/16/2022

1:9,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sites 22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Rodeo - San Pascual Channel

5/16/2022

Lengths 22

1:2,254

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Rodeo-San Pasqual Drainages and Basin

Section 1

Section 2

SAN ANTONIO CREEK- LOS ALAMOS ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins approximately 400 feet downstream of Highway 101 and ends approximately four miles downstream of Bell St.

Setting:
Inspected on March 31, 2022.

San Antonio Creek, located in northwestern Santa Barbara County is near the unincorporated area of Los Alamos. The area where maintenance will occur is an approximately 5-mile portion of San Antonio Creek. San Antonio Creek through the maintenance area is low gradient, with sand and gravel substrate, running through low density urban areas of Los Alamos and agricultural fields downstream.

The maintenance area was dry during the spring inspection except for the downstream reach west of Bell St, which is typical of this creek. Riparian vegetation is generally quite dense along the entire maintenance area, dominated by medium and large willow trees. The creek invert is littered with fallen limbs and debris, but very little herbaceous growth due to the dense overstory and limited light infiltration.

Revegetation:
In the past, the District has implemented restoration at several locations within San Antonio Creek; however, some of the plantings have not been as successful as desired and therefore not counted towards mitigation. In other areas, the private property owners have not been willing to allow restoration along their creek banks. In 2006, however, the District was able to implement a large restoration site along the north bank of San Antonio Creek at Hamptons Farms. The 2009/2010 Annual Plan included two restoration areas as part of bank shaping and stabilization. Another site was established in 2011; the revegetation was washed away in late season flows but the bank protection remained in place, and was revegetated again in 2012. The following table is being included to more easily display and track the District's restoration efforts.

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)	Lg Tree Impacts	Tree mitigation installed
2002/2003	2,690	5,100	1,500	-1,190		
2003/2004	1,925	4,000	0	-3,115		
2004/2005	3,800	7,600	0	-6,915		
2005/2006	0	7,000	0	-6,915		
2006/2007	800	7,800	7,800	85		
2007/2008	760	2,400	0	-675		

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)	Lg Tree Impacts	Tree mitigation installed
2008/2009	350	4,670	0	-1,025		
2009/2010	0	4,670	4,670	3,645		
2010/2011	1,400	2,150	2,150	4,395		
2011/2012	0	500	1,000	5,395		
2012/2013	0	0	0	5,395		
2013/2014	160	0	0	5,235		
2014/2015	0	0	0	5,235		
2015/2016	200	0	0	5,035		
2016/2017	20	0	0	5,015		
2017/2018	0	0	0	5,015		
2019/2020	25	0	0	4,990	1 willow 6" dbh	10 willows
2020/2021	75	0	0	4,915		
2022/2023	30	0	0	4,885		

Engineering Analysis:
Maintenance of San Antonio Creek requires removal of debris and downed or overhanging vegetation to preserve flood flow conveyance and to protect adjacent properties. Obstructive vegetation consisting primarily of downed limbs and trees as well as limbs projecting into the active channel will be removed from the main channel at various locations to provide conveyance of flood waters as well as reduce the debris load which can aggravate bridge and culvert plugging.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (inches)	Length (feet)	Impacts to be Mitigated (ft2)	Additional Info
Section 1	x			willow	4	12		
Section 2	x			willow				multiple
Section 3			x	sandbar willow				
Section 4		100x8		willow			30	
Section 5	x			willow	5	15		
Section 6	x			willow				multiple
Section 7								debris plug
Section 8	x			willow	14	30		

Section 9	x			willow				leave part of stump to resprout
Section 10	x			willow				multiple
Section 11	x			willow	6	20		
Section 12	x			willow	5	15		
Section 13	x			willow				multiple
Section 14	x			willow				multiple
Section 15	x			willow				multiple
Section 16	x			willow	8	15		
Section 17	x			willow				multiple
Section 18	x			willow				
Section 19	x			willow				

<u>Impact Analysis and Mitigation Measures:</u>
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

<u>Project Specifics:</u>
The project will take 8 days to complete.

San Antonio Creek Los Alamos-A

5/18/2022

1:9,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Antonio Creek Los Alamos-B

5/18/2022

1:18,031

0 0.13 0.25 0.5 mi

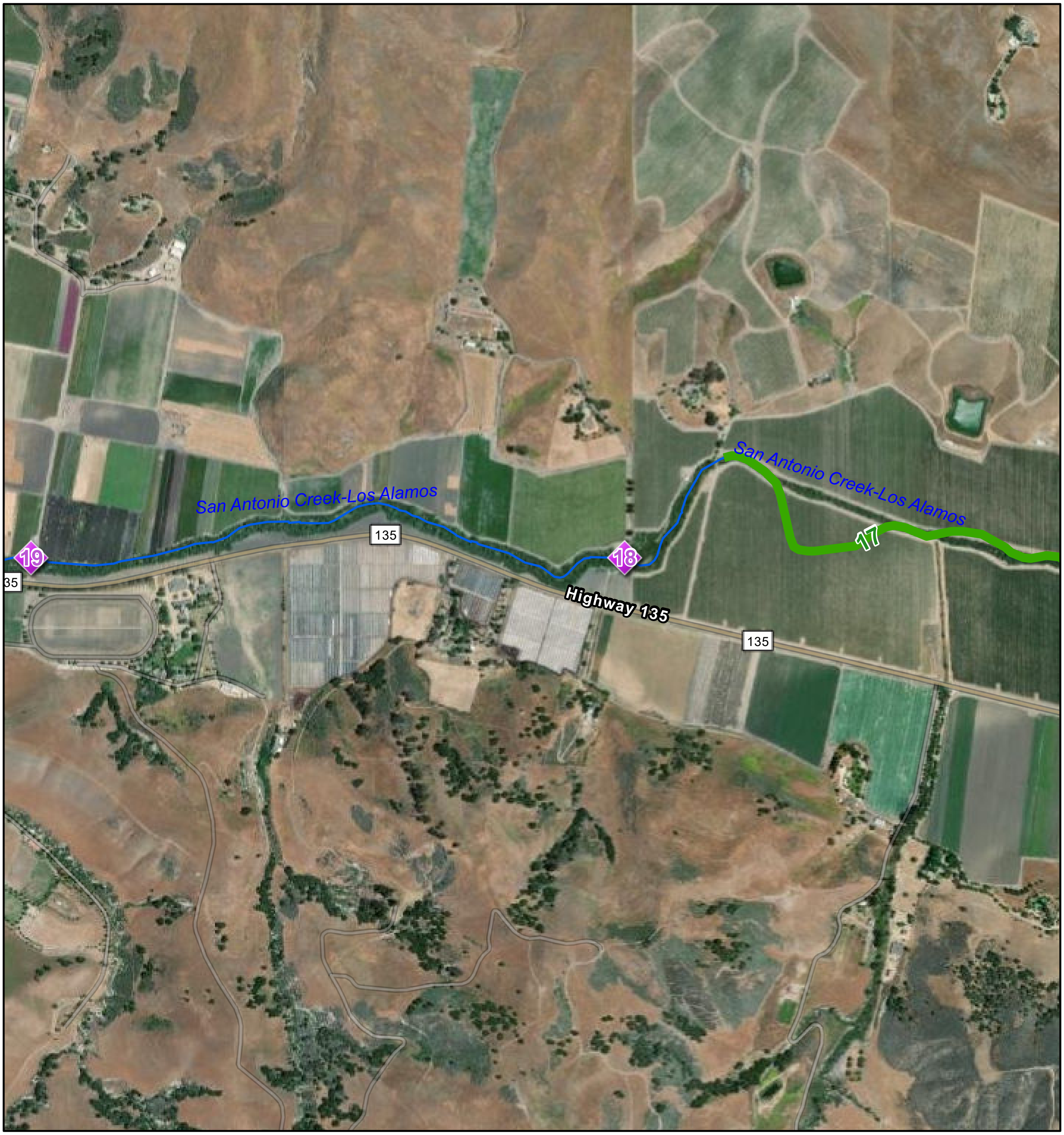
0 0.2 0.4 0.8 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Antonio Creek Los Alamos-C



5/18/2022

1:18,031

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Antonio Creek Los Alamos

Section 2

Section 8

SANTA MARIA AIRPORT/ABEX CHANNELS ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:

The Santa Maria Airport/Abex channels are located along the northeast side of the Santa Maria Municipal Airport. See attached map for specific locations.

Setting:

Inspected on March 29, 2022.

Airport Channel begins a short distance to the west of the intersection of Skyway Drive and Lakeview Road northeast of the Santa Maria Airport. The Airport Ditch is a trapezoidal channel that has been reinforced with hard bank structures (i.e., concrete rip-rap) in some locations. The ditch trends northwest along Skyway Drive for approximately 1 mile. After passing beneath Skyway Drive, the ditch runs generally westward along the south side of the former Sunset Ridge Golf Course. Runoff is directed from north and west of the golf course to a weir structure in corner of the channel adjacent to the golf course. The weir enables water to be diverted into a natural, westward-trending channel that leads to Betteravia Lakes. A three-quarter mile segment of the Airport Ditch between Air Park Lane and the point where Skyway Drive turns north is concrete lined.

Vegetation along portions of the ditch varies in composition. Emergent aquatic species such as cattail, bulrush and sedges occur in the streambed along with bare sand and gravel. The banks of the channel are sparsely vegetated with predominantly non-native, ruderal species, including patches of exotic pampas grass. The District is working on removing exotic vegetation and replacing native willows and riparian trees. The restoration areas have created a willow canopy that helps minimize dense obstructive vegetation in the channel. The District continues to replant species in the restoration areas and remove pampas grass. Both native and non-native trees are present along some segments. Arroyo willow is the most common native tree species.

Abex Channel is a combination of concrete-lined and earthen ditch that is located adjacent to the Santa Maria Airport and is a tributary to Airport Ditch. The Santa Maria Airport property is located to the south and west, industrial buildings and a large paved lot are located to the north. The earthen portion of this channel is located at the confluence with Airport Ditch and is approximately 500 feet long. The remaining length of Abex Ditch (upstream of the earthen portion) is concrete lined, travels amongst industrial and office buildings located northeast of the airport, and contains poor habitat for any native plants or animals. Portions of the concrete-lined channel are underground within culverts. The District typically performs maintenance tasks only in the earthen segment of Abex Channel. This reach often becomes colonized with patches of cattail and bulrush which constrict the flow capacity of the drainage. Adjacent vegetation is mostly weedy species such as wild radish, black mustard and telegraph weed along the banks. The District installed approximately 4,000 square feet of native riparian vegetation along 300 linear feet of the south bank in 2005.

Revegetation:

Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Abex and Santa Maria Airport Channels				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2004/2005	14,000	14,000	14,000	0
2005/2006	5,500	5,500	5,500	0
2006/2007	0	0	0	0
2007/2008	0	0	0	0
2008/2009	90	90	0	-90
2009/2010	0	1,600	1,600	1,510
2010/2011	0	0	0	1,510
2011/2012	0	0	0	1,510
2012/2013	1,250	3,000	2,650	2,910
2013/2014	3,000	1,000	3,400	3,310
2014/2015	200	0	0	3,110
2015/2016	0	0	0	3,110
2016/2017	0	0	0	3,110
2017/2018	0	0	0	3,110
2018/2019	0	0	0	3,110
2019/2020	0	0	0	3,110
2020/2021	200	0	0	2,910
2021/2022	150	0	0	2,760
2022/2023	150	0	0	2,610

Wildlife Survey:

The California red legged frog (RLF) has been detected in the Airport Channel and Abex Channel. Red legged frogs were observed in the wetted portions during surveys in 2003 and maintenance monitoring in 2005. In dryer years, RLF are generally not detected in the channel.

Similarly, RLF were observed in the Abex Channel sporadically since 2003. It is expected that frogs are likely to be present in the drainage when standing water is present, therefore work in the channel is postponed until the dry season.

The District presumes that red legged frogs may still be present in the channels and implements protective measures and monitoring as required. The District has developed a management strategy and special conditions for red legged frog through a Biological Opinion issued by the US Fish and Wildlife Service.

Proposed maintenance in Airport and Abex Channels uses a Gradall with a mower attachment to mow non-native vegetation, leaving enough residue to serve as wildlife cover. The District Biologist monitors equipment work and captures/relocates any RLF that are flushed from vegetation during the work. This strategy has been successfully deployed for several years in RLF habitat.

If standing water is present, the District Biologist will monitor sediment-moving operations. RLF will be flushed from the work site and relocated out of the work area into adjacent habitat downstream of the weir. Impacts to the red legged frog and other species discussed in the Program EIR are expected to be less than significant with the incorporation of proposed mitigation measures, monitoring, and special conditions in the Biological Opinion.

Engineering Analysis:

The Airport/Abex channels are engineered drainages designed to convey storm flows from portions of Orcutt and the City of Santa Maria through the industrial areas of the Airport area. Reduction in capacity, as a result of excessive vegetation and/or sedimentation, subjects the surrounding areas to frequent flooding. The Santa Maria River valley is very flat and all of the drainage courses are prone to sedimentation. Vegetation in the channel bed aggravates this situation. Obstructive vegetation in these drainages can severely restrict channel capacity resulting in flooding of roads, commercial/industrial properties as well as the airport. Vegetation lowers velocities and increases the potential for sedimentation and the attendant reduction in channel capacity. Therefore, controlling vegetation to minimize the potential for sedimentation will maintain the design capacity of the channels.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Airport Channel

Section 1:

This reach is lined with a well-developed willow corridor. Lower limbs of the willows are dangling and projecting into the active channel. Using chainsaws and hand tools, the District crew will limb the trees to remove lower branches up to a height of 6 ft. Upper branches will be left in place for shade and habitat. The project will not result in impacts to live native vegetation.

The District will use a Gradall with a mower attachment to mow the existing cattails along the bank and south edge of the channel. The mower will leave 6-12” of vegetation stubble as wildlife cover. The strip of vegetation approximately 5’ wide along the north edge of the channel will not be mowed, but will be left behind as wildlife cover.

Section 2:

This reach is an overflow channel that conveys water away from A-street basin to the weir at the airport ditch. This reach has becoming filled with sediment and vegetation, raising the elevation and resulting in water backing up into the ditch upstream.

In order to reclaim the depth needed to maintain proper drainage slope, the reach must be periodically excavated.

Through this reach, the District will use a Gradall with bucket attachment. Working from the adjacent access road, and trench will be desilted to an approximate depth of 1-2 ft and 5 ft wide, for a length of 750 ft. The desilting area will taper down and blend into the existing topography at the downstream end. Approximately 200 cubic yards of material will be removed.

The culvert under the access road typically accumulates sediment from urban runoff in the associated ditches upstream. Using a Gradall stationed at the adjacent access road, the District will scoop sediment out of the culvert ends, upstream and downstream. A small drag-sled will be used, if needed, to remove additional sediment from within the culvert box. Approximately 10 cubic yards of material will be excavated.

The material will be placed behind the machinery on the access road to dry, and then staged for Airport staff and contractors to use elsewhere on the property for grading or landscaping. The work area will likely be dry during maintenance. The District Biologist will perform a pre-project assessment. If standing water remains, the District Biologist will be onsite for bio-monitoring. Any RLF will be flushed from the work site or temporarily captured and relocated to wetted habitat elsewhere in the same drainage ditch, per the terms of the Biological Opinion.

The work area is sporadically vegetated with weeds and ruderal species. Occasional patches of native species, comprising 150 ft2, will be impacted in the work area.

Section 3

The District crew will limb a myoporum tree that is blocking the channel of the ditch.

Section 4

Occasional sprouts of cattail, bulrush, and non-native species with the floor of the ditch will be spot-sprayed with herbicide. A followup treatment will be made in the following spring/summer as needed. The work will result in 100 ft2 of temporal impacts to native vegetation.

Abex Channel

Section 1:

This section of the ditch had a narrow but well-established willow corridor along the south bank. At some point in 2016, the willows and shrubby vegetation were damaged by an unknown party, exposing the ditch to sunlight and potential erosion. The ditch is therefore subject to obstructive weedy growth and bank failure.

In this length (approximately 4’X450’), the weedy upper slope of Abex ditch will be mowed for the entire length. A Gradall using a mower attachment will also drive along the adjacent access road and reach into the ditch to mow the weedy vegetation and grasses on the floor of the channel and the north bank. The mower will leave 6-12” of vegetation stubble as wildlife cover.

The strip of bulrush along the south toe will not be mowed, but will be left behind as wildlife cover. A follow-up application of herbicide may be done in the spring/summer (only on the floor of the channel) if vegetation begins to resprout in the floor of the channel. Spot-spray will be suspended during February/March/April for the RLF breeding season. This area is mostly non-native ruderal species but includes a few patches of native cattails; the work will results in 50 ft2 of impacts to native vegetation.

The south bank, where the vegetation was damaged, will not be mowed or trimmed, to allow the willows and shrubs to regrow.

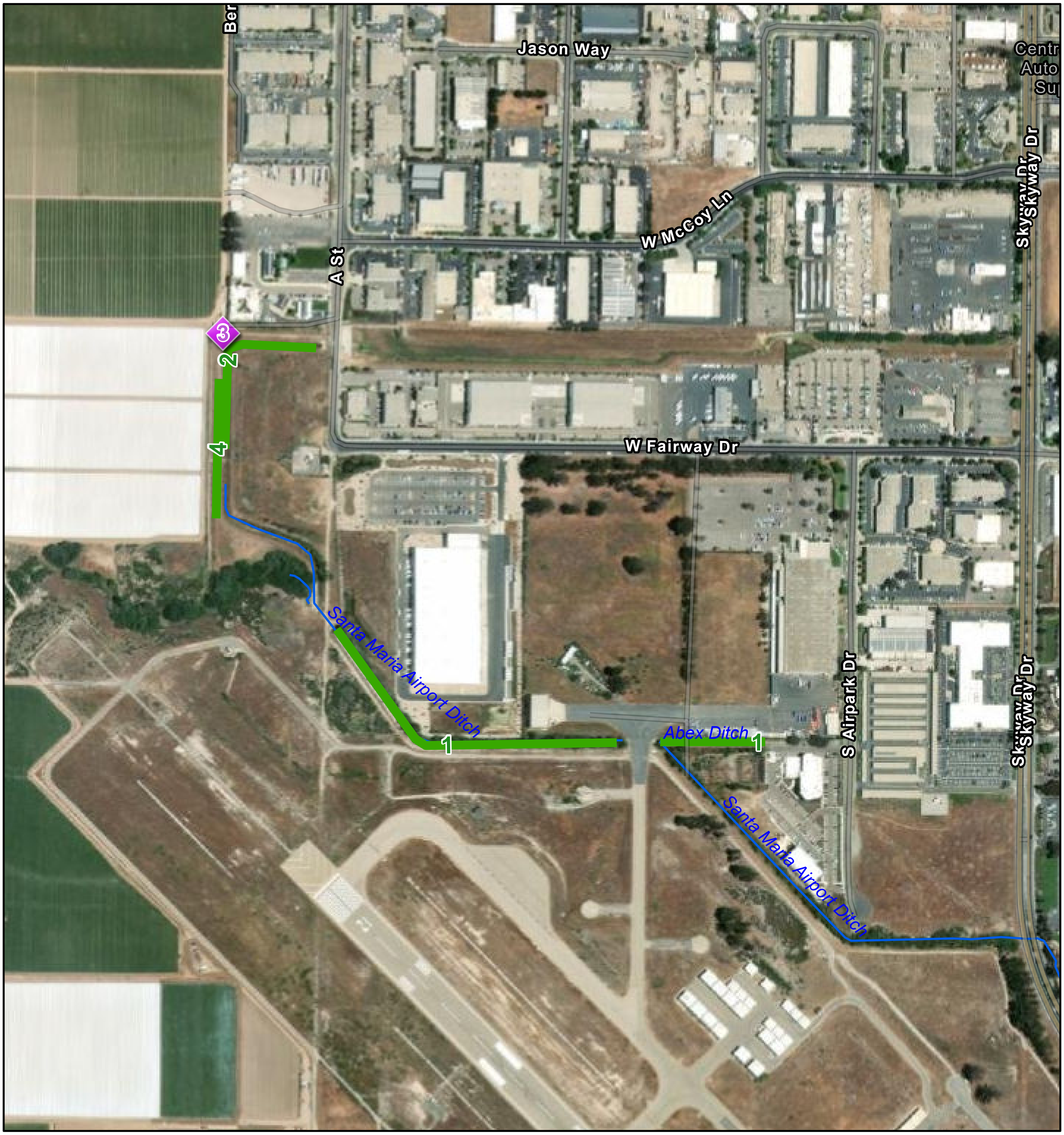
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

This project will take approximately 5 days to complete.

Santa Maria Airport Ditch / Abex



5/18/2022

1:9,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Santa Maria Airport/ABEX Channels

Section 2

Section 3

SANTA MARIA RIVER ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The sections of the Santa Maria River proposed for maintenance are west of the City of Santa Maria, along the southern levee where drainage culverts convey water through the levee and along the northern levee upstream and downstream of Bonita School Road.

Setting:
Inspected on March 21, 2022.

The Santa Maria River originates in the Los Padres National Forest and drains a 1,600 sq. mile watershed capable of producing 100,000 cfs during a 100 year return period precipitation event. Two main tributaries, the Sisquoc River and Cuyama River, join east of the City of Santa Maria and continue westward to the Pacific Ocean. Approximately 26 miles of the River are bounded by a levee along portions of the north and south banks to protect farms, and the cities of Santa Maria and Guadalupe. Between the levees, the Santa Maria River is a wide sandy corridor with a series of active and inactive braided channels. Willows as well as scrub and shrub species populate the sand and gravel substrate, while much of the channel is bare sediment. Sediment is chiefly sand and fines from deposition.

At several locations along the southern and northern levees, urban runoff and agricultural tailwater is channeled through the levee via culverts. The culverts empty into the river system just up from the toe of the levee, while the active flow channel of the Santa Maria River might be several hundred feet away. In the summer months, tailwater dries up before joining the active channel. Most of the lower Santa Maria River goes completely dry during the summer.

Santa Maria River is designated critical habitat for the Southern California Distinct Population Segment of steelhead (*Oncorhynchus mykiss*). The District developed a Vegetation Management Plan in 2016, as required by the National Marine Fisheries Service (NMFS), which describes the District's approach to vegetation management as it relates to the consideration of steelhead while providing flood protection.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

The Santa Maria River Levee Operation and Maintenance manual, which prescribes standard procedures and maintenance requirements for the Federally constructed *Santa Maria Valley Levees and Channel Improvements* states "The flood flow channel…was cleared of brush, trees, and obstacles under the terms of the contract for construction of the project." The manual also says that the agency responsible for operation and maintenance (Santa Barbara County Flood Control District) "shall maintain the channel or floodway clear of debris, weed and wild growth."

A section of the Code of Federal Regulations that governs maintenance of the levee project states: "Where practicable, measures shall be taken to retard bank erosion by planting of willows or other suitable growth on areas riverward of the levees."

Santa Maria River				
Annual Plan Year	New Temp Impacts to Native Veg (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2003/2004	0	435,600	65,000	65,000
2006/2007	52,000	0	0	13,000
2007/2008	551,000	485,700	588,000	50,000
2008/2009	26,100	0	26,000	49,900
2009/2010	0	0	0	49,900
2010/2011	72,150	100,000	0	-22,250
2011/2012	800	0	0	-23,050
2012/2013	325	0	0	-23,375
2013/2014	100	0	74,000	50,525
2014/2015	1,800	43,560	13,000	61,725
2015/2016	0	0	0	61,725
2016/2017	0	0	0	61,725
2017/2018	400	0	0	61,325
2018/2019	0	0	0	61,325
2019/2020	0	0	0	61,325
2020/2021	0	0	0	61,325
2021/2022	60	2000	0	61,265
2022/2023	625	0	0	60,640

Over the years the District has allowed and encouraged growth of willows and shrub/scrub vegetation in the river channel. From Fugler Point, where the levee starts, to the terminus at Highway 1 in Guadalupe, the levee system encompasses approximately 4,100 acres of land of which nearly 1,800 acres are covered by varying densities of the shrub/scrub type of habitat. The vegetated areas have various densities of natives such as mulefat, bush lupine, sandbar willow, coyote bush, mugwort, and a variety of nonnatives including wild radish, pearly everlasting, malva, black mustard, bromes, and morning glory, to name just a few. The Army Corps of Engineers has agreed that this vegetation that has been allowed to colonize the channel can be used as mitigation acreage for the temporal disturbance during pilot channel construction and other maintenance-related impacts. This type of habitat is of relatively low quality; the diversity, density and wildlife habitat is essentially identical between the areas to be cleared and the colonized vegetation on the adjacent terraces. In contrast, disturbance in higher-quality willow woodland has historically been mitigated by the District through compensatory restoration sites with new plantings.

In 2010, the Regional Water Quality Control Board requested that the District develop additional mitigation and restoration measures for incidental impacts to vegetation within the Santa Maria River System. The District would performed riparian plantings at a 1:1 ratio for impacts that occurred in shrub/scrub or mixed willow/riparian habitats, while the District would not be required to mitigate for impacts occurring over bare substrate or weedy growth.

Engineering Analysis:

The Santa Maria River Levee was constructed by the US Army Corps of Engineers to a design capacity of the Standard Project Flood (SPF). The SPF flow rate is 150,000 cubic feet per second.

Obstructive vegetation must be removed in order to maintain flow through the channels and to prevent sediment accumulation and loss of the pilot channel structure. Loss of the pilot channels could lead to damage to the levee and bridge infrastructure, flooding of adjacent homes and land within the Santa Maria Valley.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:

This site conveys drainage from a culvert through the Santa Maria River levee. The District performed a repair at this culvert last year by excavating a shallow trench from the culvert opening.

Maintenance this year will involve spot-treatment with herbicide along the culvert outlet to retain drainage capacity away from the levee, as required by Army Corps levee guidelines.

The work area will be completely dry during summer maintenance. Approximately 25 ft2 of native vegetation will be removed.

Section 2:

This site conveys drainage from the Blosser Road culvert through the Santa Maria River levee. Maintenance this year will involve spot-treatment with herbicide along the culvert outlet and 50 linear ft of the drainage trench to direct runoff away from the levee, as required by Army Corps levee guidelines. Approximately 100 ft2 of native vegetation will be removed.

Section 3:

The row of willows along the north side of the levee will be limbed to provide the required 15-ft safety inspection area along the face of the levee. Low and fallen limbs will be pruned and removed. The work will not result in impacts to live vegetation.

Section 4:

This site conveys drainage from the Unit 2 culvert through the Santa Maria River levee. Maintenance this year will involve excavating accumulated sediment from the trench to ensure adequate drainage away from the levee. Using a combination of excavators and dozers, the District will regrade and groom the ditch for a length of 150 ft and 5 ft wide. Windrowed material will be groomed along the edges of the trench to establish banks. The willow thicket will be limbed to make room for the equipment and a fallen tree will be removed from the channel. The site is barren sand and weedy sediment, and will be dry during the summer maintenance season. The work will not result in impacts to native vegetation.

<u>Section 5:</u>
This site conveys drainage from the Unit 2 Tailwater ditch through the Santa Maria River levee. Maintenance this year will involve excavating accumulated sediment from the trench to ensure adequate drainage away from the levee. Using a combination of excavators and dozers, the District will regrade and groom the ditch for a length of 150 ft and 8 ft wide. Windrowed material will be groomed along the edges of the trench to establish banks. The willow thicket will be limbed to make room for the equipment. The site is barren sand and weedy sediment, and will be dry during the summer maintenance season. The work will not result in impacts to native vegetation. The District Biologist will inspect and monitor the site for wildlife.

<u>Section 6:</u>
The Santa Maria River runs under the Union Pacific Railroad line and Highway 1 bridges at this location. The District implements periodic spot-spray along a pilot channel under the bridges to ensure flowing water has a central pathway that does not interfere with the infrastructure. District crew will spot-spray willow sprouts and other woody vegetation within the pilot channel approximately 1,500 ft long and 8 ft wide. The work will result in intermittent impacts to native willow sprouts, totaling 500 square feet. Spot-spray every 4-6 weeks during summer and fall will prevent the need for further more aggressive weed treatments and excavation. Spot-spray will be limited the center channel so that the edges of the toe and banks can remain for wildlife habitat

<u>Impact Analysis and Mitigation Measures:</u>
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

<u>Project Specifics:</u>
The project will take 3 days to complete.

Santa Maria River - A

5/16/2022

1:21,868

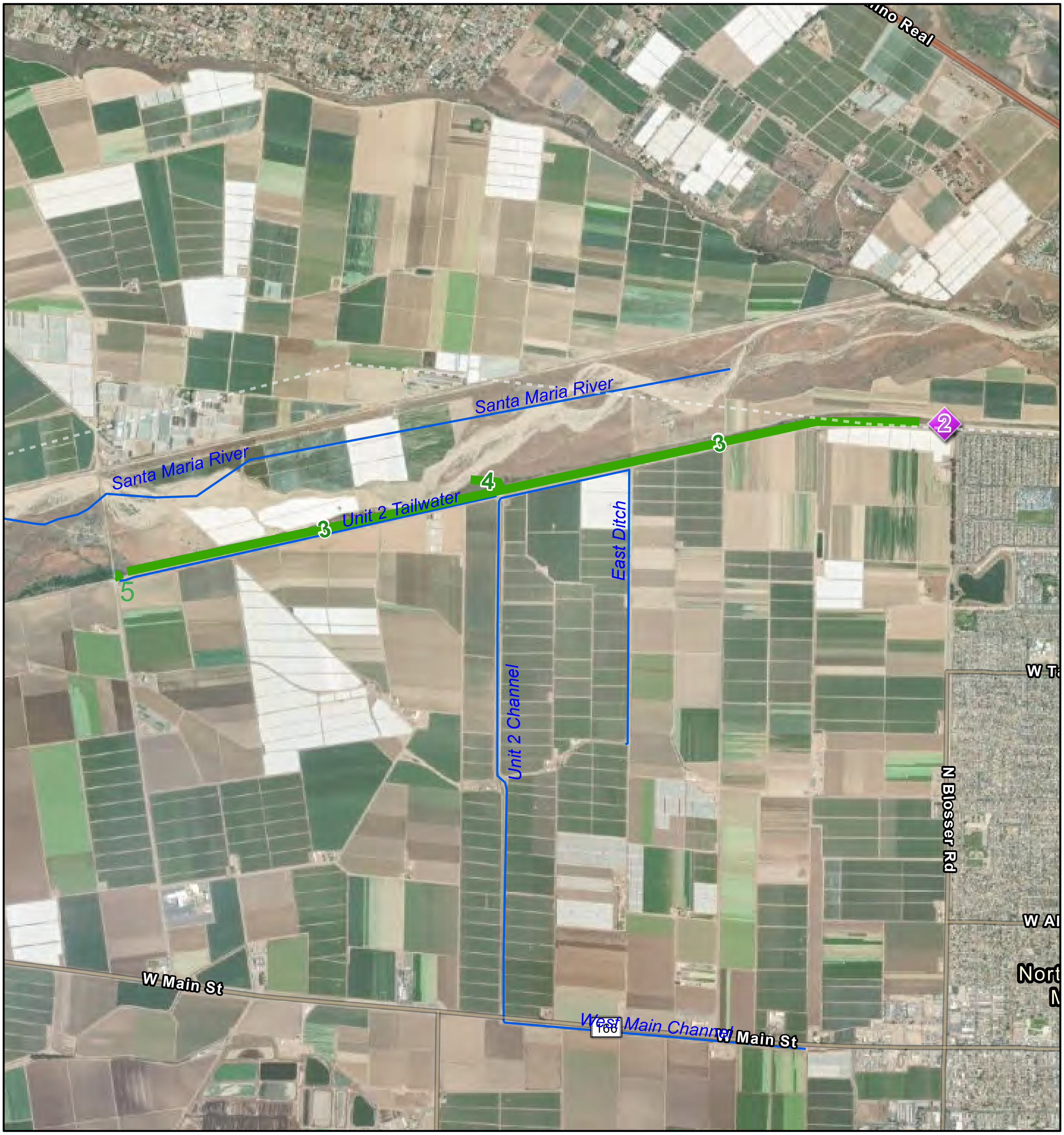
0 0.15 0.3 0.6 mi

0 0.23 0.45 0.9 km

Sites 22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Santa Maria River - B



5/20/2022

Lengths 22

Sites 22

1:43,836

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

Santa Maria River - C

5/16/2022

Lengths 22

1:10,934

0 0.07 0.15 0.3 mi

0 0.1 0.2 0.4 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Santa Maria River Levee

Section 3

Section 4

Santa Maria River Levee

Section 5

SANTA YNEZ RIVER
ROUTINE MAINTENANCE
ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:

The proposed maintenance within the Santa Ynez River begins approximately 1,400 feet upstream of the Rodeo-San Pascual confluence and continues approximately 2,000 feet downstream. This area was maintained during the initial phases of the Santa Ynez River Maintenance program. Willows have since grown back and the valley has formed a series of braided channels and sediment bars.

Setting:

Inspected on April 20, 2022.

The Santa Ynez River is one of the largest rivers in Santa Barbara County. The River is approximately 78 miles long and drains a watershed of 789 square miles. The River runs from west to east along the north slopes of the Santa Ynez Mountain Range. The lower watershed is on federal and private property. The river above the Lompoc Regional Waste Water Treatment Facility flows intermittently during the wet season, depending on rainfall and releases from the Bradbury Dam upstream. The river most often dries up during the summer months upstream of the City of Lompoc. Just below the WWTP, the river is perennial due to outflow from the facility. The facility treats up to 5 million gallons of water per day and releases the treated effluent into the Santa Ynez River adjacent to the proposed project reach. Portions of the project area are within a part of the river that is intermittently dry during summer months.

The Santa Ynez River has the highest quality riparian habitat of any other drainage system throughout Santa Barbara County and several listed species are either known to historically or currently occur at least nearby the proposed project reach. The California red-legged frog is known to occur and breed in the project reach, the river is designated as critical habitat for southern California steelhead, willow flycatchers are known to nest near the project reach although no focused surveys have been done for this species since the 1990s. The least Bell's vireo is known to nest in the upper Santa Ynez River drainage and was heard within the river in the lower Lompoc Valley outside of the current proposed project, in the late 1980s. No focused surveys have been done for this species.

The riparian vegetation contains well developed, multi successional stages of willow riparian woodland and also areas of specimen cottonwood and sycamore trees. The understory is densely vegetated almost to the point of being impenetrable. Understory vegetation consists of large stands of California blackberry, clematis, poison oak, elderberry, stinging nettle and nightshade while the flow areas of the river are dominated by young willows intermixed with areas of cattail and bulrush. The District will be removing willows and will not disturb the more complex understory areas.

Revegetation:

After a 100'-wide clearing project in December 1997/January 1998, the District implemented 18 acres of restoration along the Santa Ynez River in three separate locations to compensate for the 16 acres of riparian vegetation that was removed. One location is just upstream of H-Street along the south side of the river in a fallow field, another site was located at Riverbend Park near Rucker Road on the south side of the river and the third site was located beginning just upstream of Riverbend Park. The proposed maintenance is within the same areas that were maintained previously and therefore no additional restoration is proposed for this project.

Wildlife Survey:

The Santa Ynez River has the highest quality riparian habitat of any other drainage system throughout Santa Barbara County and several listed species are either known to historically or currently occur at least nearby the proposed project reach. The California red-legged frog is known to occur and breed in parts of the project reach.

The California Natural Diversity Database (CNDDB) shows historical observations of steelhead trout and red legged frog in the project region. The river is designated as critical habitat for southern California steelhead, willow flycatchers are historically known to nest within the river corridor but not within the project reach. The least Bell's vireo is known to nest in the upper Santa Ynez River drainage and was heard within the lower Lompoc Valley (outside of the current proposed project), in the late 1980s.

Protocol level surveys for Southwestern willow flycatcher and least Bell's vireo were performed in spring 2013, 2014, 2015, and spring 2017. The current work area overlaps the 2014 survey area, and no listed bird species were detected in this zone. While nesting birds frequently inhabit parts of the Santa Ynez River watershed, the work window has been delayed until late October/November to avoid the nesting season. Nesting birds would not be disturbed. The disturbance to vegetation is limited to the edges of the work corridor, while the remaining riparian habitat along both sides of the River remains intact.

A focused red-legged frog survey was not conducted, however red-legged frogs are known to occur within this region of the river and could potentially be present in standing water during maintenance operations. The vegetation maintenance will be performed outside of the wetted channel and along the edges of the channel. Pools will be avoided during clearing activities. All work will be performed outside of the RLF breeding season. The District Biologist will monitor vegetation removal operations and will provide a training session so crew members are aware of sensitive species issues and how to minimize disturbance to animal present on site. The District has successfully cleared vegetation for the past several maintenance seasons without harming any sensitive wildlife species.

Engineering Analysis:

As described in the 2001 Updated Routine Maintenance PEIR, the objectives for clearing obstructive vegetation within the Santa Ynez River is to maintain a 100-foot wide swath (or its equivalent in two swaths with a minimum width of 30 feet for each swath) along the project reach with non-obstructive vegetation in order to allow sufficient channel capacity for certain flood flows. The last time vegetation was cleared within the river at this location was during the 2011/2012 Maintenance Season and since that time vegetation has regrown and is obstructing flow areas. Over time the 100'-wide channel has been reduced. In order to restore capacity through this area and allow floodwaters to enter and flow through the Santa Ynez River, the District will clear an average of 50' of obstructive vegetation along the length of the channel.

Project Description:

The maintenance tasks proposed in the drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:

Upstream of the work area that was maintained last year near the Rodeo-San Pascual confluence, and extending upstream, approximately 100 ft, the former channel is now obstructed by dense willow thickets and debris.

Woody vegetation along the floor of the channel will be cut to widen the creek corridor to the prescribed 100'-width. The cutting be arranged to minimize large, mature riparian vegetation as much as feasible. A buffer of standing vegetation will be left behind along both edges of the wetted low-flow channel.

This District or contracted crew will use chain saws and hand tools. The willows will be cut into 4'-5' lengths and cast aside outside of the wetted channel. Patches of arundo will also be removed and dragged out of the creek corridor to desiccate and prevent further infestation.

Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

The project will take 3 weeks to complete.

Santa Ynez River

5/18/2022

Lengths_22

APCreeks

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Santa Ynez River

Section 1

TANGLEWOOD CHANNEL ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
Tanglewood Channel is located within the Tanglewood Subdivision on Black Road, approximately three-quarters of a mile south of Mahoney Road and west of the Santa Maria Airport. Maintenance will occur starting at the end of Myrtlewood Road and continue downstream approximately 330 feet.

Setting:
Inspected on March 29, 2022.

Tanglewood Channel begins at the end of Myrtlewood Avenue in the Tanglewood Subdivision. The channel begins as a storm drain outlet that receives run-off from the subdivision streets. Along with run-off from the subdivision, the ditch also collects street trash such as papers, soda cans, bottles, metal debris, and miscellaneous litter. This ditch runs approximately 330 feet to the south and then takes a 90-degree turn to the west for a distance of 460 feet where it flows under Black Road and eventually down to some ponded wetlands. The drainage meets with Orcutt Creek, although surface water is typically only present during the rainy season in the lower 460 feet of the drainage while the upper 330 feet of the drainage retains stagnant water year-round.

Approximately 80 feet of the ditch immediately upstream of Black Road is a concrete lined spillway that takes the ditch down to the elevation of Black Road. The earthen portion of the ditch is approximately 50-feet wide with a wetted flow area approximately 10 feet wide. During most years, most of the ditch dries out but the upper 1/3 or so remains wet from irrigation and urban slobber from the subdivision. Vegetation consists of sedges, rushes, non-native grasses and weedy species within the wet areas and immediately adjacent, however beyond the 10-foot wetted corridor the banks are annual grasses, occasional coyotebrush, goldenbush, and other sage shrubs. There are no trees growing along this ditch. Land use beyond the ditch is open pasture to south, east and west with the Tanglewood subdivision to the north.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. A table is being included in the 2010/2011 Annual Routine Maintenance Plan.

Tanglewood Channel				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2007/2008	200	1,800	0	-200
2010/2011	0	1,800	0	-200
2012/2013	1,400	3,600	0	-1,600
2017/2018	0	0	0	-1,600

2019/2020	0	2,250	0	-1600
2020/2021	0	2,250	2250	650
2021/2022	0	0	0	650
2022/2023	300	0	0	350

Engineering Analysis:
The Tanglewood Channel is designed to convey storm flows from the subdivision. Reduction in channel capacity, as a result of excessive vegetation and/or sedimentation, subjects the surrounding areas to frequent flooding because the storm drains and Tanglewood Basin will not be able to drain if the channel is not clear of obstructions. The Santa Maria River valley, including most of the Orcutt and Tanglewood area, is very flat and all of the drainage courses are prone to sedimentation. Vegetation in the channel bed aggravates this situation by lowering velocities and encouraging sedimentation which in turn reduces the channel capacity. Controlling vegetation to minimize the potential for sedimentation as well as removing recently accumulated sediment will maintain the design capacity of the channel.

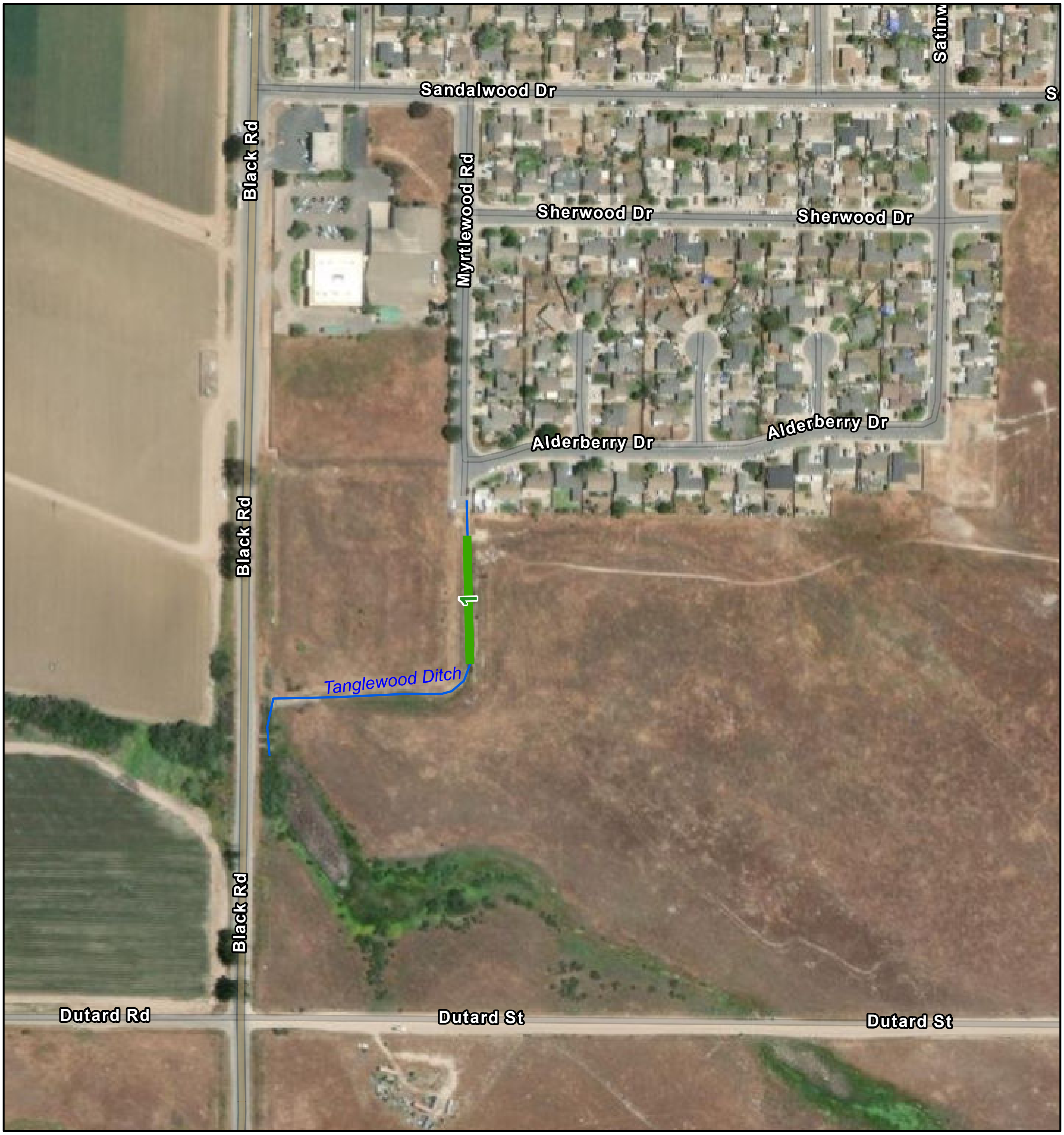
Project Description:
The maintenance tasks proposed in the drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:
Beginning 30 feet downstream of the end of Myrtlewood Avenue, the District will spot-spray vegetation sprouts along the right edge of the center of the channel. Cattail, bulrush, and weedy growth threaten to obstruct this channel. Spot-treatment of ½ of the channel will allow drainage to continue while preserving wildlife habitat along the left edge. Spot-spray will be suspended during Feb/March/April during amphibian breeding season. The District's herbicide management program has determined that periodic small treatments are more effective and use less herbicide product that a single larger treatment per season. This will result in 300sf of temporal impacts to native vegetation.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 1 day to complete.

Tanglewood Ditch



5/18/2022

Lengths_22

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0 0.05 0.1 0.2 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Tanglewood Ditch

Section 1

UNIT II, UNIT II TAILWATER, EAST, AND WEST MAIN CHANNELS ROUTINE MAINTENANCE
ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
Routine maintenance of the network of drainages located immediately west of the City of Santa Maria will occur on various sections of the Unit II, West Main, East and Unit II Tailwater channels. See attached map for specific locations.

Setting:
Inspected on March 21, 2022.

West Main Street Channel:
West Main Channel is a degraded unlined trapezoidal roadside ditch that runs from just west of Blosser Road in Santa Maria parallel to West Main Street for a distance of approximately 1.5 miles where it flows under West Main Street through a culvert and enters Unit II Channel. Dirt access roads run parallel to the channel on either side. Beyond the channel to the south are row crops and light industrial land use. To the north is West Main Street, light industrial property and row crops. West Main Street Channel receives runoff from the west end of the city of Santa Maria and surrounding agriculture fields and flows year round. The channel banks are vegetated with weedy species such as black mustard, wild radish, cheeseweed and telegraph weed. No trees grow on along this drainage.

Unit II Channel:
Unit II Channel is a constructed trapezoidal channel that trends north from West Main Street to the Santa Maria River Levee, a distance of about 2 miles, where it enters the Santa Maria River. Dirt access roads run parallel to the channel on either side. Row crops surround the channel beyond the access roads. This channel carries highly turbid runoff from the surrounding agriculture fields as well as runoff from the west end of the City of Santa Maria. Weedy species such as black mustard, wild radish, cheeseweed, telegraph weed, watercress, and annual grasses occur along the entire length of the channel. The District's maintenance program typically allows this vegetation to grow thicker at the toe of the bank along at least one side of the channel (to provide wildlife cover), while the higher banks are periodically mowed to keep the weeds to a minimum for the surrounding farmers. No trees grow along this drainage.

Unit II Tailwater Channel:
Unit II Tailwater Channel is an unlined, trapezoidal channel that carries highly turbid irrigation and storm water runoff from agricultural fields south of the Santa Maria River. The channel trends westward for about 1.5 miles parallel to the Santa Maria River Levee and discharges into the river just east of Bonita School Road. Dirt access roads run parallel to the channel on both sides. Vegetation within the bottom of the channel is relatively sparse and the banks of the channel are vegetated with weedy species such as black mustard, wild radish, cheeseweed and annual grasses. There are no trees along this drainage, except occasional willows isolated at the intersection with Bonita School Road. Water level is highly variable and can vary from 2-plus feet deep to completely dry, depending upon the surrounding crops and irrigation schedules.

East Channel:
The segment of East Channel that is maintained by the District is a 2-mile portion of the ditch that runs parallel to the Santa Maria River on the south side of the levee. The East Channel runs along agricultural fields and drains into Unit II, then through the levee via culvert. Vegetation in the bottom of the channel is relatively sparse due to infrequent flow; the banks are vegetated with weedy species such as black mustards, wild radish, cheeseweed, and annual grasses. There are no trees along this ditch. Water flow is highly variable and depends on runoff from the surrounding crops. Most of the year, East Ditch is dry.

Revegetation:

Unit 2, Unit 2 Tailwater, West Main, and East Channel				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2004/2005	0	0	0	0
2005/2006	415	415	415	0
2006/2007	0	0	0	0
2007/2008	50	50	50	0
2008/2009	0	0	0	0
2011/2012	150	500	0	-150
2012/2013	300	0	0	-450
2013/2014	0	0	0	-450
2014/2015	0	0	0	-450
2015/2016	0	0	0	-450
2016/2017	0	0	0	-450
2017/2018	0	0	0	-450
2018/2019	0	0	0	-450
2019/2020	0	0	2,500	2,050
2020/2021	0	200	0	2,050
2021/2022	0	0	0	2,050
2022/2023	500	0	0	1,550

Wildlife Survey:
As described in the project description below, proposed maintenance in this series of drainage ditches will require equipment reaching into the channel from the tops of the banks. This maintenance has the potential to impact wildlife, particularly the California red legged frog.

The red legged frog has been detected in Unit II Channel and Tailwater, as well as the West Main Street Channel, regularly since 2003. Red legged frogs have not been found in East Channel, but this drainage completely dries in most years and minimal maintenance (and surveys) has been performed.

The District has developed a management strategy and special conditions through a Biological Opinion issued by the US Fish and Wildlife Service. The District has successfully conducted maintenance on these four drainages during the last several years, has not injured any red legged frogs, and the population persists in the maintenance area when water is present.

As adjacent agricultural practices have switched from flood-irrigation to drip irrigation over the past several years, the amount of tail water in these channels has noticeably reduced. That, coupled with extreme drought, has resulted in less standing water and fewer red-legged frog present in these drainages.

Southwestern pond turtles (a state species of special concern) have been observed in Unit 2 Channel where the culvert meets the Santa Maria River levee. Biomonitoring and relocation for red legged frog will also serve to protect the southwestern pond turtle.

The District assumes red legged frogs may be present wherever standing water occurs in these channels. The District implements mitigation measures and best management practices as appropriate. Impacts to red legged frogs and other species address in the Program EIR are expected to be less than significant with the incorporation of the protective measures and monitoring conditions specified in the Biological Opinion.

The channel has many rodents and existing burrows available that may be attractive to burrowing owls. In fall and winter 2017, burrowing owls were observed in Unit 2 Channel, at the northern end of the channel near the Santa Maria River levee. The owls were observed foraging on the ground and flying over the adjacent ag fields. Inhabited burrows were detected in 2015, 2017, and 2018, although all burrowing owl sightings were in the non-breeding season and no nesting or breeding behavior has been detected in the area. Weekly site inspections by consultant field biologists noted burrowing owls through mid-March 2018, but no sightings from March through the spring/summer nesting season. Surveys during the breeding season have not detected burrowing owls or signs of occupied burrows in the vicinity. It appears the site is favored by overwintering burrowing owl individuals, due to remote location and bare/exposed sloping soils near the levee.

Burrowing owls may forage along the adjacent slopes and banks of the channel, but the species does not inhabit the wetted channel or riparian vegetation. Burrowing owls prefer sparsely vegetated dry slopes and hilltops. Vegetation maintenance such as mowing and desilting obstructive vegetation is limited to time periods outside burrowing owl nesting. Mowing is generally compatible with burrowing owl. All work is proposed in late summer and fall, outside of the burrowing owl nesting season.

Engineering Analysis:

The Unit II/West Main Channel system, including Unit II Tailwater channel and East Channel are engineered drainages designed to convey storm flows from the City of Santa Maria and adjacent agricultural areas. Reduction in capacity as a result of excessive vegetation and/or sedimentation subjects the surrounding areas to frequent flooding. It is necessary to maintain the proper gradient throughout the system to ensure that water reaches the Santa Maria River. In fact, portions of this system are in a leveed section, which is required to make the necessary gradient to the river. Overflows from this leveed section could have devastating results. The Santa Maria River valley is very flat and all of the drainage courses south of the levee and into the river are prone to sedimentation. Vegetation in the channel bed aggravates this situation. Sediment accumulation in these drainages can severely impede flows toward the Santa Maria

River Levee and into the river. If the sediment is not removed, flows from the ditches will not flow into the river and will accumulate on the south side of the levee resulting in flooding of adjacent prime farmlands. In addition, sedimentation or vegetative debris can wedge open the levee flap gates. In such a case, flows from the river could back-flow through the gates and further add to flooding on the landward side of the Levee.

The County owns and operates the Santa Maria River Levee as well as Unit II Drainage. By agreement, the Corps built the Levee and the County maintains the system. The flap gates and the drainages that flow through the Levee are an integral component to the Levee. Therefore, sediment and vegetation removal is necessary to allow flows to freely drain into the river and to maintain the design capacity.

<u>Project Description:</u>
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

West Main Channel:

Work Task:	***Mowing***	***Desilting***	***Work Area***	***Other***	***Impacts to be mitigated (ft2)***
Section 1	X				0
Section 2		X	100 cy		0
Section 3		X	3 cy	Erosion repair	0
Section 4		X	7 cy		0

<u>Section 1:</u>
Non-native vegetation on the banks will be mowed along the entire length of both banks of the channel. A strip of vegetation will be left along the toe of the bank.

Periodic spot spraying may be necessary to maintain the design capacity of the channel and prevent obstructions within the floor of the channel. Within the floor of the wetted channel, a 1-foot buffer strip will be left along the edge of one side. The buffer strip will not be spot sprayed at all. The remaining floor of the channel and the opposite side will be spot sprayed only as needed to control dense clusters of vegetation or vegetation that has become tall or dense enough to form an obstruction.

Spot-spray will be minimized during the months of February/March/April for RLF breeding. Later in summer (May through August) period spot spray may resume as needed in the channel to prepare for the next year's Annual Plan maintenance. The vegetation that sprouts along the channel is mostly ruderal/weeds such as wild radish, black mustard, poison hemlock, watercress and tumbleweeds, with occasional cattail sprouts. This area has been maintained previously and the impacts already tabulated for mitigation. There will be no impact to native vegetation.

<u>Section 2:</u>
A mound of accumulated sediment and watercress within the channel will be desilted using a gradall from the access road crossing. An area 300 ft long by 3 ft wide and 3 ft deep will be desilted. Approximately 100 cubic yards of material will be removed and re-

used elsewhere to fill bare pockets in the adjacent property. The site is watercress and weedy grasses; there would be no impact to native vegetation. The District Biologist will monitor the work for RLF and will perform survey and relocation as needed.

Section 3:
This section has rock and rubble collected around a pipe outlet. Excess material from desilting Section 2 will be placed around the pipe outlet to repair erosion damage. The work area is bare sediment and rocky and will not impact native vegetation. The District Biologist will monitor the work for RLF and will perform survey and relocation as needed.

Section 4:
This section has accumulated sediment and weedy growth in the floor of the channel. This sediment bar periodically collects and must be excavated to retain channel capacity and configuration. Using a Gradall excavator stationed along the adjacent access road, the crew will desilt a section 3 ft wide and 2 ft deep for a length of 30 ft.

The work area is bare sediment and ruderal weeds. There will be no impact to native vegetation. The District Biologist will monitor the work onsite to flush wildlife from the work area in advance of the excavation. RLF on the work area will be captured and relocated downstream.

Unit II Channel:

Work Task:	*Mowing*	*Desilting*	*Work Area*	*Other*	*Impacts to Native Vegetation*
Section 1	X			Spot-spray	500

Section 1:
Non-native vegetation on the banks will be mowed along the entire length of both banks of the channel. The mower will leave a height of 6 to 12 inches remaining as wildlife cover. A strip of vegetation will be left along the toe of the bank, above the water level for 1-2 feet up the slope of the bank.

Periodic spot spraying may be necessary to maintain the design capacity of the channel and prevent weedy obstructions.

Periodic spot spraying may be necessary to maintain the design capacity of the channel and prevent obstructions within the floor of the channel. Within the floor of the wetted channel, a 1-foot buffer strip will be left along the edge of the wetted channel. The buffer strip will not be spot sprayed at all. The remaining floor of the channel side will be spot sprayed only as needed to control dense clusters of vegetation or vegetation that has become tall or dense enough to form an obstruction.

Spot-spray will be minimized during the months of February/March/April for RLF breeding. Later in summer (May through August) period spot spray may resume as needed in the channel to prepare for the next year's Annual Plan maintenance. The vegetation that sprouts along the channel is mostly ruderal/weeds such as wild radish, black mustard, poison hemlock, watercress and tumbleweeds. Intermittent clusters of native species, primarily cattail and bulrush, will be treated, resulting in 500 ft2 of impacts to native vegetation.

Unit II Tailwater:

Section	*Mowing*	*Desilting*	*Work Area*	*Other*	*Impacts to Native Vegetation*
Section 1	X				0
Section 2		X	165 cy		0

Section 1:
Non-native vegetation on the banks will be mowed along the entire length of both banks of the channel. The mower will leave a height of 6 to 12 inches remaining as wildlife cover. A strip of vegetation will be left along the toe of the bank, above the water level for 1-2 feet up the slope of the bank.

As regional ag practices have changed, this section does not retain as much standing water as compared to 5-10 years ago. Weedy growth in the center channel has diminished, but periodic spot spraying may still be necessary in some areas to maintain the design capacity of the channel and prevent weedy obstructions.

Section 2:
This site has an accumulation of sediment at a drainage culvert opening. The District will desilt an area approximately 300 ft long by 5 ft wide and 3 ft deep using a Gradall excavator stationed along the existing access road. Approximately 165 cubic yards of material will be removed from the channel. Some of the excavated material may be re-used at other work areas to fill potholes and erosion pockets.

The District biologist will monitor the work. Red legged frogs will be flushed and relocated from the work area per the District's Biological Opinion. This section has is mostly bare sediment and non-native wild radish and mustards. The work will not result in impacts to native vegetation.

East Ditch:
Section 1:
East Ditch will be mowed for the entire length. Additionally, the District will spot spray woody weeds along the centerline of the drainage ditch to keep an unobstructed pathway for flow. One edge of the channel will left un-sprayed during an application to leave a strip of vegetation along the toe of one of the banks. The work area will be dry during maintenance. Work in this section has no impact to native vegetation.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
These projects will take 3 weeks to complete.

Unit 2, West Main, East Ditch, Tailwater - Mowing

1:35,000

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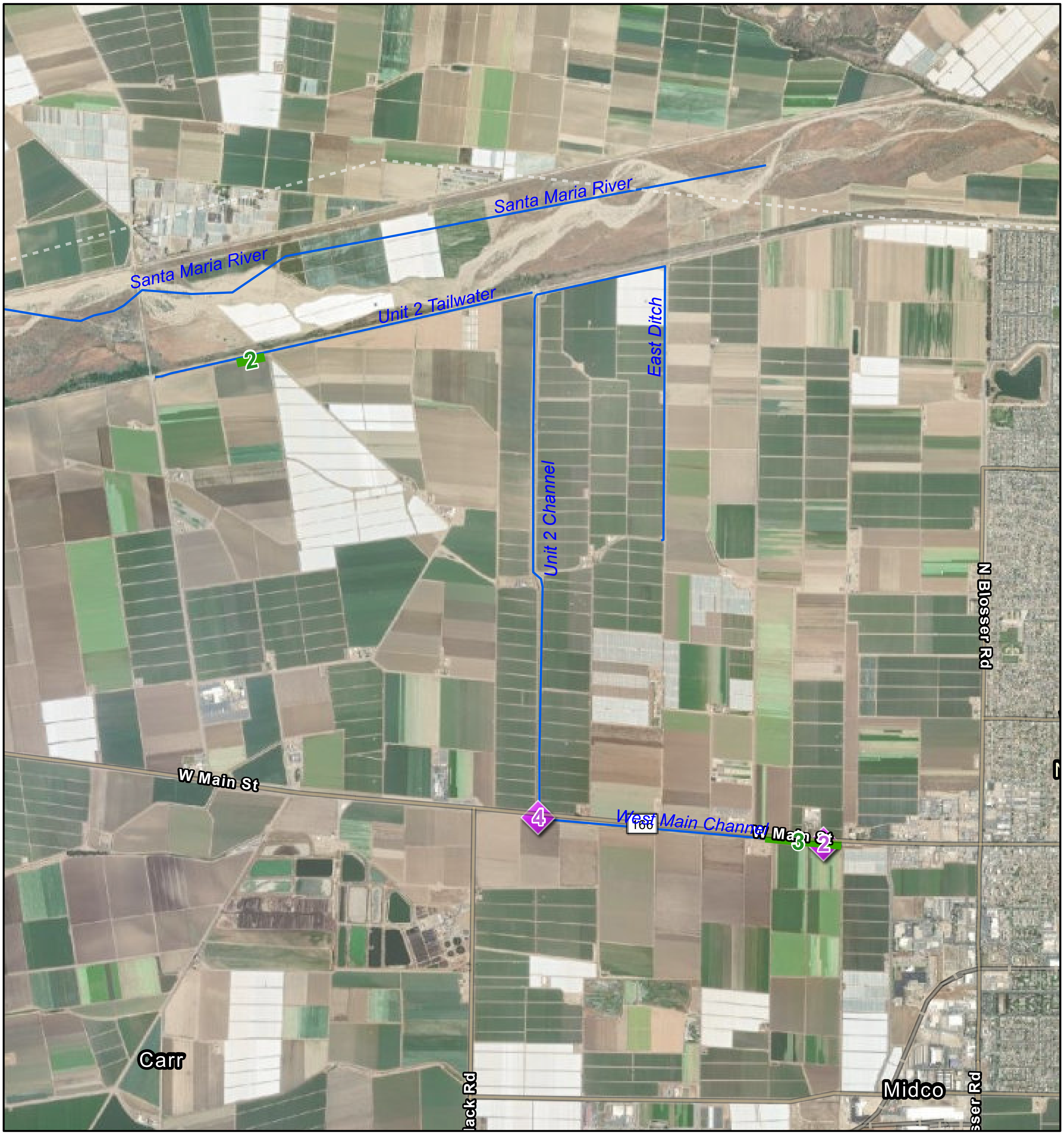
0 0.38 0.75 1.5 km

Lengths

mowing

Creeks

Unit 2, Tailwater, West Main, and East Channels



5/20/2022

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0 0.5 1 2 km

Lengths 22

Sites 22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

West Main Channel Section 2

West Main Channel Section 4

Unit II Channels

Unit II Tailwater Section 2

ZACA CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL MAINTENANCE

Location: The project begins 300 feet downstream of McMurray Road and continues downstream to Avenue of the Flags in Buellton.

Setting:
Inspected on March 31, 2022.

Zaca Creek is a tributary to the Santa Ynez River and runs through the central portion of the city of Buellton. The District routinely maintains Zaca Creek from just upstream of Highway 101 to the Santa Ynez River. Zaca Creek drains a 21,000-acre watershed capable of producing 4,600 cfs during a 100-year return period precipitation event.

Flows within Zaca Creek occur during storm events and don't persist long after the rainfall ceases as it is a small watershed with very sandy substrate. The quality of the habitat varies greatly along the creek with portions of the creek within a concrete box culvert upstream of Highway 246. The banks are vegetated with willows and mostly non-native ornamental species through the residential and commercial developments. The invert does not typically contain riparian or emergent vegetation but does grow grasses or other non-native weedy species.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Zaca Creek					
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Restoration Bank Credits Utilized*	Surplus Restoration (ft2)
2003/2004	500	700	700		200
2008/2009	600	4,000	0		-400
2010/2011	0	2,000	0		-400
2012/2013	50	2,100	0		-450
2014/2015	0	0	0	450	0
2015/2016	495	0	0	495	0
2016/2017	400	0	0	400	0
2017/2018	30	0	0	30	0
2022/2023	0	0	0	0	0

*The District has undertaken a large bioswale/restoration project in Santa Ynez. The surplus square footage at this site is used to offset small impacts in nearby watersheds (Zaca, Zanja de Cota, and Adobe Creeks)

Wildlife Survey:
Maintenance at Section 2 may involve excavating some sediment to gain access to the drainage culvert in the active channel. No sensitive species are known or likely to occur at the project area. The site will may retain a trickle of flow during the maintenance season. If flowing water is leaving the work site, a haybale and erosion-control fabric barrier will be placed downstream. The District Biologist will inspect and monitoring the work as needed to minimize disturbance to wildlife and habitat.

Engineering Analysis:
Zaca Creek flows directly through the City of Buellton. Several culverts exist on the creek that can be prone to plugging. These culverts must remain clear and able to drain into Zaca Creek so the surrounding properties and roadways are not subject to severe inundation. Additionally, obstructive and downed vegetation must be controlled within the channel because if left unabated, obstructive vegetation will reduce the conveyance capacity of the creek, contribute to debris plugs, potentially cause flows to be directed towards banks that could lead to erosion and loss of property and additional riparian vegetation, and threaten adjacent properties and roadways. The main channel must remain free and clear of obstructive vegetation and deposited sediment to preserve channel conveyance.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

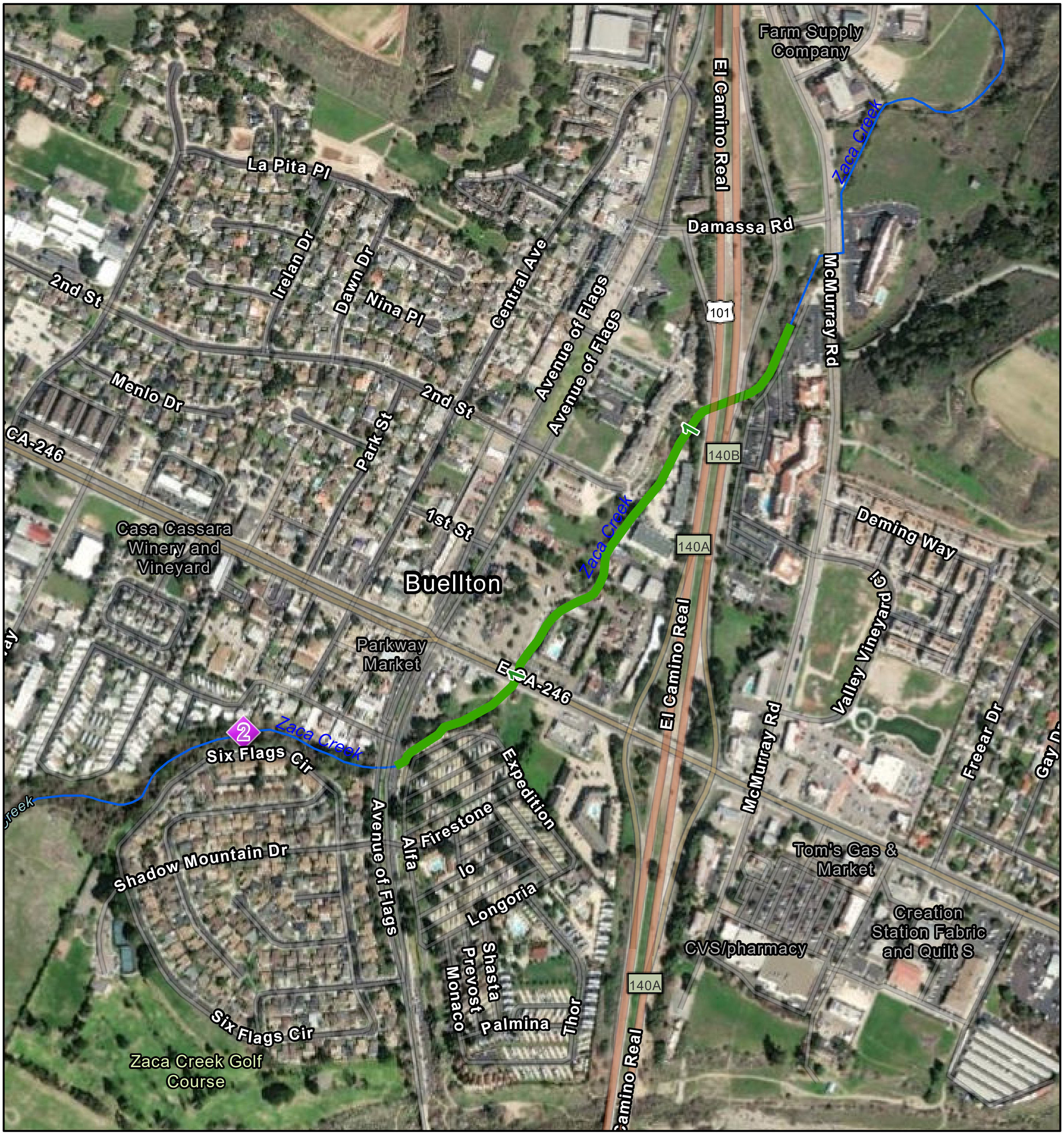
Section 1:
Maintenance will remove multiple down trees and fallen limbs in the section from McMurray Road to Avenue of the Flags.

Section 2:
Section 2 involves the drainage culvert running from Buellton Regional Basin. The culvert enters Zaca Creek at this site and the outflow from the pipe typically delivers a high sediment load throughout the year. As a result, the end of the culvert has become partially buried in sediment. The District crew will cut back the end of the pipe to allow for better drainage to the creek channel.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 4 days to complete.

Zaca Creek



5/18/2022

1:9,015

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0 0.1 0.2 0.4 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Zaca Creek

Section 1

Section 2

ZANJA DE COTA CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The maintenance area begins at Faraday Street in the community of Santa Ynez and ends at Tivola Street.

Setting:
Inspected on March 31, 2022.

Zanja de Cota Creek is a small, intermittent drainage that runs through the community and back yards of Santa Ynez. The drainage collects mostly stormwater from the residential lots on both sides of the surrounding watershed. The channel is shallow, generally only a few feet lower than the adjacent yards. The channel has little to no riparian canopy, only occasional oaks and willows mixed with grassy lawns and landscape vegetation along the entire length of both banks. Downstream of the suburban development in Santa Ynez, the Creek drains though a narrow riparian corridor and meets the Santa Ynez River.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan.

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Restoration Bank Credits Utilized*	Surplus Restoration (ft2)
2012/2013	100	0	0	0	-100
2015/2016	150	0	0	250	0
2017/2018	50	0	0	50	0
2021/2022	0	0	0	0	0
2022/2023	50	0	0	50	0

*The District has undertaken a large bioswale/restoration project in Santa Ynez. The surplus square footage at this site is used to offset small impacts in nearby watersheds (Zaca, Zanja de Cota, and Adobe Creeks)

Engineering Analysis:
Zanja de Cota is a very narrow and shallow drainage that passes through the back yards of many residences as well as through culverts and bridges within the community of Santa Ynez. Most of the drainage flows directly through the back yards of residential areas and is approximately 5' wide. Obstructive vegetation impedes flows and adds to the debris load generated during high runoff. Vegetation can plug bridges, downstream culverts, and divert flows out of the narrow/shallow channel and cause flooding to adjacent properties. Removing obstructive vegetation and debris from the active channel can reduce the potential for flooding.

Project Description:
Below is an explanation of typical Annual Plan maintenance practices for vegetation removal and mitigation. These explanations will not be included within each corresponding project description section. If the section number in the Annual Plan requires more explanation than below, it will be stated in the "Additional Info" column. Otherwise, please refer to these descriptions for typical maintenance and mitigation.

Limbing/Down trees or limbs: A crew using chainsaws and loppers will remove the obstructive vegetation from the active channel. The vegetation will be cut up and hauled out of the creek or left on the upper banks, depending on access. If a down tree or limb is smaller than 4" diameter or shorter than 6' long then no dimensions will be included in the description because it does not meet the threshold for either LWD or KWD.

Brushing: A crew with chain saws and loppers will brush the (insert vegetation name). The vegetation will be removed with hand tools and a glyphosate herbicide registered for aquatic use will be applied to inhibit regeneration. A follow-up application of herbicide may be done in the spring/summer if the vegetation begins to resprout and needs additional treatment.

Mitigation: Limbing trees results in the trimming of limbs and therefore does not remove whole living trees or shrubs therefore, the District is not required to, and does not mitigate for limbing with riparian restoration. The District also does not provide restoration as mitigation for down trees, broken branches, or dead trees. All sections that use these terms will not have any restoration as mitigation associated with them. The District's Maintenance Program incorporates other mitigation measures to reduce limbing impacts to a less than significant level.

Brushing and complete live tree removals (native vegetation only) are mitigated for by the District with riparian restoration. If a section includes brushing or removal of native vegetation, the associated mitigation quantity will be quantified in that section's description. If no mitigation quantity is included in a Section description, no mitigation is required.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (inches)	Length (feet)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		4x20		sandbar willow			50	
Section 2		x(20x24)		valley oak	<4		trees to be transplanted	see section 2
Section 3	x			willow	6	25		

Section 2:
Several young valley oaks with dbh 1-3" have grown in the footprint of the wingwall leading to the culvert under the intersection of Edison and Tivola Streets. The District crew will remove this vegetation. As many small saplings will be salvaged and transplanted as feasible. The young trees will be donated to the Santa Ynez Band of Chumash Indians for ongoing restoration on their land along various project further downstream. Oaks on the upper bank will remain. Several oak sprouts were transplanted last year and the remaining sprouts will be transplanted this year.

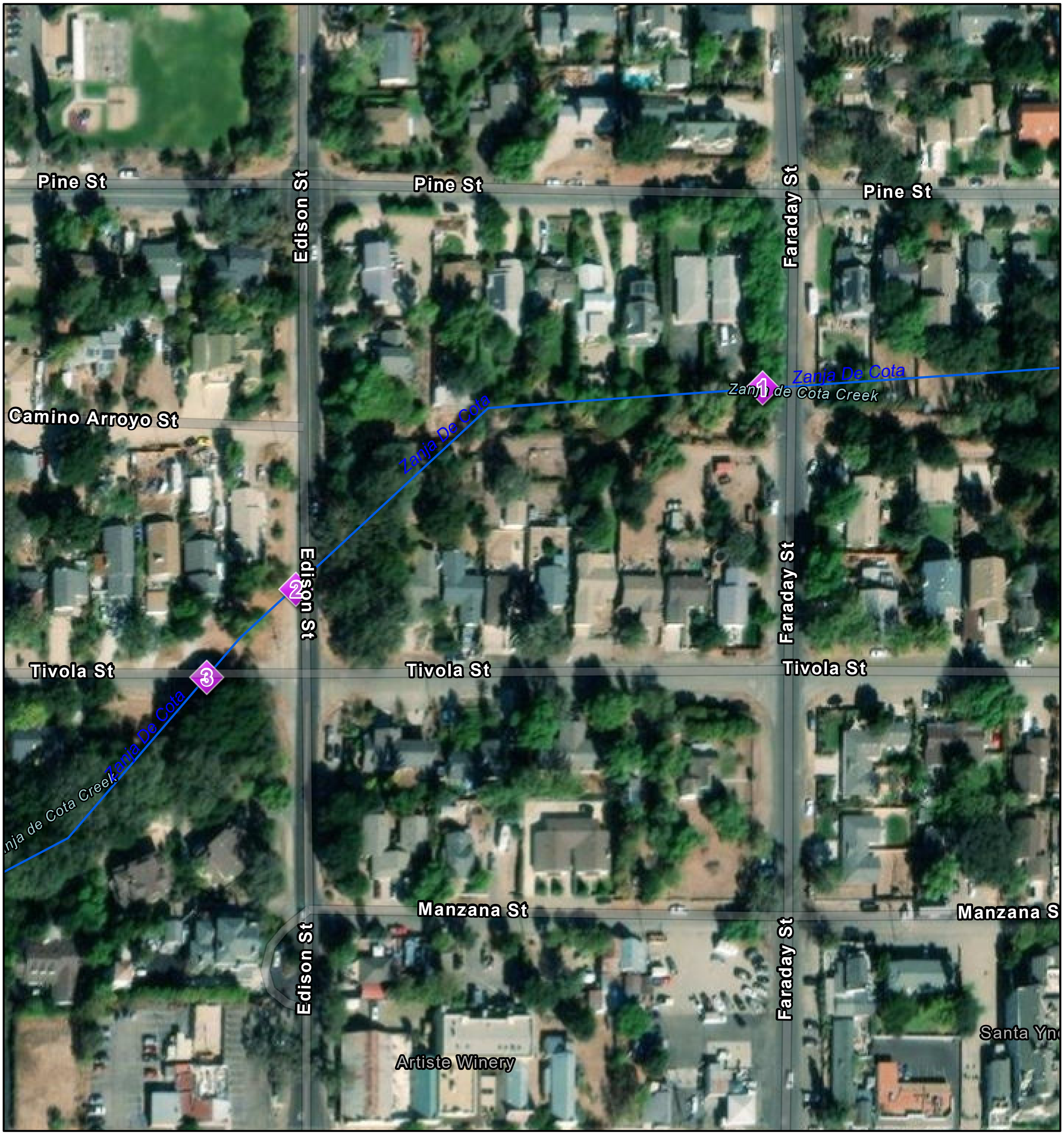
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

The project will take 4 days to complete.

Zanja de Cota Creek



5/18/2022

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0 0.03 0.05 0.1 km

Sites_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Zanja de Cota Creek

Section 2

Section 3

ARROYO BURRO CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins just downstream of the intersection of Cinco Amigos and Calle De Los Amigos and terminates 450 feet downstream of Rebecca Way.

Setting:
Inspected on April 6, 2022.

There are two sections of Arroyo Burro Creek which are owned and in the process of being restored by the City of Santa Barbara. Due to irrigation installation limiting access and direction from City Staff not to maintain these areas, the District will no longer maintain the stretches of creek from Calle De Los Amigos to Torino Drive and from Stonecreek Road to the end of Alan Road. These sections are also displayed on the maps below.

Arroyo Burro Creek originates in the foothills of the Santa Ynez Mountains and drains a 5,559 acre watershed capable of producing 5,400 cfs during a 100 year return period precipitation event. Land use adjacent to the creek is residential and open space.

The creek flows year-round downstream of Highway 101 and contains pool and riffle sequences. The 2009 Jesusita Fire burned the majority of the San Roque Creek and Barger Canyon watersheds (the two major tributaries of Arroyo Burro Creek). In the first few years following the fire, some of the larger pools were filled with sediment.

From Modoc Road downstream, Arroyo Burro Creek is characterized by extremely steep banks with an average channel depth of approximately 50 feet. Downstream of Veronica Springs Road there are numerous landslides coming off of Campanil Hill on the west bank of the creek. The banks are very well vegetated with species such as poison oak, mustard, introduced grasses, eucalyptus, occasional oaks, many willows and sycamore. There are numerous large stands of *Arundo donax* in the lower portion of Arroyo Burro Creek. Long stretches of the creek have Arundo growing on the creek banks that hang over into the creek, impeding flow and contributing to debris plugs in the creek.

Efforts have been made by the County and volunteer organizations to remove some of the stands of *Arundo donax.* The City of Santa Barbara Creeks Restoration and Water Quality Improvement Division has removed several stands of Arundo and developed plans for further removal over the next several years.

Arroyo Burro Creek is designated critical habitat for the Southern California Distinct Population Segment of steelhead (*Oncorhynchus mykiss*). The District developed a Vegetation Management Plan in 2016, as required by the National Marine Fisheries Service (NMFS), which describes the District's approach to vegetation management as it relates to the consideration of steelhead while providing flood protection.

The District's Environmental, Engineering, and Maintenance Staff have reviewed the maintenance areas within steelhead creeks to determine areas that may have more flexibility for vegetation management. Based on decades of experience in these watersheds through several major flood seasons, District staff has determined certain reaches that are particularly sensitive to obstructions and flood hazards. These reaches tend to be narrow, shallow, with many constrictions, culverts, adjacent structures, and bridges. These areas have little to no tolerance for consideration of obstructive/woody vegetation retention within the bankfull width, including Large Woody Debris, (LWD) and Key Woody Debris (KWD) and retention of large live trees in the center of the channel. The emphasis for management approach in these areas will be to maintain the bankfull width free of obstructions. The zones where LWD/KWD and the retention of live trees within the bankfull width may be considered are generally wider, deeper, and are less sensitive to constrictions. The District retains final discretion on all decisions regarding vegetation management including when and where KWD/LWD is left behind and/or installed in the channel.

Arroyo Burro Creek is within the mapped zone where KWD, LWD and live trees in the middle of the bankfull width may be considered.

Revegetation:

Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

The District and the City of Santa Barbara are engaged in *Arundo donax* removal projects which will periodically result in temporarily exposed soil and associated restoration. As clusters of arundo are removal, restoration that is performed with District involvement will be allotted for the County's restoration tables, while any restoration performed solely by the City staff/funds will not be indicated under the District maintenance program.

Arroyo Burro				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2004/2005	1,250	1,250	1,250	0
2008/2009	375	2,000	0	-375
2009/2010	0	2,000	1,500	1,125
2010/2011	0	0	0	1,125
2012/2013	200	0	0	925
2013/2014	265	200	200	860
2014/2015	240	0	0	620
2015/2016	0	0	0	620
2016/2017	30	0	0	590
2020/2021	30	0	0	560
2021/2022	230	0	0	330
2022/2023	5	0	0	325

Engineering Analysis:

Removing obstructive vegetation from the bankfull channel cross-section (active channel) is important to reduce the debris load associated with higher flows. Additionally, Obstructive vegetation growing in the active channel as well as growing along the banks and projecting into the active channel, which is what is occurring with the *Arundo donax* stands, can become mobilized during flood flows, raising the water surface elevation as well as plugging bridges and culverts located downstream.

The bankfull discharge* for Arroyo Burro Creek is approximately 572 cfs with a typical depth of 2.5 feet deep. The width of clearing should be between 15-20 feet to maintain channel equilibrium.

*As defined in “Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams”, URS Corporation-March 2002.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1	x			eucalyptus				two trunks
Section 2		30x10		palm pepper tree ash cattail			2	
Section 3	x			eucalyptus	4	12		
Section 4	x			eucalyptus				multiple
Section 5	x			ash	6	25		
Section 6	x			willow				multiple
Section 7	x			willow				debris
Section 8	x			oak	7	10		
Section 9								See Section 9
Section 10			x	willow				
Section 11	x			willow	<4	12		
Section 12			x	willow				debris
Section 13	x			eucalyptus				lower branches only
Section 14	x			eucalyptus				multiple
Section 15	x			sycamore				debris
Section 16	x			eucalyptus				multiple
Section 17	x			sycamore				debris
Section 18	x			willow				cut back stump
Section 19			x	elderberry				remove castor bean

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 20			x	willow				
Section 21	x			eucalyptus				two trunks
Section 22	x			willow				debris
Section 23			x	willow				
Section 24	x			willow				See Section 24
Section 25	x			sycamore	4	25		
Section 26								remove pipe
Section 27			x	willow				
Section 28	x			eucalyptus				move to bank
Section 29			x	willow				
Section 30	x			willow	7	25		

Section 9:
This is LWD 16-1 that has collected trash and woody debris. Maintenance will remove the debris plug and LWD will be left in place.

Section 24:
LWD 21-2 has shifted downstream and caught willow branches and other debris. The LWD will be trimmed back, leaving the rootwad on the bank. Debris and down limbs will be removed.

Arundo Removal (on going restoration)
The District, Agricultural Commissioner's Office, and the City of Santa Barbara Creeks Division are partnering on a multi-year arundo removal effort in the Arroyo Burro watershed. The removal portion of the project has been completed and the City will continue to re-treat any areas of regrowth.

Arundo stalks will be cut to a height of six inches or less, and the stumps will be immediately painted with an herbicide registered for aquatic use (no overspray will result from herbicide application). Cut stalks and old Arundo biomass will be removed from the creek corridor, chipped if access is available for a chipper, and spread in areas that are removed from the channel, where material will not fall or be washed back into the creek corridor; or the material will be hauled offsite for landfill disposal, depending on access. Arundo re-growth will be retreated with herbicide as needed through the remaining spring and summer after a visual inspection of the infested sites. Re-treatment will not occur with 72 hours of a predicted rain event. The total amount of arundo is approximately 6.5-acres. Access to the arundo sites will be gained from the end of Alan Road, and the City owned Veronica Meadows Property, as well as Las Positas Road. Retreatment surveys will be accessed from Modoc Road, the La Cumbre Country Club, Hidden Valley Park, and Veronica Springs Road. Sites where arundo is removed will be re-vegetated with native plants in the fall and winter. Willow cuttings will be primarily used to re-vegetate, but oaks, sycamore, elderberry, and other riparian species will be planted in suitable locations that are not subject to creek flows.

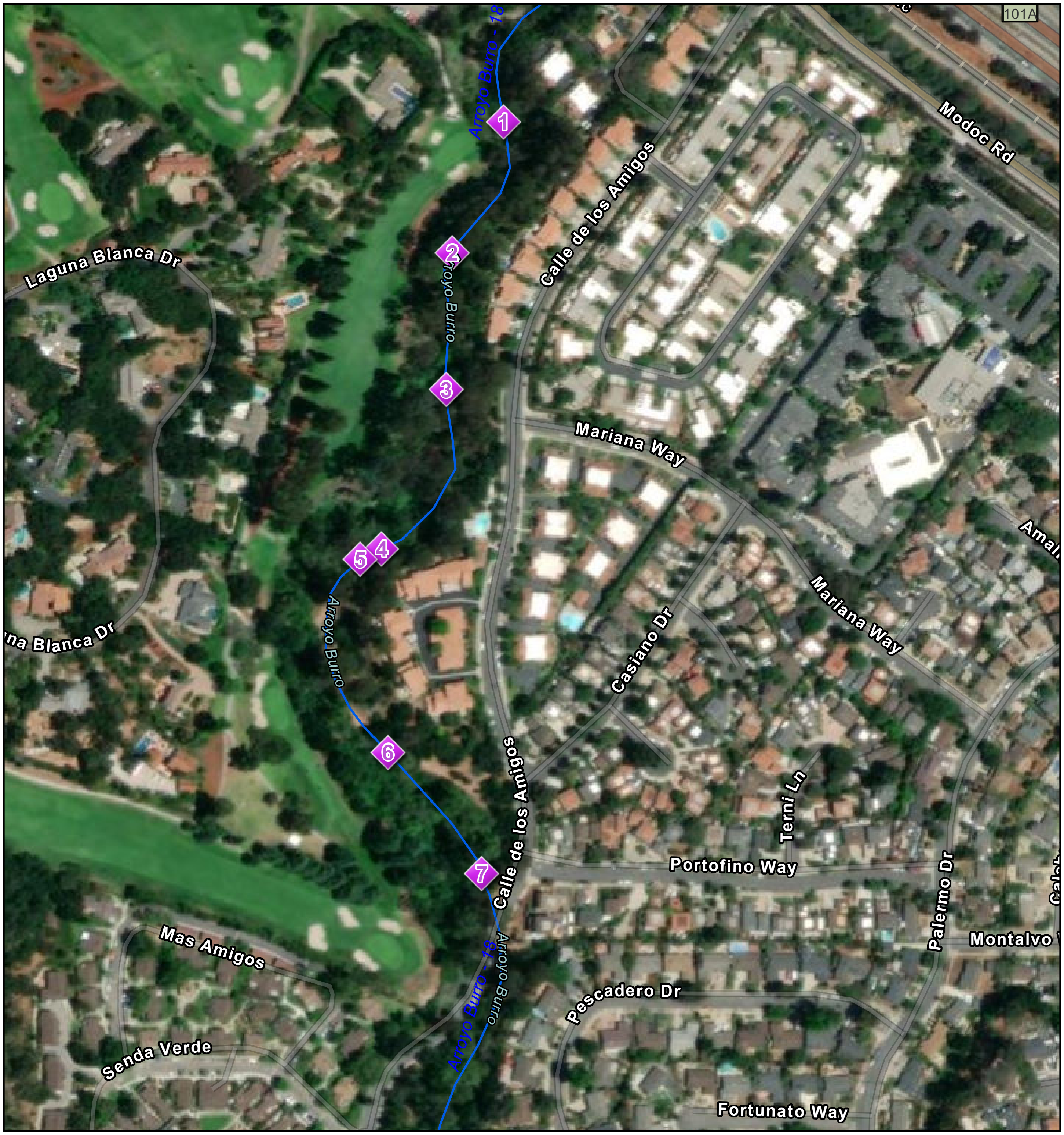
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

This project will take 6 days to complete.

Arroyo Burro Creek - A



5/19/2022

1:4,508

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0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Arroyo Burro Creek - B

5/19/2022

1:2,254

0 0.01 0.03 0.06 mi

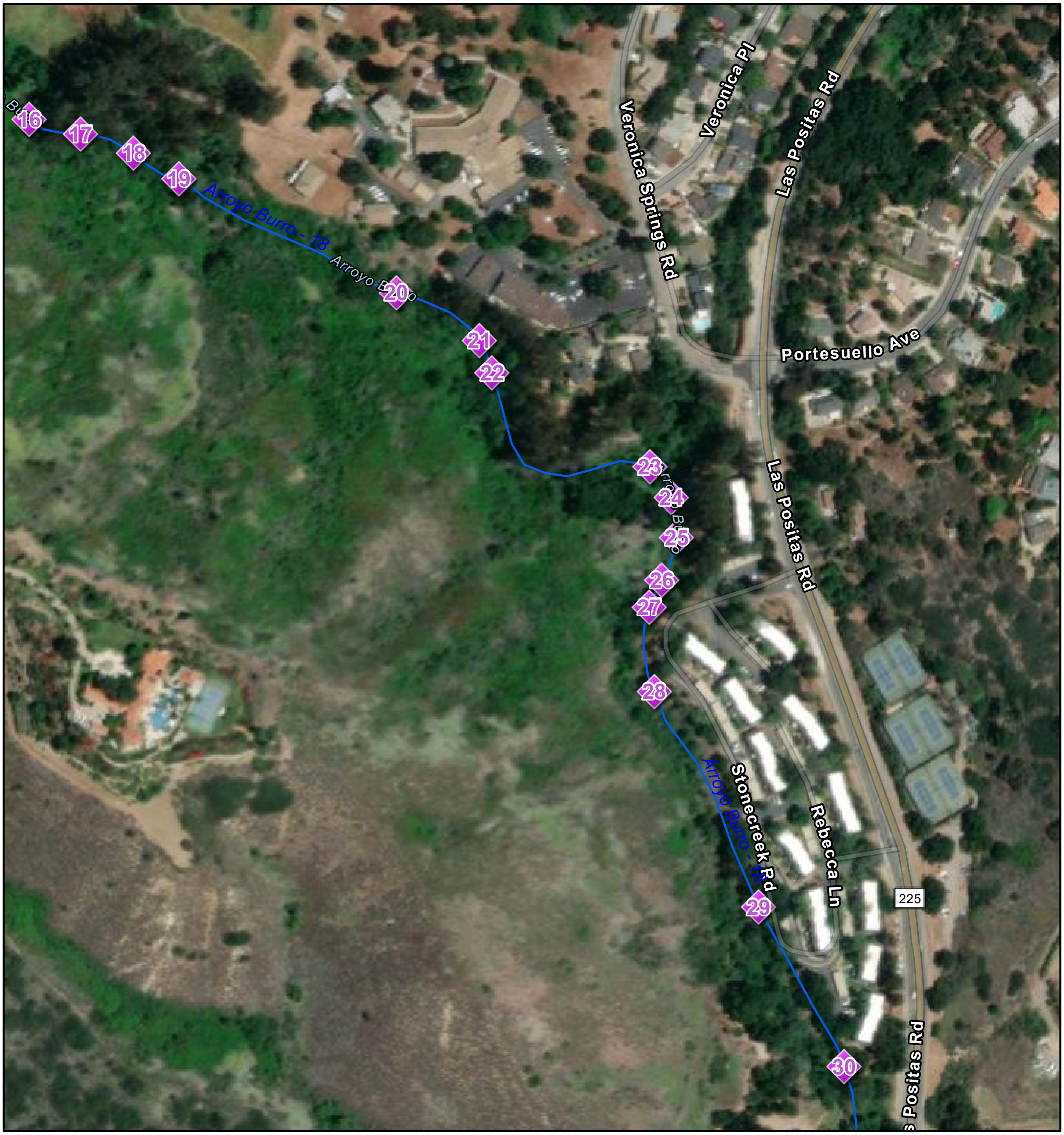
0 0.03 0.05 0.1 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Arroyo Burro Creek - C



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Arroyo Burro Creek

Section 9

Section 30

CANADA DE LA PILA CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project area begins at the most upstream trash rack on lower Canada De La Pila Creek and continues downstream to Highway 101.

Setting:
Inspected on March 16, 2022.

Canada de la Pila originates in the foothills of the Santa Ynez Mountains and flows through a 48" high density polyethylene pipe for approximately 2,700 feet around the west side of the Tajiguas Landfill. The 48" pipe discharges into a box culvert which discharges into the natural channel approximately 200 feet south of the maintenance shop. Three litter fences (trash racks) are present in the natural creek channel to control/collect litter.

The creek is degraded with the vast majority of the bank vegetation being weedy non-natives. The creek invert is approximately 4 feet wide and 3 feet deep sloping up to near shear banks for most of the project reach. This creek dries during the summer months, but contained a few inches of residual flow during the April inspection due to late-season rains. The creek bed has weedy and annual grasses, with sprouting mulefat, willows, and other woody natives. Immediately to the east, the bank abuts a very large hillside vegetated with coastal sage scrub mixed with a large amount of weedy vegetation while the access road into the landfill is at the top of the west bank (approximately 20 feet high).

The Resource Recovery & Waste Management Division has planted several sycamore and oaks along the west bank. Beyond the access road there is another very large hillside vegetated with coastal sage scrub. The hills surrounding the creek contain large areas of *Elymus condensatus*. This grass also occurs on the upper banks within the project reach. The lower end of the creek contains some arroyo and red willows on the lower portions of the banks and within the invert. Vegetation near the Highway 101 culvert consists of dense willows, coyotebrush, and occasional sycamore trees.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan.

The management of Canada de la Pila Creek is performed by Resource Recovery and Waste Management Division and the Flood Control District (both part of County Public Works Dept). The District's role involves planning and permitting for creek-related projects, but much of the field work and mitigation are performed by RRWMD. RRWMD had ongoing restoration efforts at the landfill entrance and along the banks of the creek from 2004 and 2008. These plantings have produced over 1100 square feet of high quality oak and sycamore groves that mitigated for small temporal impacts within low-quality habitat cover during annual maintenance of the trash racks.

Canada de la Pila Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2003/2004	0	1,100	480	480
2005/2006	0	0	0	480
2006/2007	0	0	0	480
2007/2008	0	620	620	1,100
2008/2009	0	0	0	1,100
2010/2011	0	0	0	1,100
2011/2012	0	0	0	1,100
2012/2013	300	0	0	800
2013/2014	0	0	0	800
2016/2017	0	0	0	800
2017/2018	0	0	0	800
2018/2019	0	0	0	800
2019/2020	0	0	0	800
2020/2021	0	0	0	800
2021/2022	0	0	0	800
2022/2023	0	0	0	800

Wildlife Survey:

The drainage is a degraded roadside ditch along the access road to the landfill. California red-legged frogs (RLF) were known in the upper watershed, but not likely in the project area because the channel only flows very briefly during rainfall events and quickly dries up. The creek is completely dry during the spring and summer months, and is separated from the upper watershed by the development of the landfill itself. A pre-project inspection will be completed to confirm that the work sites are dry with no RLF potential during the work. Biomonitoring will be implemented if necessary based on habitat conditions. No other special status species are known or likely in the work area.

Engineering Analysis:

Removing obstructive vegetation projecting into the active channel is important to reduce the debris load associated with higher flows that could become mobilized during flows, raising the water surface elevation as well as plugging the two culverts located downstream. Overhanging vegetation will be removed to reduce the chances of a driveway culvert and the Highway 101 culvert from plugging.

Project Description:

The maintenance tasks proposed in the drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:

In this length of 350’ there are multiple down trees from the recent fire that will be removed from the channel. There are no temporal impacts to native vegetation.

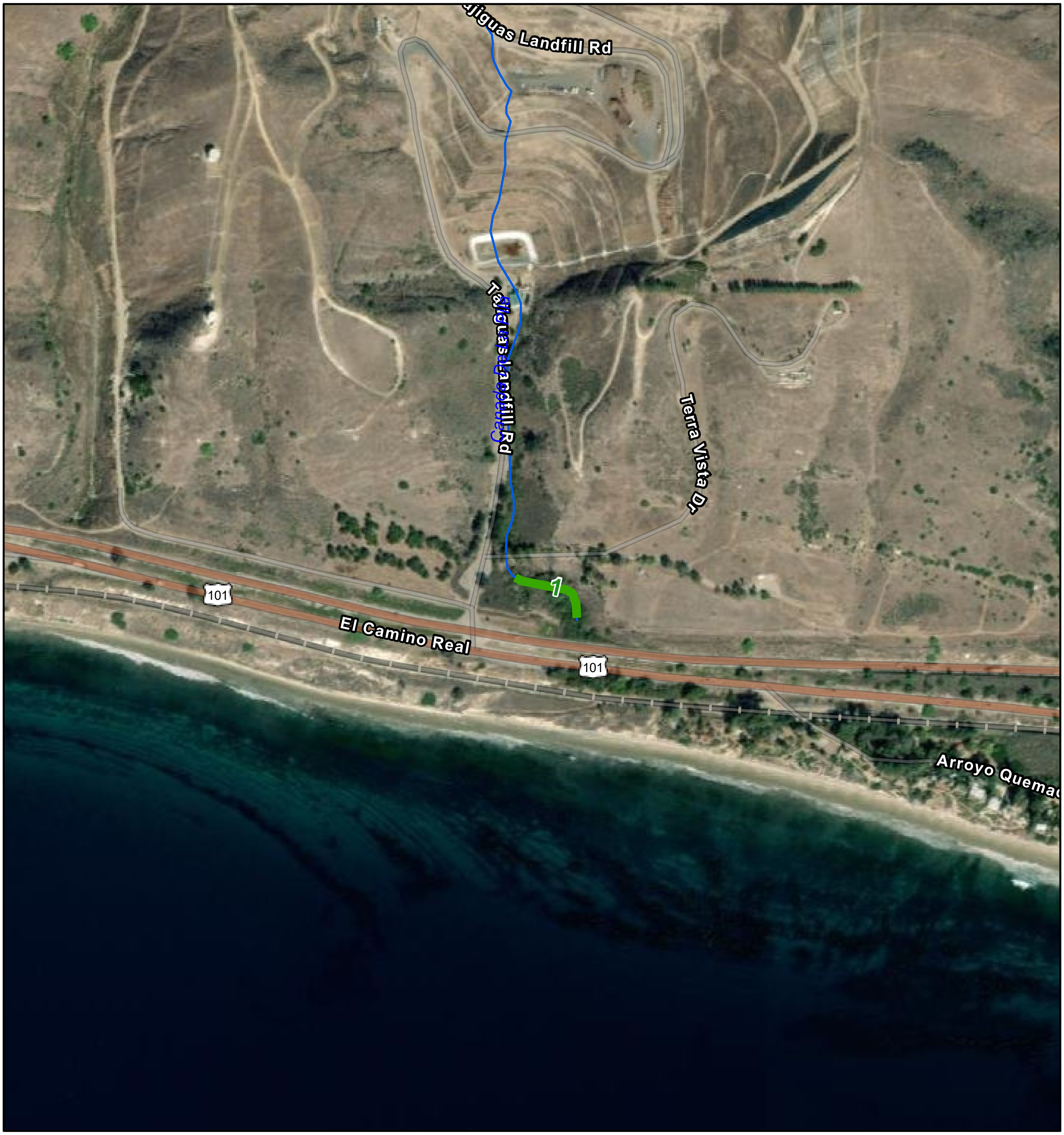
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

This project will take 3 days to complete.

Canada De La Pila Creek



5/18/2022

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Canada De La Pila Creek

Section 1

CIENEGUITAS CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins just downstream of State Street and continues to 350' downstream of Arboleda Road.

Setting:
Inspected on March 15, 2022.

Cieneguitas Creek originates in the foothills of the Santa Ynez Mountains and drains a 1,340 acre watershed capable of producing 2,100 cfs during a 100 year return period precipitation event.

Land uses adjacent to Cieneguitas Creek are suburban housing and light commercial. Residential streets and bike paths run alongside and cross the creek at several locations along the maintenance area. The upstream reach of the maintenance area is a drainage "spur" off of Cieneguitas main fork. The spur runs through commercial and residential properties but is confined by State Street and the Union Pacific Railroad. This portion of the creek is densely vegetated but subject to illegal dumping and homeless encampments as well as water quality impairments from adjacent parking lots.

The Cieneguitas spur joins the main stem at a Railroad culvert and from there, the channel is concrete lined for 600 feet until another culvert at Modoc Road. From Modoc downstream to Arboleda Road, the creek banks along Cieneguitas Creek are well vegetated and several large restoration projects have been implemented on this drainage between Modoc Road and Nogal, greatly improving the diversity and cover along the stream corridor. The vegetation between Modoc Road and Nogal Drive has now grown large enough for a majority of the distance to provide shading to the stream channel. Downstream of Nogal Drive the creek banks are well vegetated with mostly non-native species along private residences. There is a constant flow of water in this reach of the creek which precludes very much vegetation from growing in the invert along this lower stretch. The channel generally dries up during the summer months upstream of Modoc Road.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Cieneguitas Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2002/2003	3,200	6,100	6,100	2,900
2005/2006	240	0	0	2,660
2009/2010	270	0	0	2,390
2014/2015	75	0	0	2,315
2015/2016	10	0	0	2,305
2019/2020	20	0	2,000	4,285
2020/2021	10	0	0	4,275
2022/2023	0	0	0	4,275

Engineering Analysis:

Removing obstructive vegetation from the bankfull channel cross-section (active channel) is important to reduce the debris load associated with higher flows. Obstructive vegetation growing in the active channel as well as limbs projecting into the active channel and downed trees can become mobilized during flood flows, raising the water surface elevation as well as plugging bridges and culverts located downstream.

The bankfull discharge* for the spur is approximately 28 cfs. With a velocity of approximately 3 fps and a typical depth of 1.5’, the width of clearing should be 6’ to maintain channel equilibrium. The bankfull discharge* for the main stem is approximately 90 cfs. With a velocity of approximately 4 fps and a typical depth of 2.5’, the width of clearing should be 9’ to maintain channel equilibrium.

*As defined in “Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams”, URS Corporation-March 2002.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1	x			willow	6	10		
Section 2			x	willow				
Section 3			x	willow				
Section 4			x	willow				
Section 5	x			willow	4	10		
Section 6	x			willow	4	6		
Section 7	x			willow				multiple branches
Section 8	x			willow eucalyptus				multiple
Section 9	x			eucalyptus				see section 9

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 10	x			willow				multiple branches
Section 11	x			willow	4	15		
Section 12			x	willow				
Section 13	x			willow	10	15		
Section 14	x			willow				multiple down trees
Section 15	x			willow				two down trees
Section 16	x			willow	5	10		
Section 17	x			willow cottonwood				multiple down trees
Section 18	x			willow				multiple branches
Section 19	x			willow	7	25		
Section 20	x			willow	5	10		
Section 21	x			willow				multiple branches
Section 22				palm				remove large palm
Section 23			x	willow				
Section 24			x	fig				
Section 25	x			willow				remove lower two branches only
Section 26			x	willow				also remove palms
Section 27	x			willow				multiple branches
Section 28	x			willow	4	15		
Section 29	x			willow				at check structure

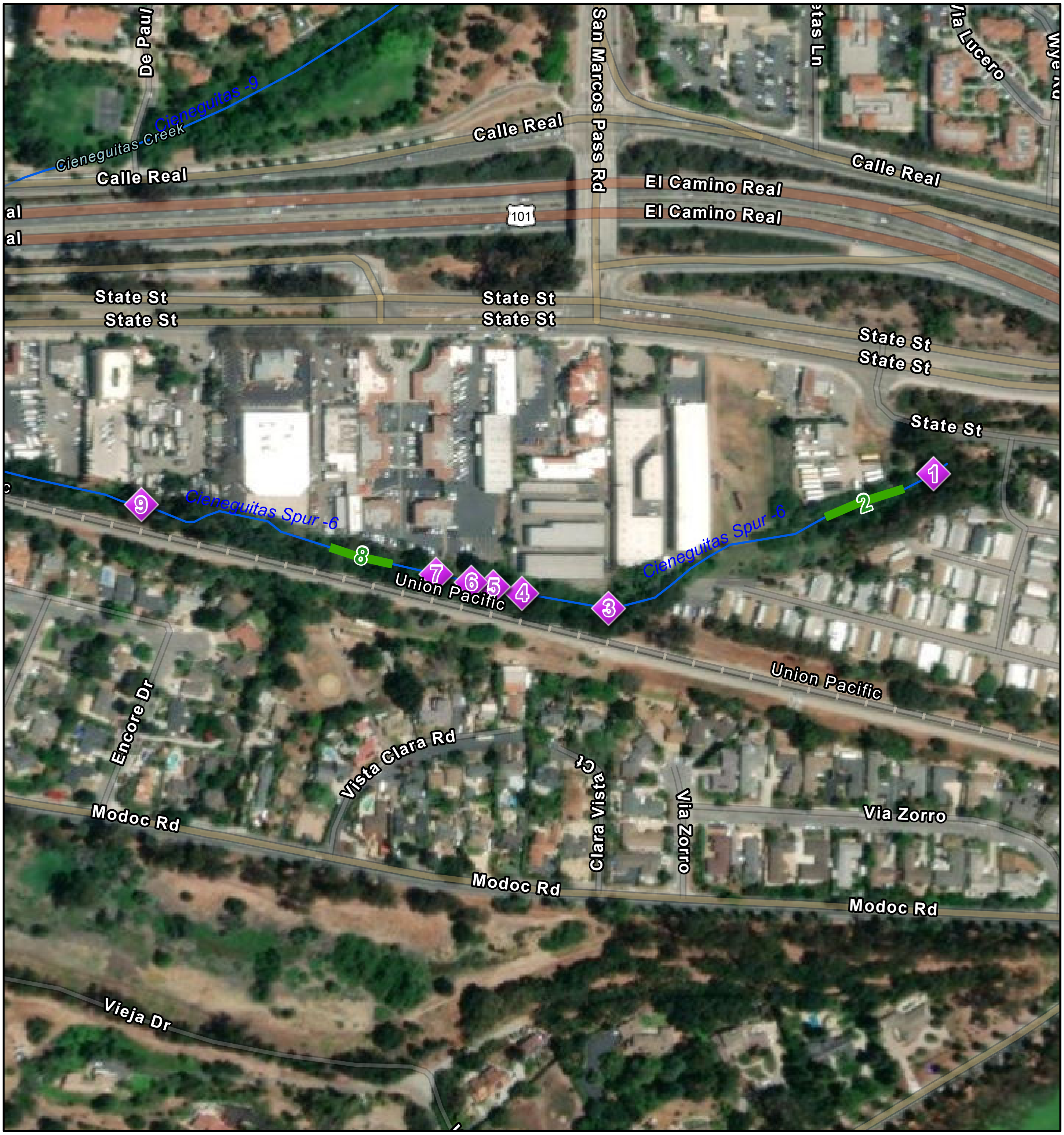
<u>Section 9:</u>
Maintenance will cut back the large stump in the middle of the channel, and clear out down eucalyptus limbs.

<u>Impact Analysis and Mitigation Measures:</u>
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario

assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 5 days to complete.

Cieneguitas Creek - A



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

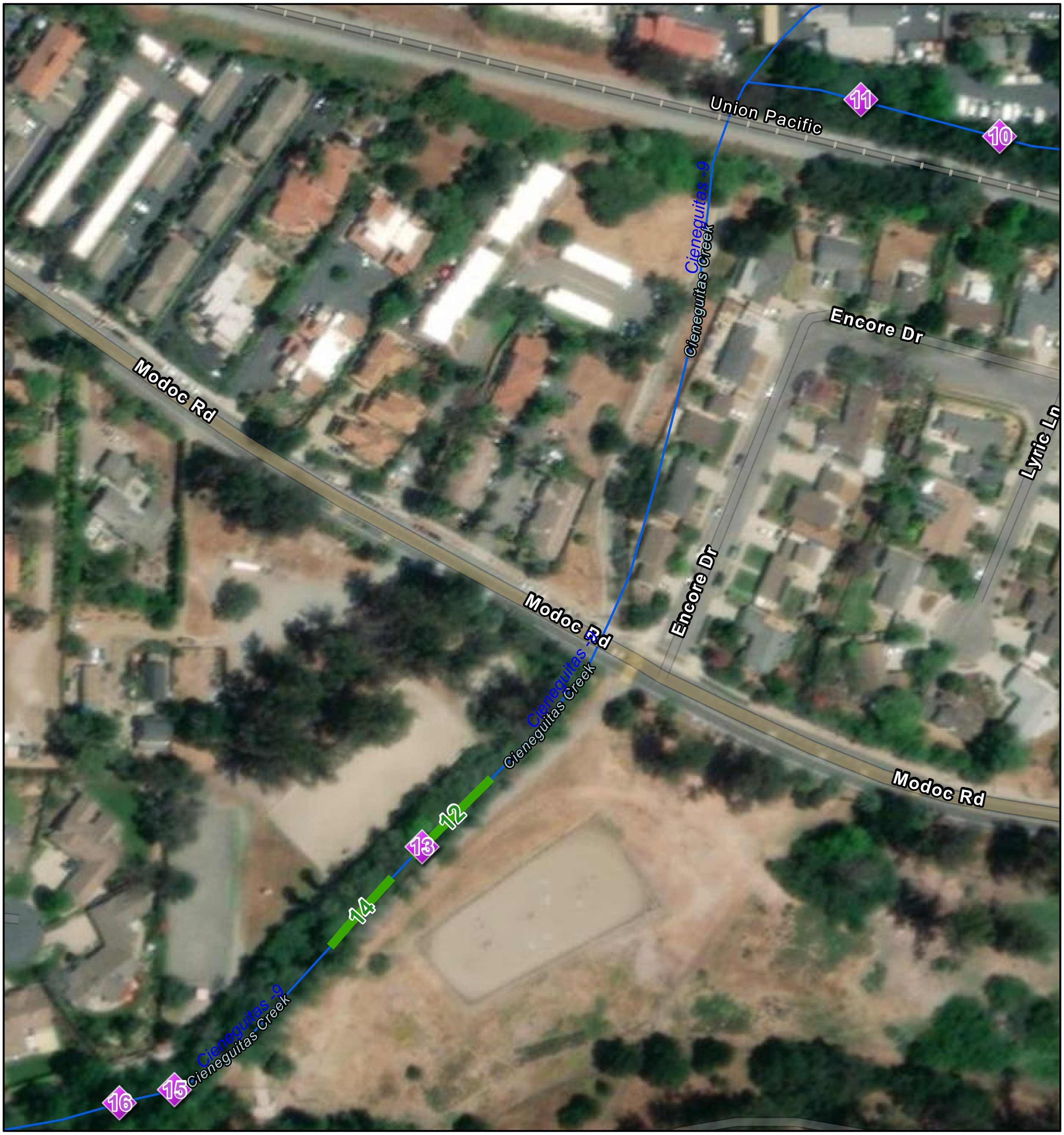
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cieneguitas Creek - B



5/19/2022

1:2,254

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

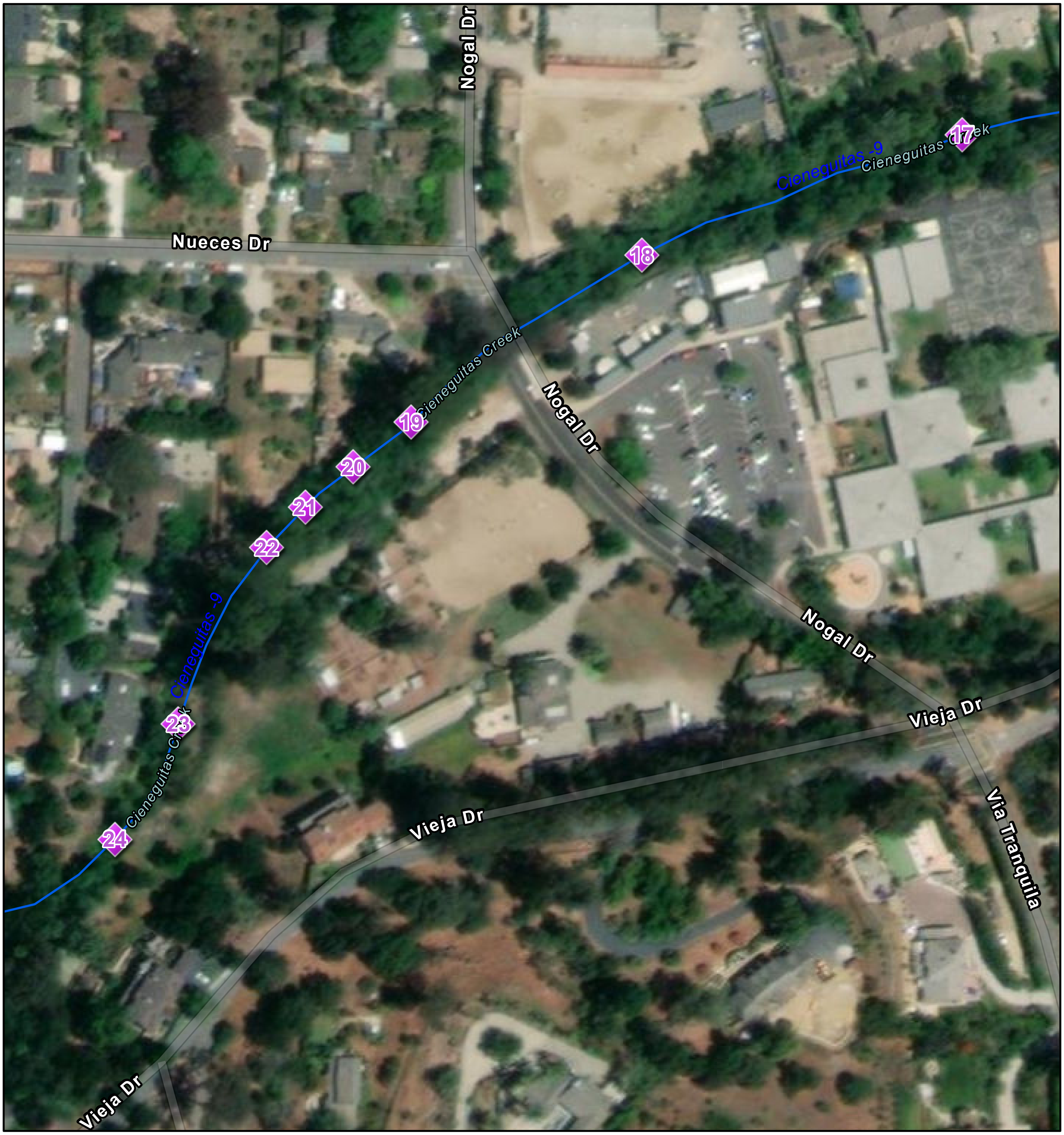
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cieneguitas Creek - C



5/19/2022

1:2,254

0 0.01 0.03 0.06 mi

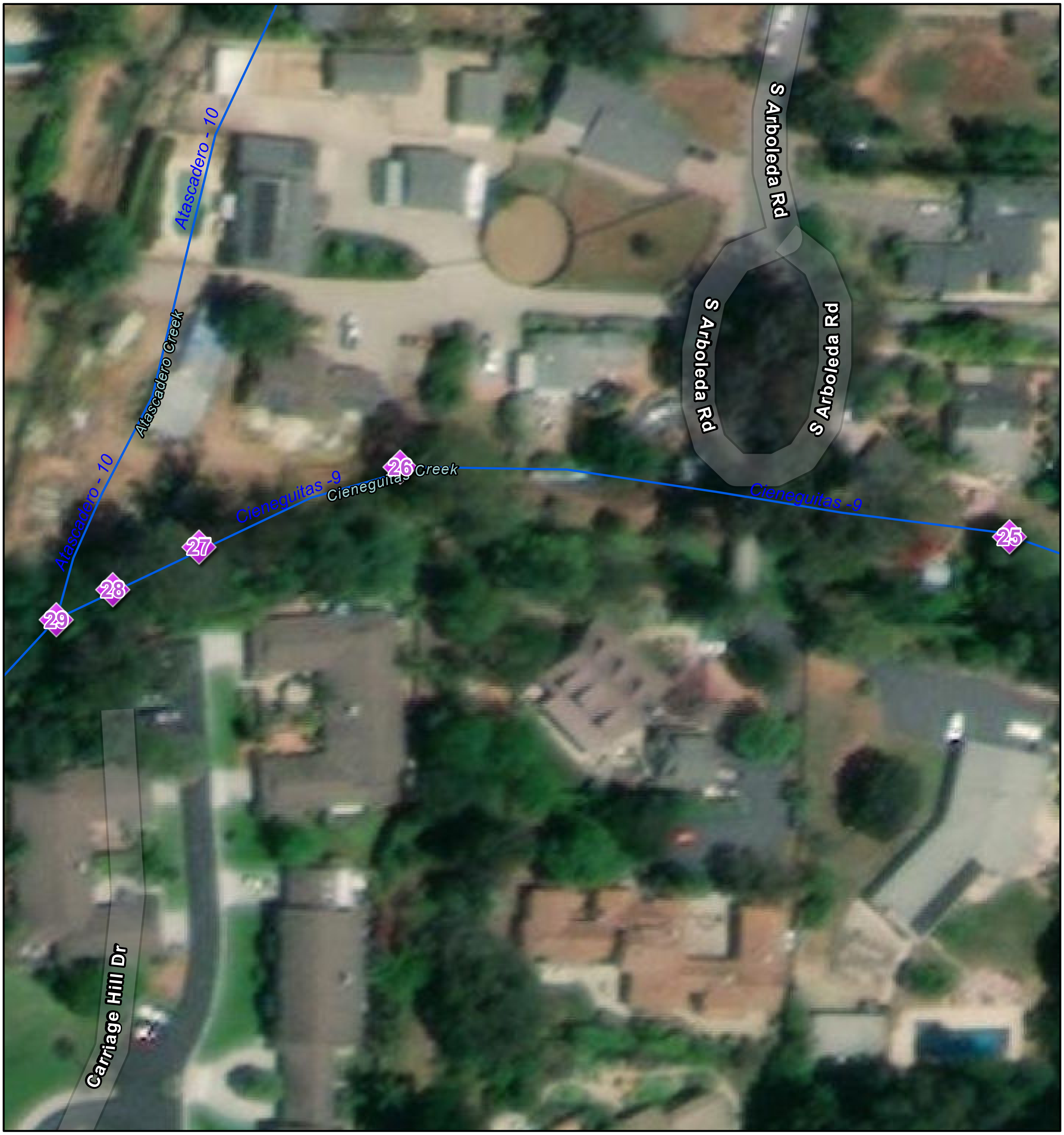
0 0.03 0.05 0.1 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cieneguitas Creek - D



5/19/2022

1:1,127

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0 0.01 0.03 0.05 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cieneguitas Creek

Section 7

Section 22

LAS POSITAS CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins at Modoc Rd. and continues downstream to Los Positas Place, where the concrete lined section begins.

Setting:
Inspected on March 23, 2022.

Las Positas Creek originates in the foothills of the Santa Ynez Mountains and drains a 506 acre watershed capable of producing 900 cfs during a 100-year return period precipitation event. The east bank contains many places that are reinforced with pieces of concrete stacked upon each other. To the east is Las Positas Road and to the west are homes. At the time of the field inspection the creek was still flowing and had small pools of water along the project reach. Both banks are densely vegetated mainly with willows, however the riparian corridor is narrow, as is a common occurrence along the urban drainages surrounded by development.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts. The proposed maintenance only includes removal of downed trees and limbing of willows, therefore revegetation is not proposed.

Las Positas Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (square feet)	Proposed Restoration (square feet)	Restoration Implemented (square feet)	Surplus Restoration (square feet)
2006/2007	0	0	0	0
2008/2008	0	0	0	0
2011/2012	0	0	0	0
2017/2018	0	0	0	0
2019/2020	0	0	0	0
2022/2023	0	0	0	0

Engineering Analysis:
Vegetation within these sections can become uprooted in high flows and be carried downstream. Veronica Springs Road has two 60" culverts that are especially vulnerable to plugging from this vegetation. The potential for this type of flooding is minimized by trimming the low branches from the trees on the banks and by clearing the invert of debris, rubble, trash and vegetation.

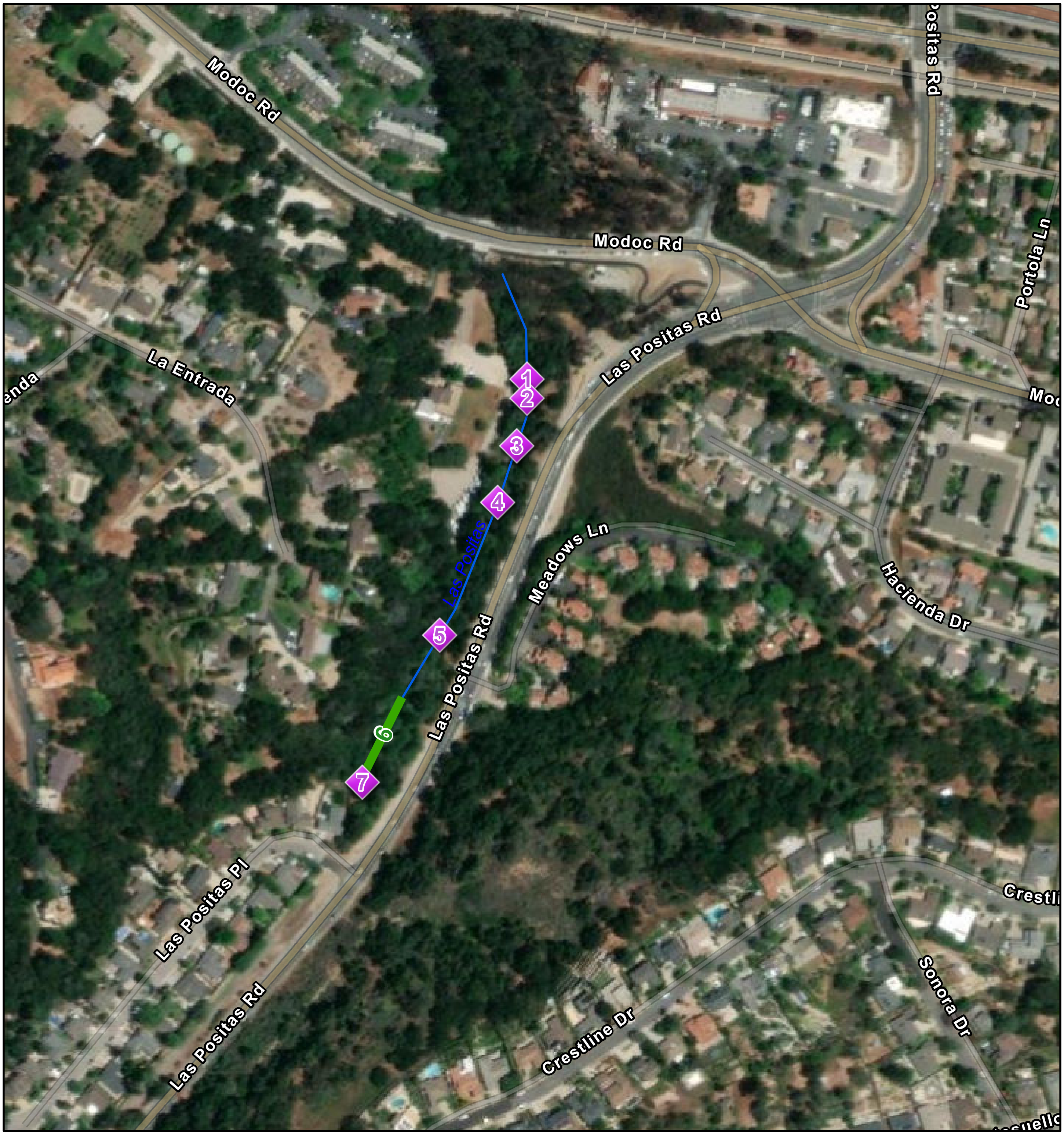
Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1	x			willow	>4	10		
Section 2	x			willow	6	15		
Section 3	x			willow	6	10		
Section 4	x			willow	7	10		
Section 5	x			willow				multiple branches
Section 6			x	willow fig				
Section 7	x			willow				debris plug

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 1 day to complete.

Las Positas Creek



5/18/2022

1:4,508

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Sites_22

Lengths_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Section 2

Section 6

LAS VEGAS CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins at Stow Canyon Rd. and continues to 75 feet downstream of Calle Real.

Setting:
Inspected on April 7, 2022.

Las Vegas Creek originates in the foothills of the Santa Ynez Mountains and drains an 863-acre watershed capable of producing 2,300 cfs during a 100 year return period precipitation event.

The portion of Las Vegas Creek proposed for maintenance runs through residential and commercial properties with more than half of the distance lined on both sides with pipe and wire revetment which was installed when the residential areas were developed many years ago. The banks are vegetated with canopy trees such as oak, willow, sycamore and elderberry along with some non-native ornamental acacia. Understory vegetation consists of blackberry, mugwort, gooseberry, California rose, and clematis. Over the past 15 years, the District, surrounding homeowners associations and businesses have implements a great deal of restoration and the corridor is much healthier than is was in the past both with the amount of native cover on the banks as well as the diversity of plant species. Upstream of the proposed maintenance, the channel is concrete lined between Cathedral Oaks Road and Stow Canyon Road.

The entire project reach was dry on the day of the inspection, and the creek will remain dry through the summer and maintenance season. The channel bottom consists of silt and sand. The District has an access road downstream of Shirrell Way that runs between the creek and nearby homes.

Revegetation:
Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included to more easily display and track the District's restoration efforts.

Las Vegas Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2002/2003	5,350	5,500	5,550	200
2005/2006	200	5,850	5,850	5,850
2007/2008	320	0	0	5,530

Las Vegas Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2010/2011	150	0	0	5,380
2012/2013	530	500	500	5,350
2013/2014	0	0	0	5,350
2020/2021	150	0	0	5,200
2022/2023	30	0	0	5,170

Engineering Analysis:
Las Vegas Creek from Stow Canyon Road to Calle Real is fairly flat (slope =.0068ft/ft) and can be subject to sedimentation, particularly where obstructive vegetation is present which increases channel roughness and reduces channel capacity. Additionally, because this channel is confined between pipe and wire revetment in a relatively straight line, the channel cannot substantially meander but instead down-cuts to dissipate energy. The combination of the pipe and wire and obstructive vegetation has created a down-cut meandering low flow channel that is threatening the pipe and wire revetment which must stay in place because the creek was improved from Stow Canyon to Shirrel Way as a condition of approval for the adjacent residential development (The Meadows Tract 13,446).

In order to protect the pipe and wire revetment and maintain channel capacity, obstructive vegetation must be removed within the bankfull discharge width and the low flow channel must be reestablished down the middle of the channel.

The bankfull discharge* for Las Vegas Creek within these maintenance sections is approximately 75 cfs. With a velocity of approximately 3.5 fps and a typical depth of 2', the width of clearing should be 11' to maintain channel equilibrium.

*As defined in "Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1			x	willow			0	
Section 2	x			willow			0	
Section 3	x			willow			0	multiple
Section 4	x			willow			0	
Section 5			x	willow			0	multiple

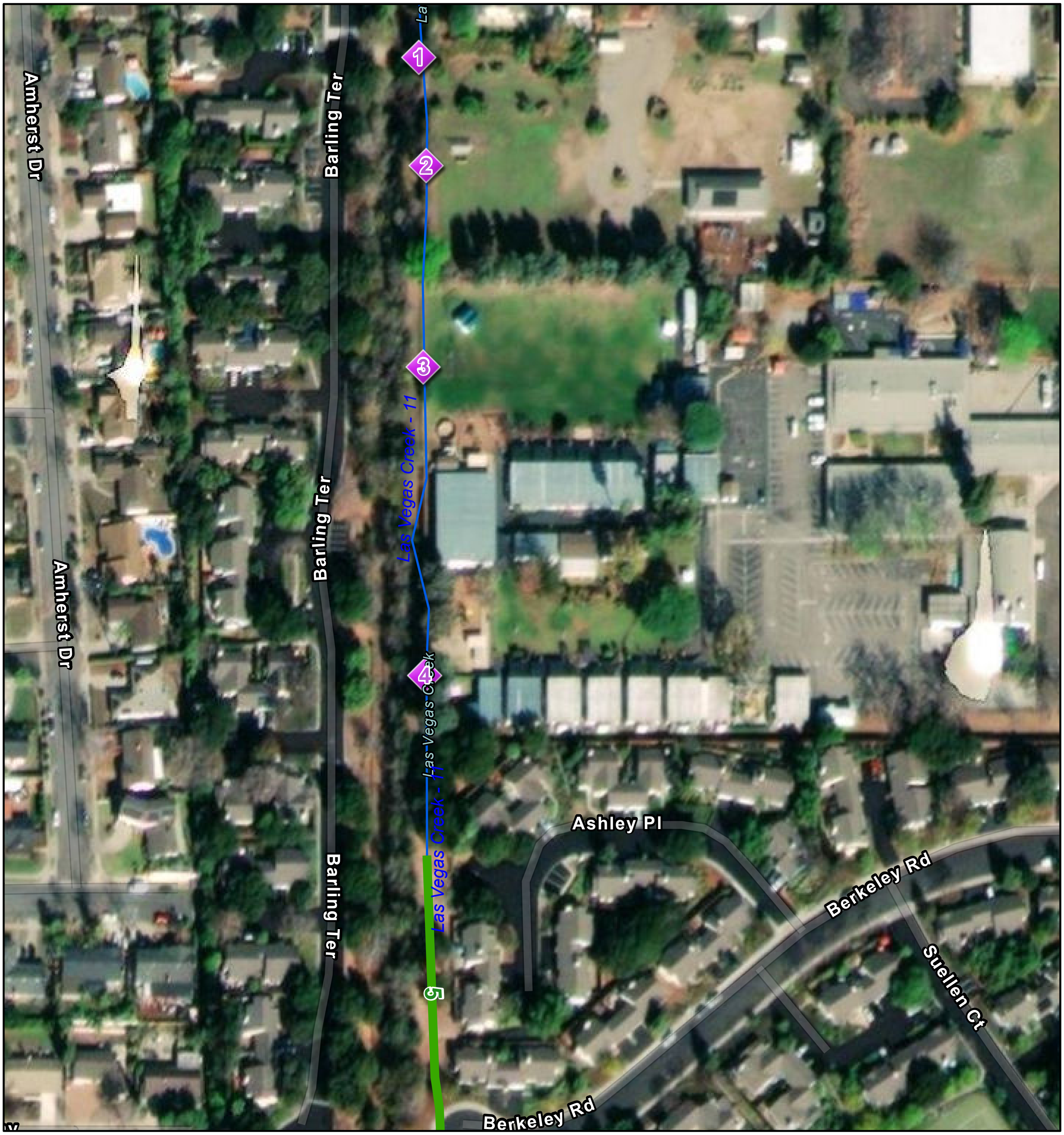
Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 6		5x5		coyote bush			15	
Section 7			x	willow			0	
Section 8		15x5		pepper pittosporum ash			0	
Section 9	x			cottonwood	<4	12	0	
Section 10			x	willow			0	
Section 11		x		ash	18	35	0	See Section 11 below
Section 12	x			willow			0	remove lower trunk only
Section 13		5x5		palm			0	multiple
Section 14			x	willow			0	
Section 15		20x8		cattail willow			15	

<u>Section 11</u>
There is an 18" DBH by 35' tall nonnative ash tree blocking a culvert pipe on the right toe of bank that will be removed to allow unrestricted flow from the culvert pipe into the creek. There will be no impact to native vegetation.

<u>Impact Analysis and Mitigation Measures:</u>
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

<u>Project Specifics:</u>
This project will take 4 days to complete.

Las Vegas Creek - A



5/19/2022

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0 | 0.01 | 0.03 | 0.06 mi

0 | 0.03 | 0.05 | 0.1 km

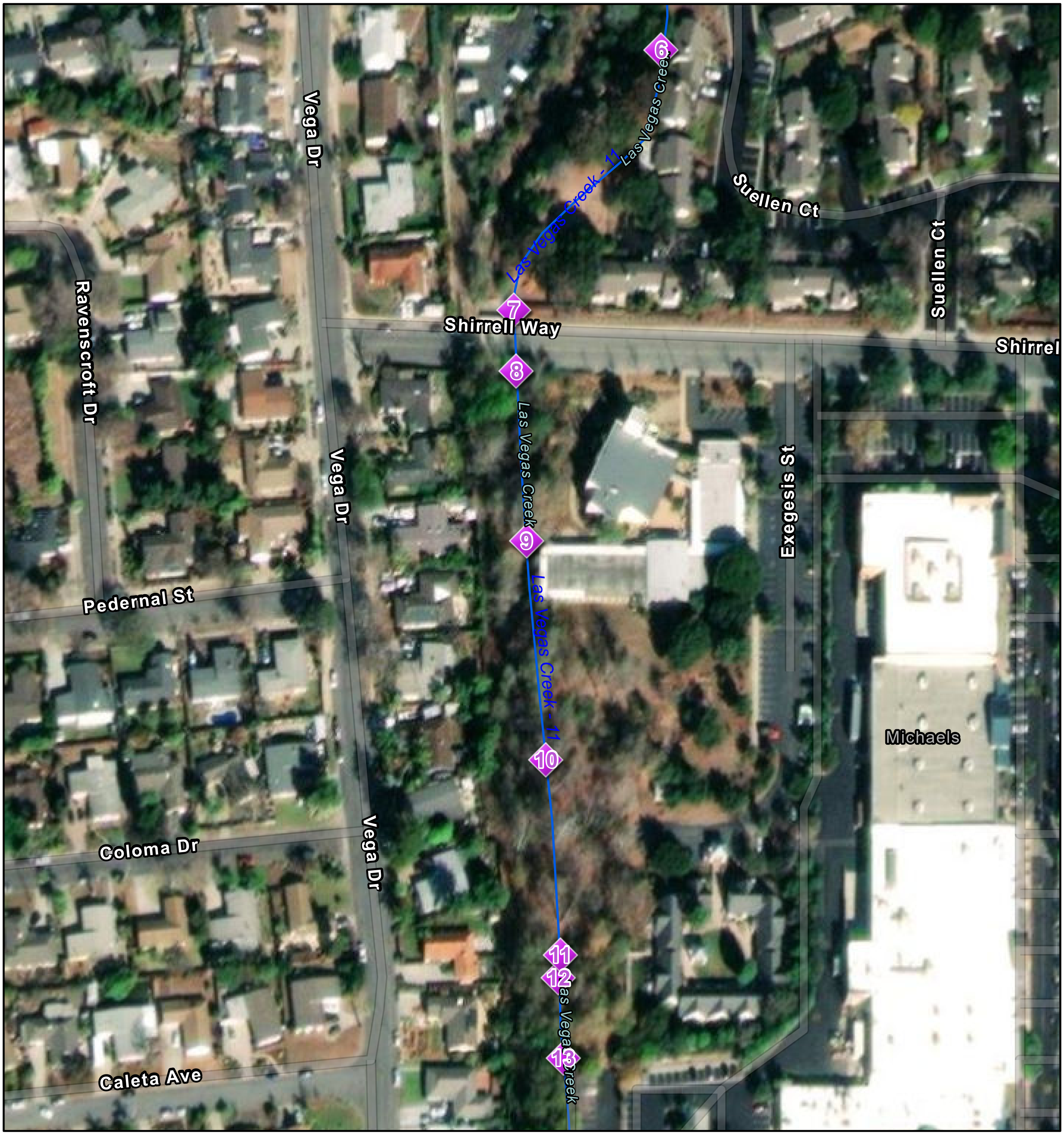
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Las Vegas Creek - B



6/6/2022

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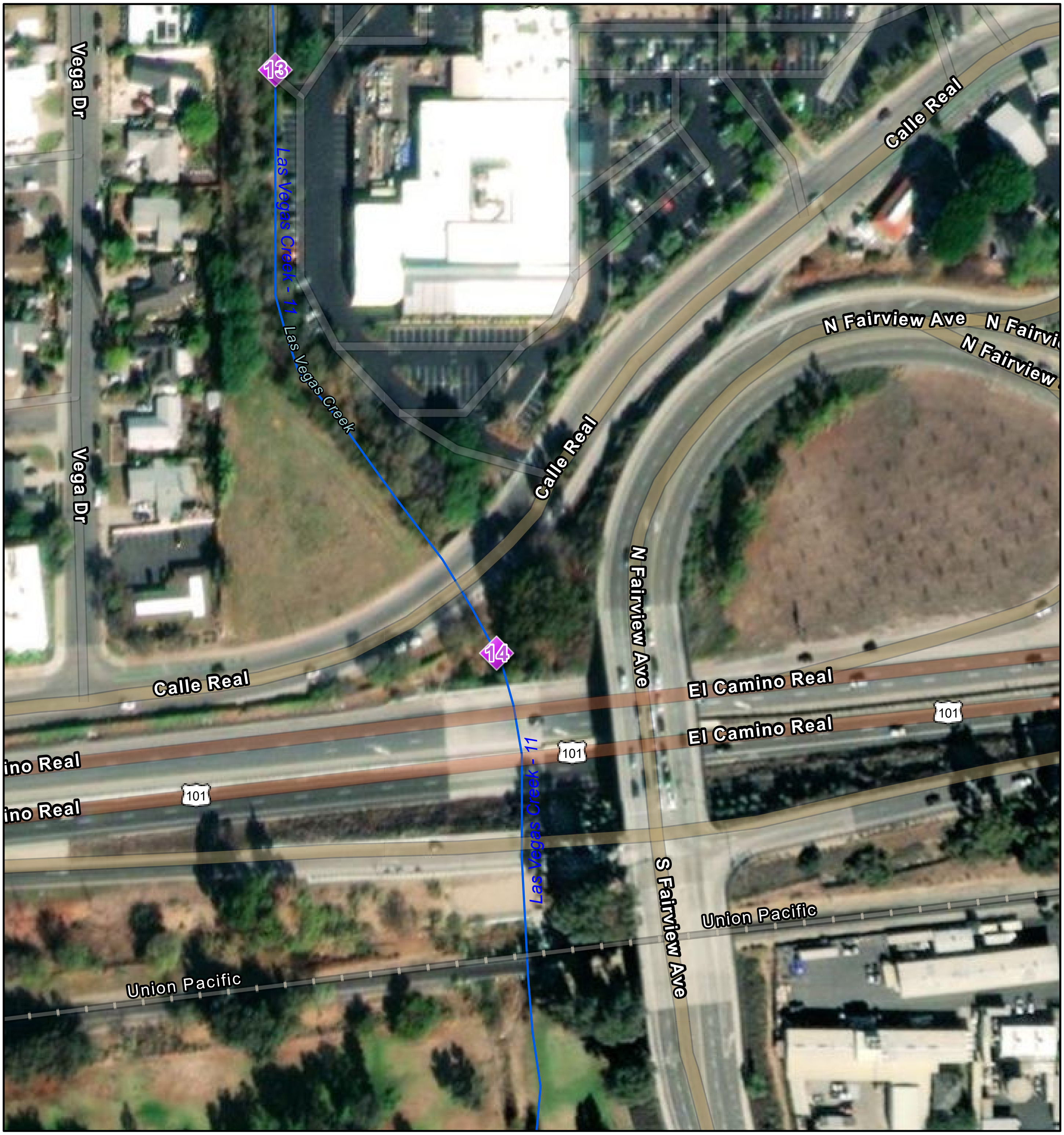
0 0.03 0.05 0.1 km

Sites_22

APCreeks

Las Vegas Creek - C



5/19/2022

1:2,254

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Las Vegas Creek

Section 7

Section 11

MARIA YGNACIO CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins 550 feet downstream of Via Parva and terminates at South Patterson Avenue.

Setting:
Inspected on April 11, 2022.

Maria Ygnacio Creek originates in the foothills of the Santa Ynez Mountains and drains a 4,535-acre watershed capable of producing 7,200 cfs during a 100-year return period precipitation event.

Maria Ygnacio Creek is characterized by steep banks vegetated with native and ornamental species such as willow, mulefat, sunflower, periwinkle and pepper trees. Portions of the banks are denuded of vegetation and do not provide riparian habitat while other portions of the creek contain high quality habitat with a mature canopy comprised of willow, oak, sycamore and cottonwoods. Land use adjacent to the creek is residential and agriculture with varying setbacks from the riparian corridor. In some cases, backyards extend to the base of the creek banks, while other areas (downstream of Hollister Avenue) the riparian corridor is fairly wide and intact. In the upper reaches of the creek, the channel bottom contains cobbles interspersed with gravel and silt while other areas are sandy silt without larger cobbles or rocks.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

The District has 1.18 acres of surplus restoration on Maria Ygnacio Creek associated with several large restoration sites installed since 2003.

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)	Lg Tree Impacts	Tree mitigation installed
2002/2003	1,060	7,500	7,500	6,440		
2003/2004	2,170	0	0	4,270		
2005/2006	1,425	0	0	2,845		
2006/2007	800	50,910	50,910	52,955		
2007/2008	375	0	0	52,580		
2009/2010	1,975	0	0	50,605		
2011/2012	0	0	0	50,605		
2013/2014	345	0	0	50,260		
2014/2015	0	0	80	50,340		
2015/2016	340	0	0	50,000		

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)	Lg Tree Impacts	Tree mitigation installed
2017/2018	150	0	0	49,850		
2018/2019	50	0	0	49,800	1 willow 7" dbh	
2019/2020	100	0	0	49,700		10:1 willows
2020/2021	750	0	0	48,950		
2021/2022	135	100	0	48,815		
2022/2023	30	0	0	48,785		

Engineering Analysis:

Removing obstructive vegetation from the bankfull channel cross-section (active channels) is important to reduce the debris load associated with higher flows. Obstructive vegetation growing in the active channel as well as limbs projecting into the active channel and downed trees can become mobilized during flood flows, raising the water surface elevation as well as plugging bridges and culverts located downstream. The bankfull discharge* for Maria Ygnacio Creek is approximately 363 cfs. With a velocity of approximately 6 fps and a typical depth of 3', the width of clearing should be 20' to maintain channel equilibrium.

*As defined in "Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1	x			willow	6	20		
Section 2	x			sycamore				multiple
Section 3			x	willow				
Section 4	x			cottonwood	4	20		
Section 5			x	elderberry willow				
Section 6	x			willow	4	10		
Section 7	x			sycamore				leave upper section for LWD
Section 8	x			cottonwood	18	30		
Section 9	x			mulefat elderberry				
Section 10	x			willow arundo				

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 11		20x5		pepper tree willow alder			15	
Section 12		15x8		mulefat			15	
Section 13	x			willow	4	12		
Section 14	x		x	willow	4	20		limbing willow and arundo
Section 15	x			oak	<4	15		
Section 16			x	mulefat				
Section 17	x			cottonwood	12	20		
Section 18	x			willow				multiple
Section 19	x			willow	6	15		
Section 20			x	willow				
Section 21	x			willow	5	20		
Section 22	x			willow				two down trees
Section 23			x	arundo				
Section 24	x			willow				

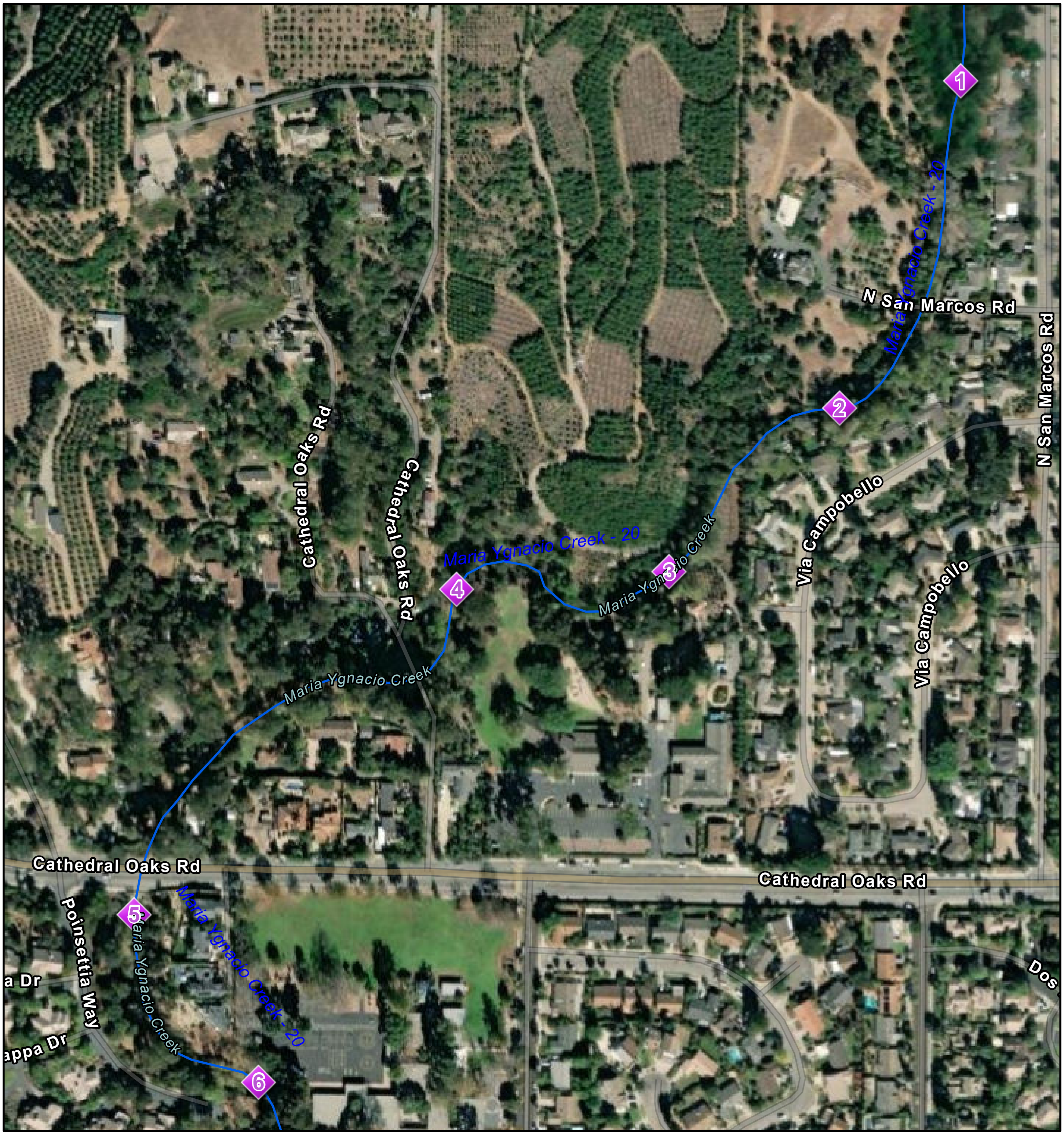
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

The project will take 6 days to complete.

Maria Ygnacio Creek - A



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

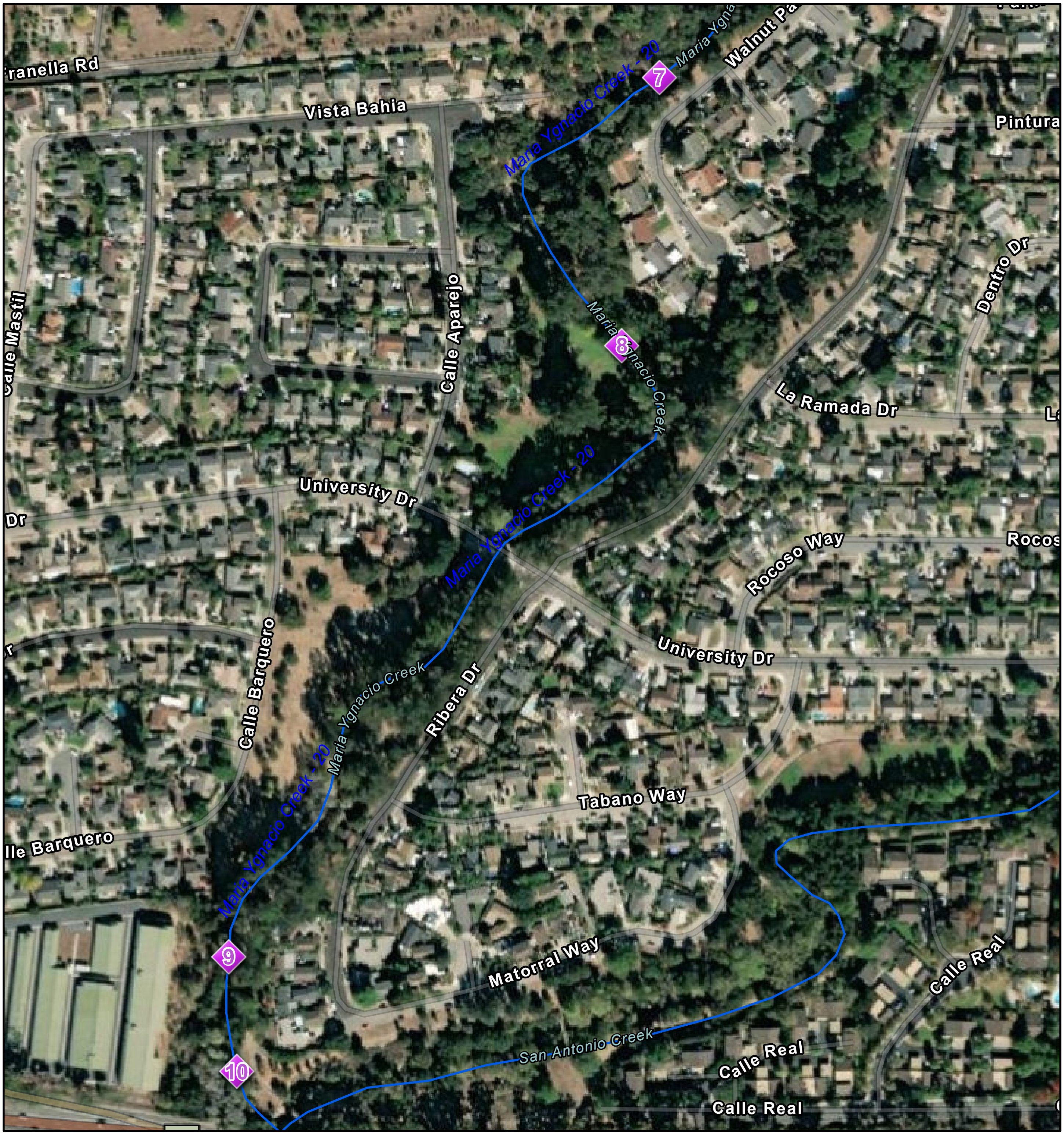
0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Maria Ygnacio Creek - B



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

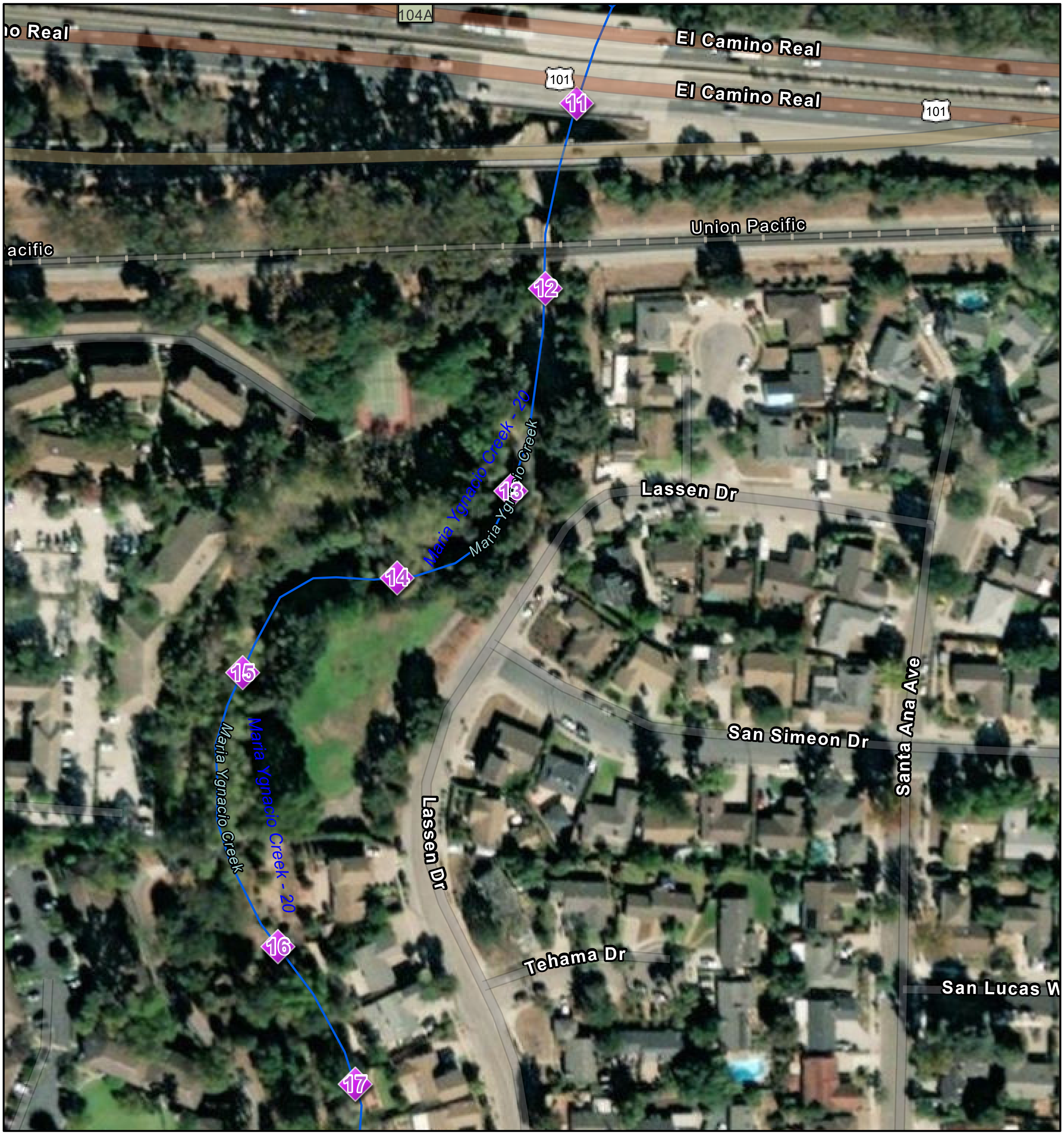
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Maria Ygnacio Creek - C



5/19/2022

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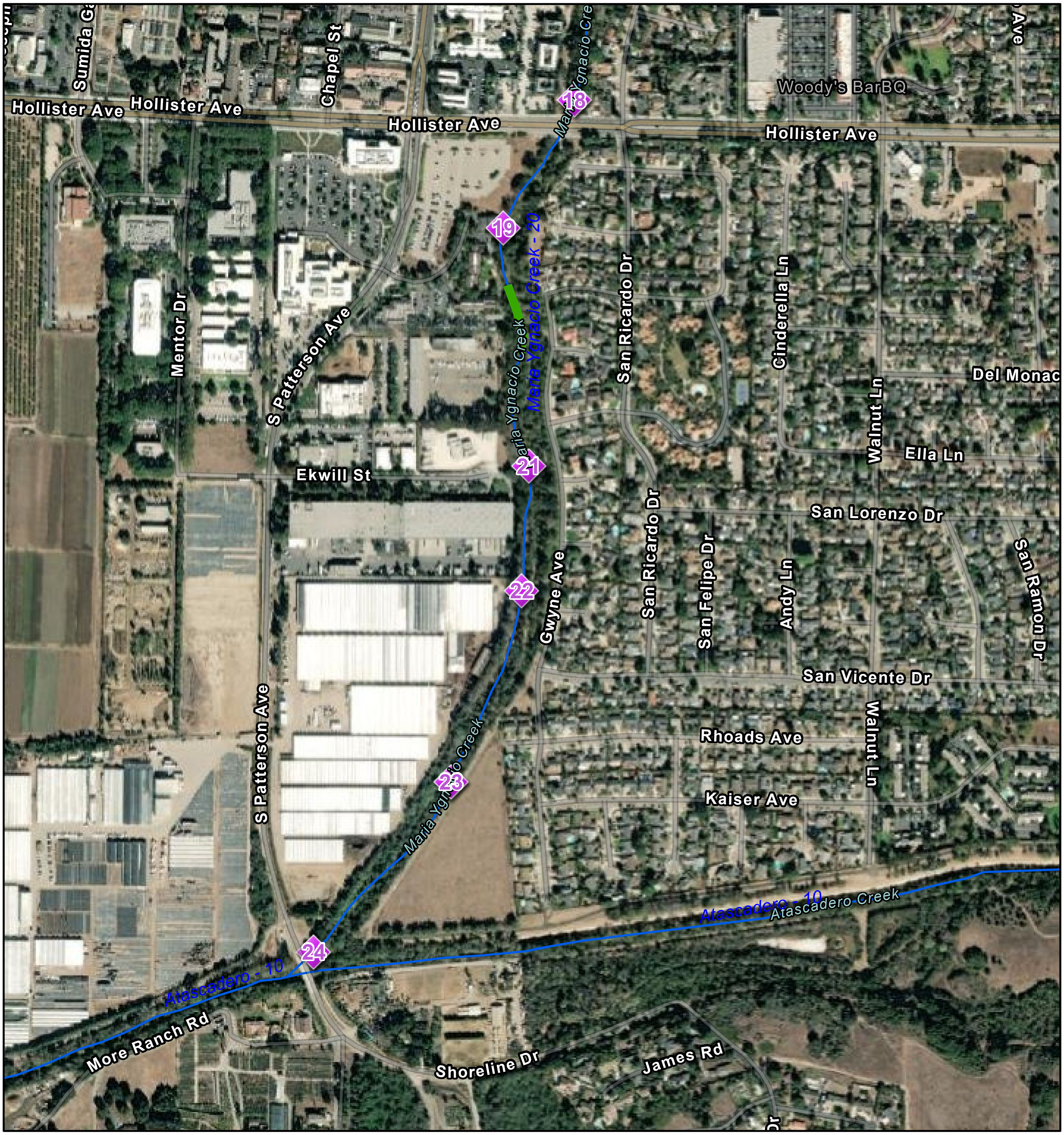
0 0.03 0.05 0.1 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Maria Ygnacio Creek - D



5/19/2022

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Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Maria Ygnacio Creek

Section 7

Section 14

MONTECITO CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:

The project begins in Cold Spring Canyon just south of East Mountain Drive and terminates near Jameson Lane.

Setting:

Inspected March 22, 2022.

Montecito/Cold Springs/Hot Springs Creek originates in the foothills of the Santa Ynez Mountains and drains a 3,890 acre watershed (excluding the La Vereda Creek Watershed) capable of producing 5,700 cfs during a 100 year return period precipitation event.

The maintenance area runs from the debris basin off of Mountain Drive downstream to the culverts at Highway 101, where the creek enters a concrete lined channel. The Montecito Creek corridor was completely denuded by the January 9, 2018 debris flow. All vegetation within the creek channel was gone. Native vegetation has regrown within the channel on its own. The creek was wetted and flowing throughout the maintenance area and generally dries up each summer in the vicinity of where the creek flows under Olive Mill Road.

Montecito Creek is designated critical habitat for the Southern California Distinct Population Segment of steelhead (*Oncorhynchus mykiss*). The District developed a Vegetation Management Plan in 2016, as required by the National Marine Fisheries Service (NMFS), which describes the District's approach to vegetation management as it relates to the consideration of steelhead while providing flood protection.

The District's Environmental, Engineering, and Maintenance Staff have reviewed the maintenance areas within steelhead creeks to determine areas that may have more flexibility for vegetation management. Based on decades of experience in these watersheds through several major flood seasons, District staff has determined certain reaches that are particularly sensitive to obstructions and flood hazards. These reaches tend to be narrow, shallow, with many constrictions, culverts, adjacent structures, and bridges. These areas have little to no tolerance for consideration of obstructive/woody vegetation retention within the bankfull width, including Large Woody Debris, (LWD) and Key Woody Debris (KWD) and retention of large live trees in the center of the channel. The emphasis for management approach in these areas will be to maintain the bankfull width free of obstructions. The zones where LWD/KWD and the retention of live trees within the bankfull width may be considered are generally wider, deeper, and are less sensitive to constrictions. The District retains final discretion on all decisions regarding vegetation management including when and where KWD/LWD is left behind and/or installed in the channel.

Montecito Creek is within the mapped zone where KWD, LWD and live trees in the middle of the bank full width may be considered.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Property access is challenging in the Montecito Creek watershed, resulting in limited opportunities for restoration. The District is pursuing restoration sites in the vicinity, or will use credits from the Los Carneros Mitigation Bank to compensate for the required mitigation.

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	LCMB Bank Utilized (ft2)	Surplus Restoration (ft2)
2004/2005	2,400	2,400	2,400		0
2005/2006	0	0	0		0
2007/2008	575	2,500	0		-575
2009/2010	775	2,500	0		-1,350
2013/2014	925	0	0	2,275	0
2014/2015	665	0	0	665	0
2015/2016	700	0	0	700	0
2016/2017	10	0	0	10	0
2017/2018	0	0	0		0
2018/2019	0	0	0		0
2020/2021	205	0	0	205	0
2021/2022	855	0	0	855	0
2022/2023	225	0	0	225	0

Engineering Analysis:
Several culverts and small bridges on Montecito Creek are susceptible to plugging and causing significant flooding of the adjacent areas as well as Highway 101. In an effort to reduce the potential for plugging culverts and bridges, downed trees and obstructive vegetation that could be mobilized during high flows should be removed. The bankfull discharge* for Montecito Creek in the vicinity of East Valley Road is approximately 351 cfs. With a velocity of approximately 7 fps and a typical depth of 2.5', the width of clearing should be 21' to maintain channel equilibrium.

*As defined in "Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:
The maintenance tasks proposed in the drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		20x5		willow sycamore			25	
Section 2	x			sycamore	8	15		
Section 3			x	willow sycamore				
Section 4			x	willow sycamore cottonwood				
Section 5		275x5		willow			200	
Section 6	x			sycamore	5	20		
Section 7	x			cottonwood	15	10		
Section 8	x			oak	12	8		

Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

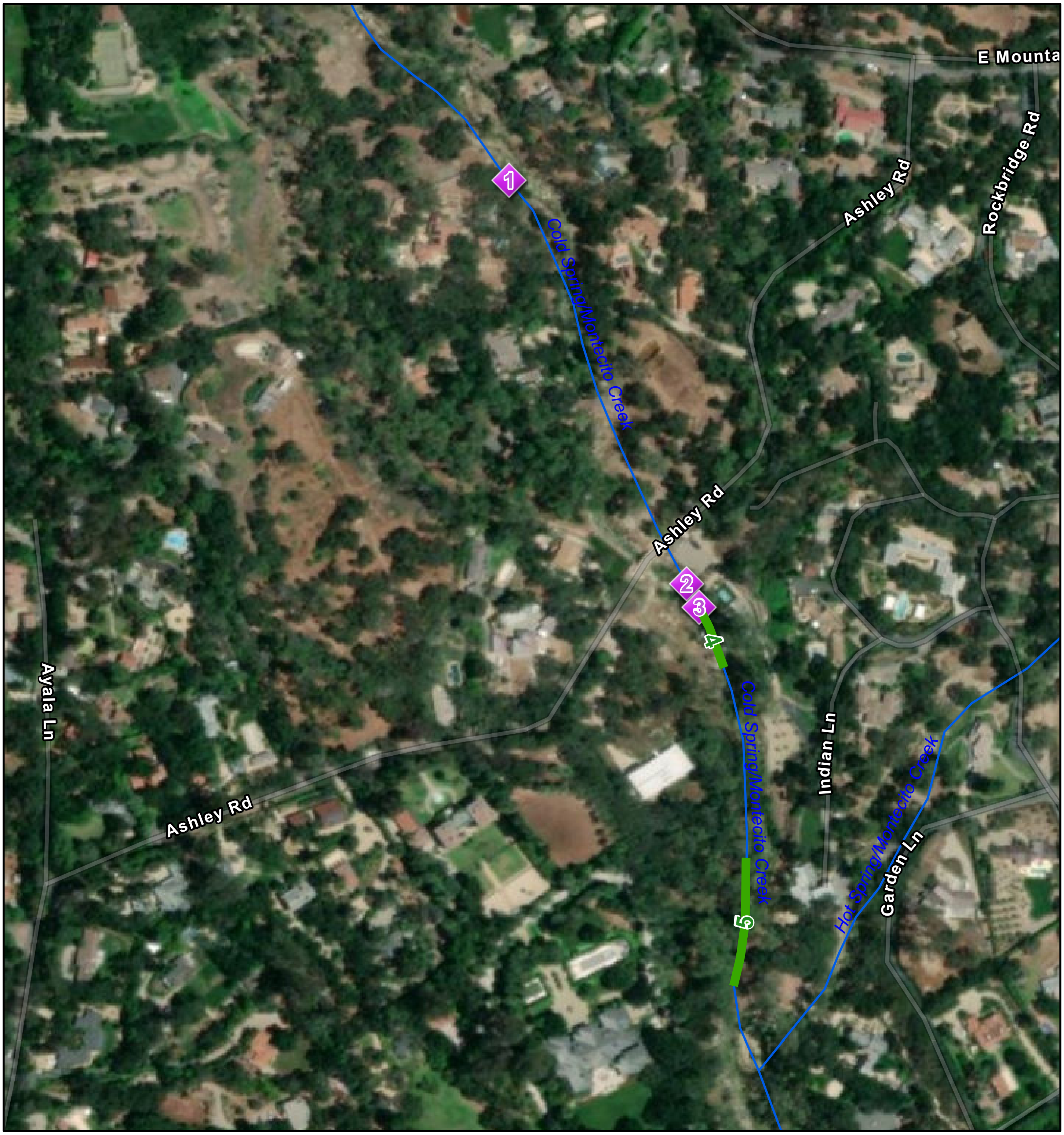
Project Specifics:

The project will take 5 days to complete.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 5 days to complete.

Montecito Creek A



5/18/2022

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

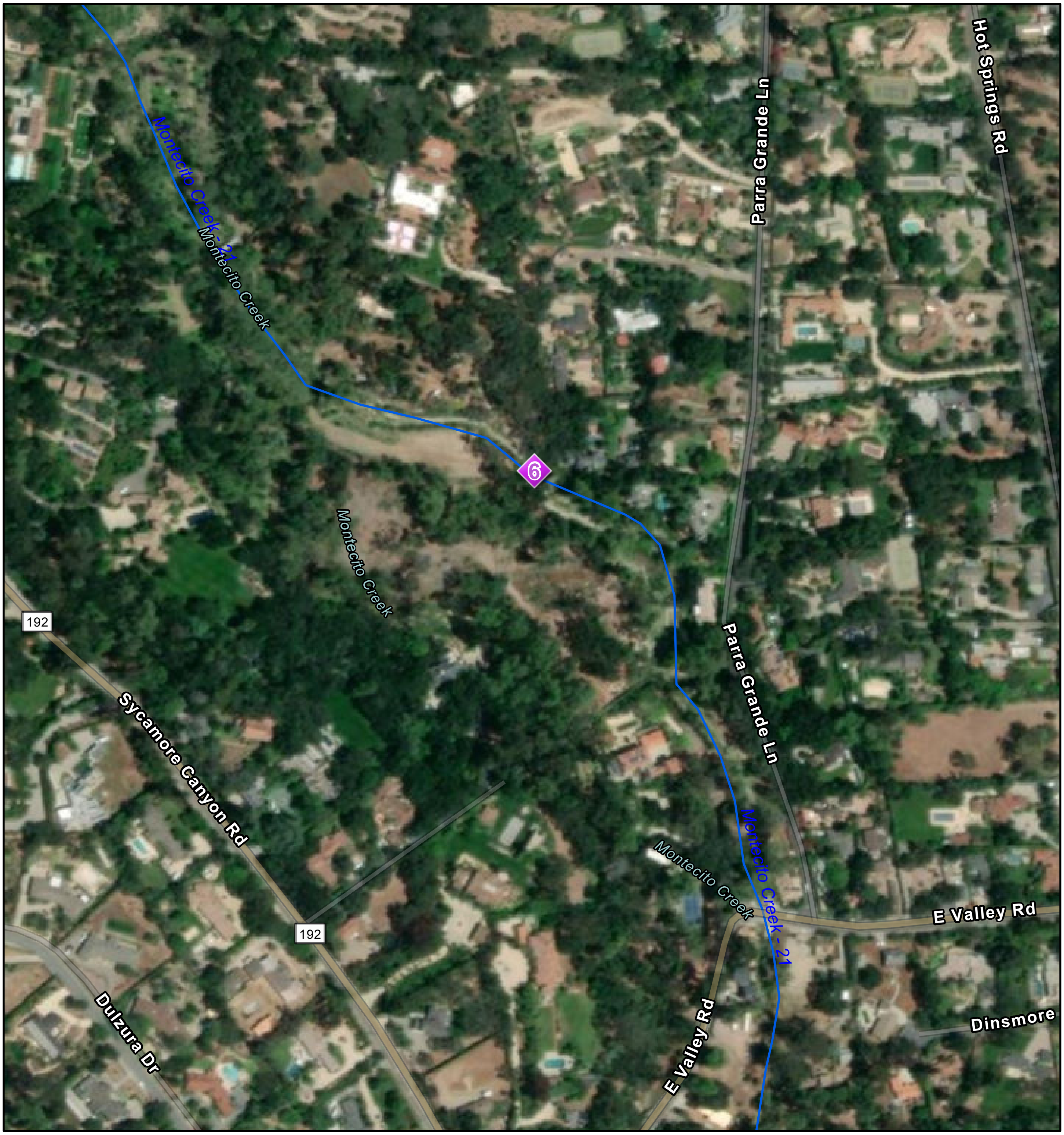
Lengths_22

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Montecito Creek B



5/18/2022

1:4,514

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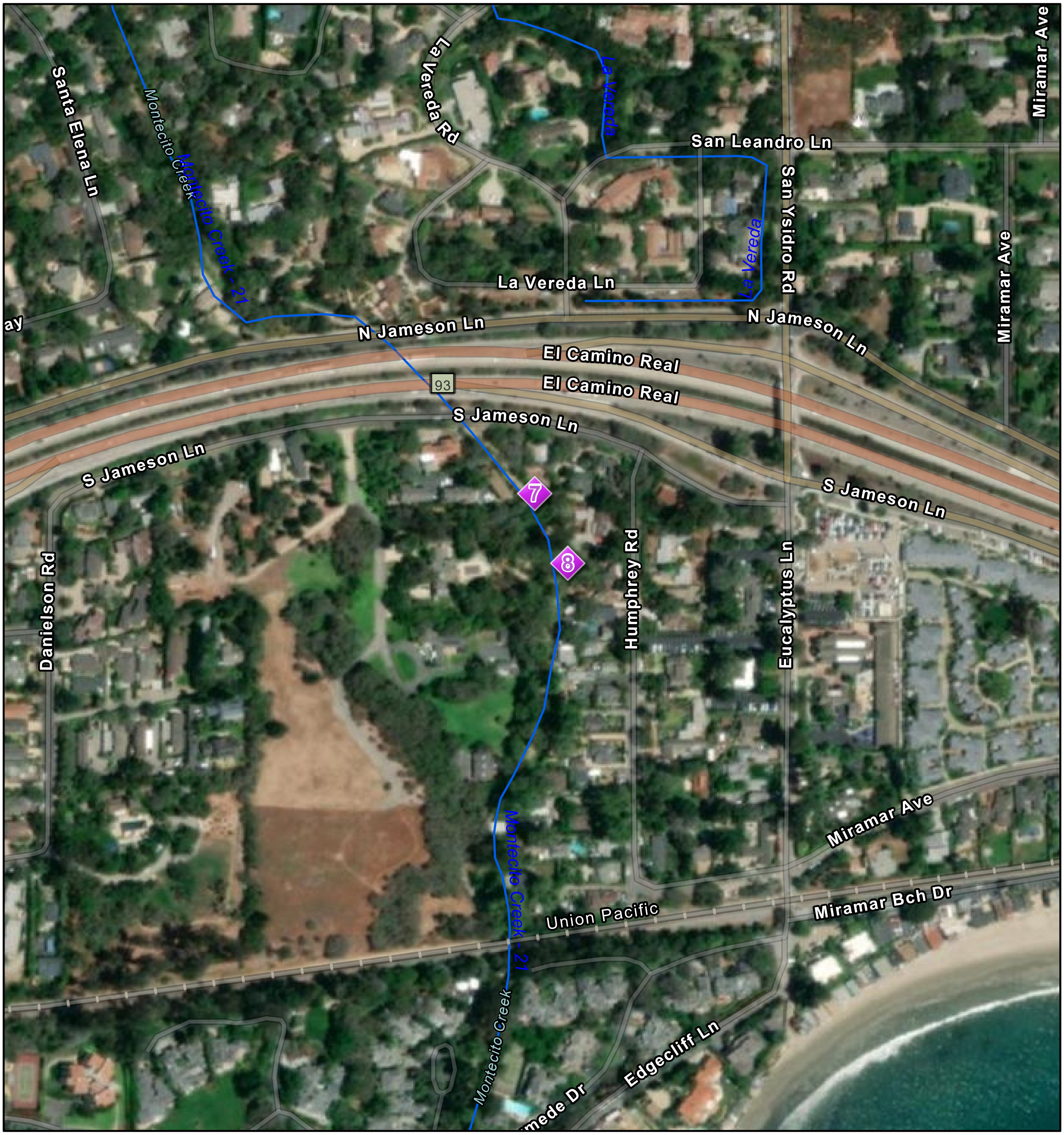
0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Montecito Creek C



5/18/2022

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

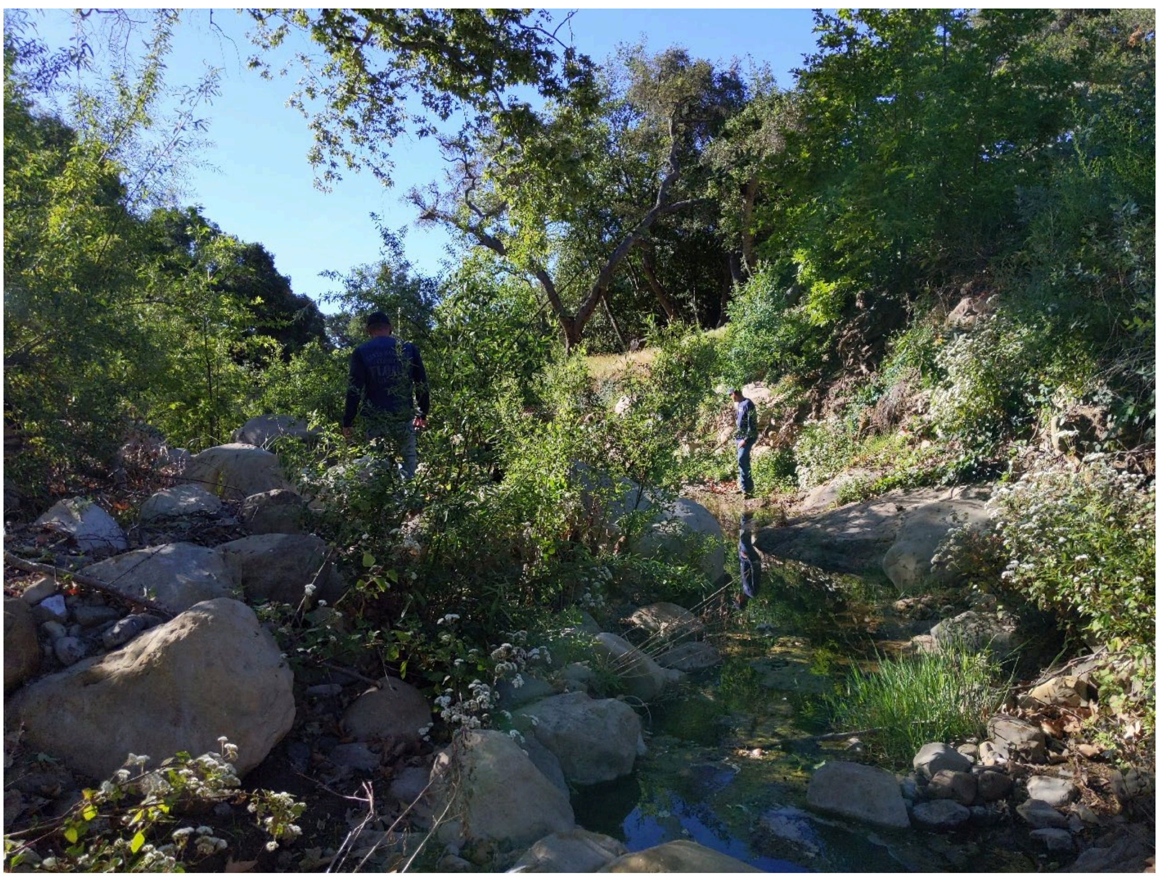
Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Montecito Creek

Section 2



Section 4

PICAY CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project beings at East Valley Road and terminates at the confluence with Romero Creek.

Setting:
Inspected on March 22, 2022.

Picay Creek originates in the Santa Ynez Mountains and drains a 626 acre watershed capable of producing 1,400 cfs during a 100-year storm event. Picay Creek is a small tributary to Romero Creek that runs along a bridle trail and under several small road crossings. Overhanging willows are common along the narrow riparian corridor. The substrate is rocky with small pools throughout most of the project reach. Vegetation growing in the invert and the banks includes willow, sycamore, poison oak, clematis, and large amounts of vinca and nasturtium. The creek contained water at the time of the inspection but generally dries up during the summer months. Land use surrounding Picay Creek includes large acreage residential, medium-density residential, and open space with mixed native and exotic/landscape vegetation.

Picay Creek is part of the District's annual creek inspections, but very seldomly requires maintenance. The last time this creek corridor was maintained under the Annual Maintenance Plan was in 2020, and in 2015 before that. The creek is well vegetated with dense vegetation along the creek banks.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Picay Creek					
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	LCMB Bank Utilized (ft2)	Surplus Restoration (ft2)
2010/2011	0	0	0		0
2015/2016	0	0	0		0
2020/2021	135	0	0	135	0
2022/2023	35	0	0	35	0

Engineering Analysis:
Obstructive vegetation in the flow way of the creek can be detrimental for many reasons, including: the tendency for it to hinder the conveyance capacity of the creek which will tend to raise the water surface elevations; the tendency for it to direct flows into adjacent banks, which can lead to bank erosion; the tendency for it to trap additional debris flowing down the creek,

which can lead to a bigger debris plug; and a tendency for the accumulated debris to break loose and potentially clog downstream culverts and bridges, which would increase water surface elevations and lead to a break out of storm water flows out of the creek channel.

The obstructive vegetation should be removed so that it does not have a chance to accumulate and potentially lead to damaging flow conditions.

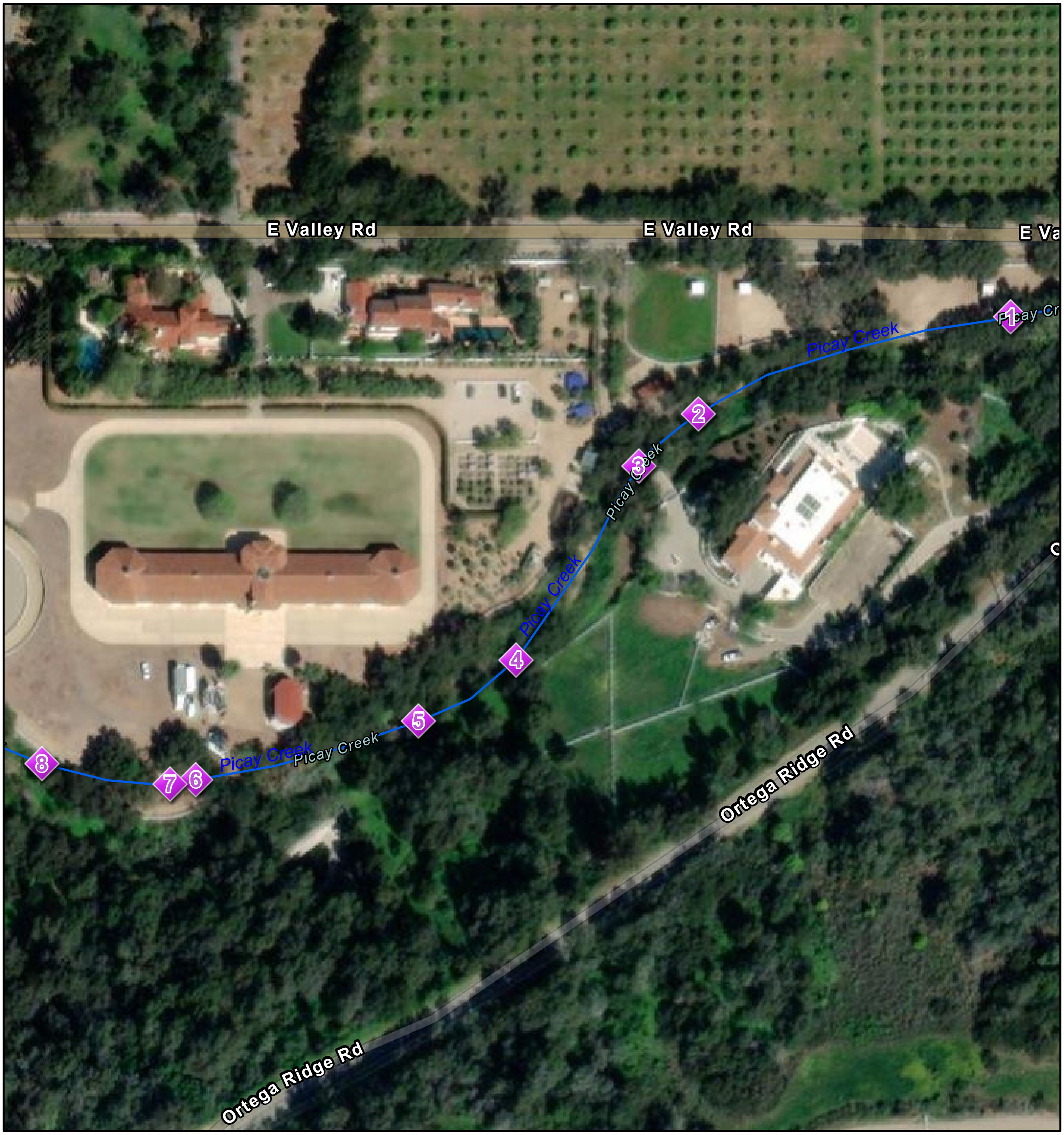
Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		x(3x3)		palm			0	
Section 2	x			willow	4	8		
Section 3		x(5x5)		willow			10	
Section 4			x	willow				
Section 5	x			oak				
Section 6			x	willow				
Section 7		x(8x5)		palms				multiple
Section 8		x(5x20)		willow eucalyptus			25	

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
This project will take 1 day to complete.

Picay Creek



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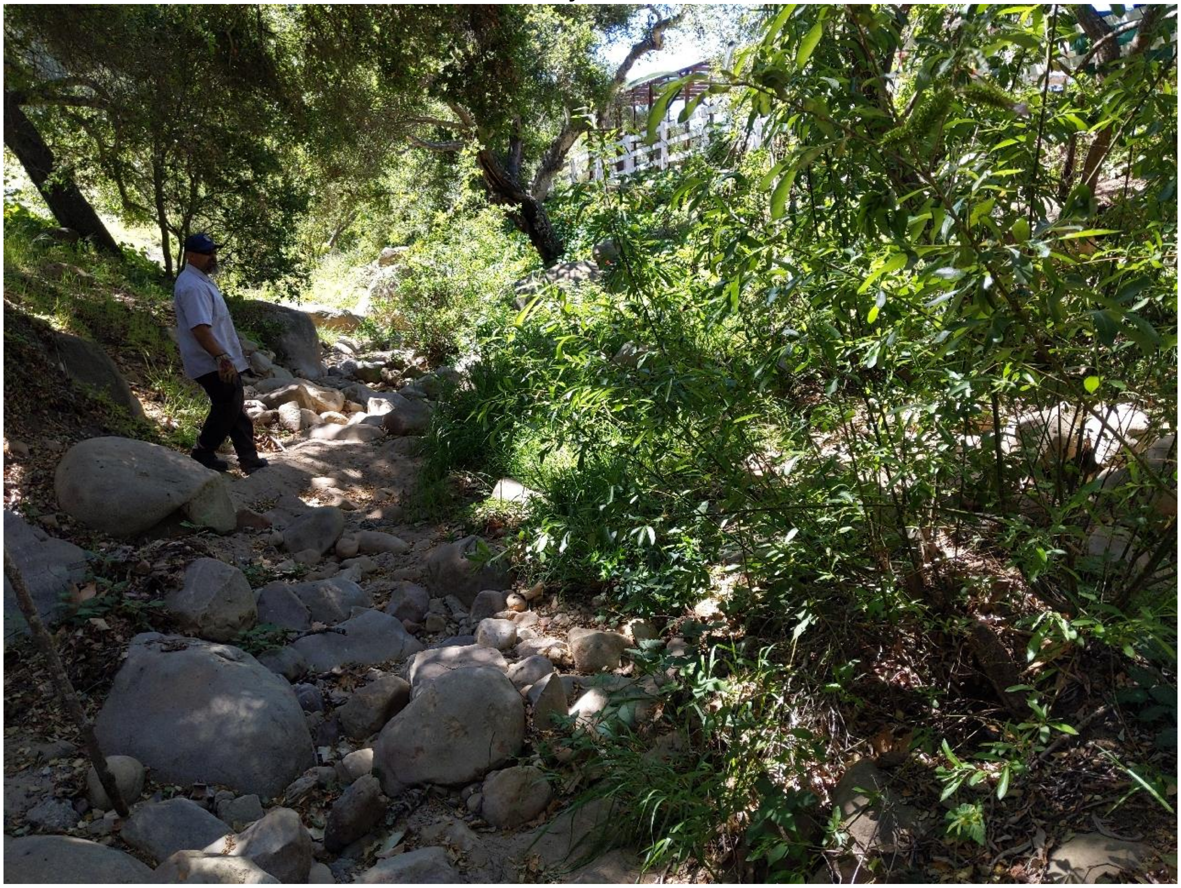
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Picay Creek



Section 3

Section 7

REFUGIO CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins approximately 2,000 feet upstream of Highway 101 and terminates approximately 200 feet upstream of Highway 101.

Setting:
Inspected on March 16, 2022

Refugio Creek originates in the foothills of the Santa Ynez Mountains and flows under Highway 101 and through Refugio State Park.

The maintenance area of Refugio Creek covers approximately 0.5 miles from Highway 101 upstream through a series of low-flow creek crossings on Refugio Road. Habitat quality in Refugio Creek is quite high. The adjacent landscape is predominantly undeveloped open space with only a few widely distributed houses. A mature riparian canopy with willows, sycamore, oaks, and dense understory is intact along both banks of the creek. California red legged frogs are known to occur in Refugio Creek and presence is assumed when developing the maintenance strategy and protection measures for this creek. Despite its native biodiversity, the creek is heavily infested with non-native arundo. Plans to systematically remove arundo are underway through the Land Trust for Santa Barbara County using grant funding and property owner cooperation.

Refugio Creek is perennial and contains well developed pool and riffle sequences throughout its length. The substrate is cobbles and large boulders interspersed with gravel bars. Near the Highway 101 overpass, the creek channel has grouted riprap reinforcement along the banks.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Since 2007, the District has been assisting the Santa Barbara County Land Trust with an extensive arundo-removal project in the lower watershed. Work with the District's assistance with CEQA and permit compliance, the Land Trust has successfully removed arundo from more than 20 sites along the drainage and replanted native oak trees and riparian vegetation. Ongoing monitoring and spot treatment to clear resprouts is undertaken and managed by the Land Trust. The District has not claimed surplus restoration "credit" from these efforts.

Refugio Creek				
Annual Plan Year	Temporal Impacts to Native Vegetation (square feet)	Proposed Restoration (square feet)	Restoration Implemented (square feet)	Surplus Restoration (square feet)
2004/2005	1,800	1,800	7,500	5,700
2006/2007	0	0	0	5,700
2007/2008	400	1,000	0	5,300
2009/2010	0	0	0	5,300
2012/2013	1,100	1,100	1,100	5,300
2022/2023	0	0	0	5,300

Wildlife Survey:

California red legged frogs are known to occur in Refugio Creek. The watershed is potential habitat for steelhead trout. The District has developed a management strategy and special conditions through Biological Opinions issued by the US Fish and Wildlife Service and NOAA Fisheries. The District's proposed maintenance actions involve heavy equipment in the creek channel as a road crossing. The work will be monitored by a biologist to ensure that no aquatic animals are injured, per the terms of the Biological Opinion.

Impacts to red legged frogs, as well other species addressed in the Program EIR, are expected to be less than significant with the incorporation of the proposed mitigation measures, monitoring, and special conditions developed through the Biological Opinion.

A wildlife survey was performed on March 16, 2022. No RLF were observed in the proposed work area, however there was a RLF egg mass in a small pool upstream of the work area. The project area retained flowing water approximately 2" deep by 3' wide. There was no pool habitat within the project area and the water depth was not suitable for RLF. There was also no established vegetation within the creek due to the high sediment transport load due to the burned watershed above. District staff will resurvey the work area and surrounding habitat prior to and during desilting activities.

No steelhead trout were observed. Biomonitoring and screening will be deployed during dewatering. Any fish in the work area will be relocated per the terms of the District's Biological Opinion with NOAA Fisheries.

Engineering Analysis:

Aggradation of the channel at the road crossing has created unsafe road conditions as well as creating a situation where flows can very easily leave the channel and either severely erode the downstream riparian corridor or flow down Refugio Road itself, both of which are highly dangerous. Loss of trees within this vicinity could plug the downstream bridge and result in flooding of a nearby residence and lead to additional loss of important riparian habitat.

Removing accumulated sediment from the bankfull channel cross-section (active channel) is important to reduce the flow obstructions and potential the debris load associated with higher flows. Limbs projecting into the active channel and downed trees can become mobilized during flood flows, or form debris plugs. Debris plugs and block flows, and additional large material within the water column can raise the water surface elevation which can result in erosion both upstream and downstream of the maintenance area and the loss of additional riparian habitat. The bankfull width as determined by field indicators is approximately 15’. Therefore, removal of obstructive vegetation should result in a cleared cross-section that mimics the stable channel geometry found in the vicinity of the proposed project.

Project Description:

The maintenance tasks proposed in the drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section 1:

The project is located at the first bridge crossing on Refugio Road. Due to the burned watershed, sediment has accumulated under the bridge leaving only approximately 1’ of freeboard. Using a dozer and excavator the channel will be desilted (100’L x 6’D x 10’W) and sediment will be loaded into trucks and taken to an upland disposal location. There will be no impact to native vegetation. The site will be dewatered if flowing water is present.

Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

The project will take 4 days to complete.

Refugio Creek

5/18/2022

Sites_22

APCreeks

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Refugio Creek

Section 1

ROMERO CREEK ROUTINE MAINTENANCE
ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins downstream of the intersection of Birnam Woods Drive and Sheffield Drive and terminates approximately 300 feet upstream of North Jameson Lane.

Setting:
Inspected on April 4, 2022.

Romero Creek originates in the foothills of the Santa Ynez Mountains and drains a 3,301 acre watershed capable of producing 4,900 cfs during a 100 year return period precipitation event. The maintenance area of Romero Creek runs along the east side of Sheffield Drive and downstream to Highway 101 in Montecito. The creek channel is incised with steep banks along many sections along Sheffield Drive. Riparian vegetation is a mix of native sycamore, willow, alder, bays, and non-native landscape specimens, nasturtium, ironweed, and watercress.

The maintenance area is within the lower watershed, which typically carries water year-round. Riffles and step pools are common along this length. Large cobbles and boulders along the creek invert are populated with islands of young willow sprouts. Adjacent land use is predominantly low-density suburban with large lots and encroaching landscape species mixed with the native riparian community.

Romero Creek is designated critical habitat for the Southern California Distinct Population Segment of steelhead (*Oncorhynchus mykiss*). The District developed a Vegetation Management Plan in 2016, as required by the National Marine Fisheries Service (NMFS), which describes the District's approach to vegetation management as it relates to the consideration of steelhead while providing flood protection.

The District's Environmental, Engineering, and Maintenance Staff have reviewed the maintenance areas within steelhead creeks to determine areas that may have more flexibility for vegetation management. Based on decades of experience in these watersheds through several major flood seasons, District staff has determined certain reaches that are particularly sensitive to obstructions and flood hazards. These reaches tend to be narrow, shallow, with many constrictions, culverts, adjacent structures, and bridges. These areas have little to no tolerance for consideration of obstructive/woody vegetation retention within the bankfull width, including Large Woody Debris, (LWD) and Key Woody Debris (KWD) and retention of large live trees in the center of the channel. The emphasis for management approach in these areas will be to maintain the bankfull width free of obstructions. The zones where LWD/KWD and the retention of live trees within the bankfull width may be considered are generally wider, deeper, and are less sensitive to constrictions. The District retains final discretion on all decisions regarding vegetation management including when and where KWD/LWD is left behind and/or installed in the channel.

Romero Creek is within the mapped zone where KWD, LWD and live trees in the middle of the bankfull width cannot be tolerated due to flooding and/or erosion concerns. Romero has a small, shallow, narrow urban creek corridor and culvert at Highway 101 that is prone to plugging.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Romero Creek					
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	LCMB Bank Utilized (ft2)	Surplus Restoration (ft2)
2007/2008	10	10	10		0
2009/2010	40	0	0		-40
2010/2011	0	0	0		-40
2011/2012	0	0	0		-40
2013/2014	170	0	0	210	0
2014/2015	280	0	0	280	0
2015/2016	25	0	0	25	0
2016/2017	5	0	0	5	0
2017/2018	0	0	0		0
2019/2020	0	0	0		0
2020/2021	0	0	0		0
2022/2023	445	0	0	445	0

Engineering Analysis:
Obstructive vegetation, woody debris and downed trees require removal from Romero Creek in order to protect adjacent homes, private property and access roads. The obstructive vegetation restricts the creek's ability to convey flood flows and increases the flood hazard to adjacent development. In addition, the downed trees and woody debris can be mobilized in future storm events posing a significant plugging threat to downstream public and private bridge structures. The bankfull width as determined by field indicators is approximately 15'. Therefore, removal of obstructive vegetation should result in a cleared cross-section that mimics the stable channel geometry found in the vicinity of the proposed project.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

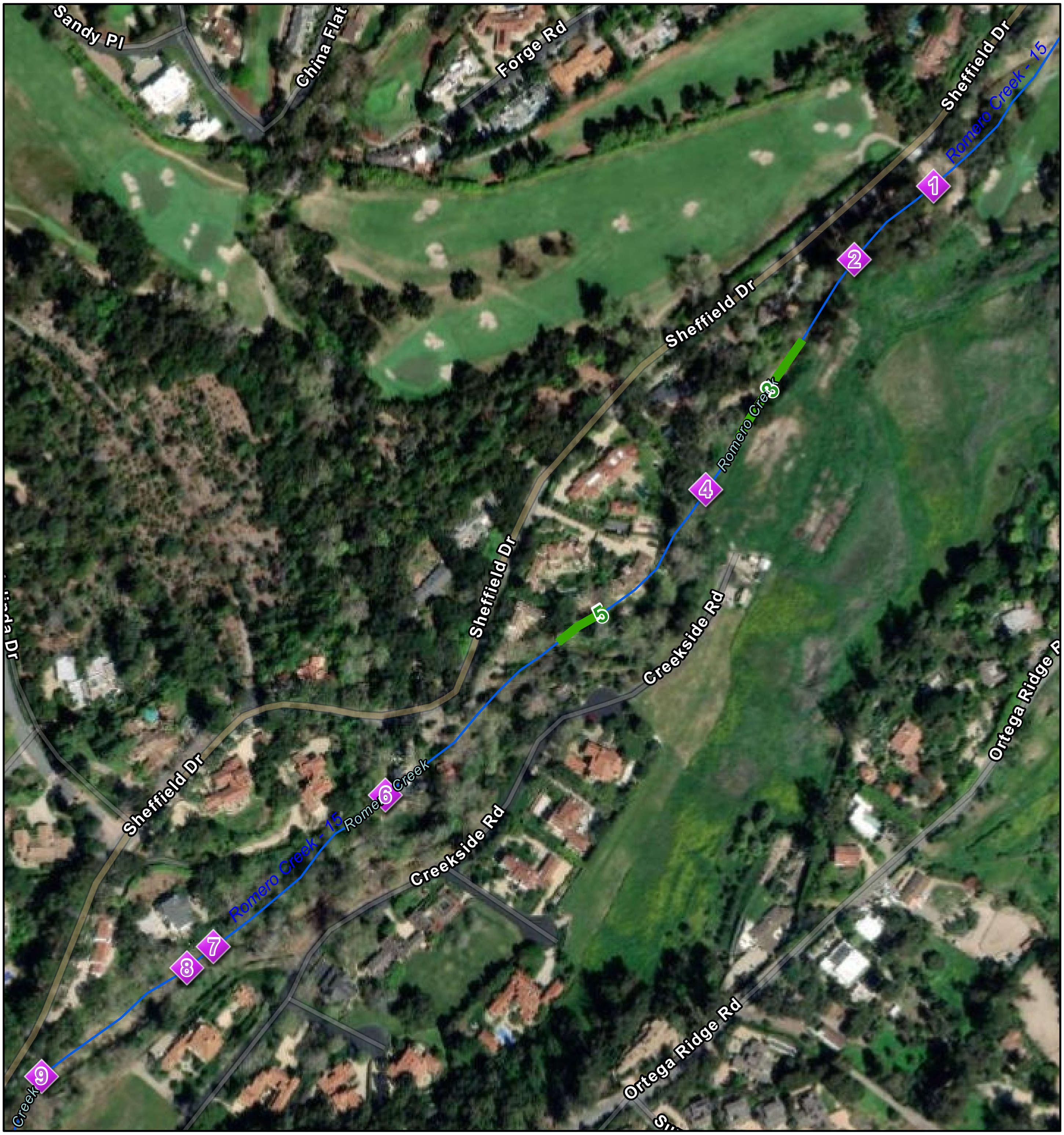
Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		40x5		tamarisk eucalyptus sycamore willow			25	
Section 2		75x5		willow cottonwood sycamore			30	
Section 3		250x10		tamarisk willow sycamore			200	
Section 4		20x5		sycamore			25	
Section 5			x	willow				remove castor bean
Section 6		40x5		cottonwood sycamore			30	
Section 7	x			willow				multiple
Section 8		75x5		willow			10	
Section 9	x			oak	4	10		
Section 10		20x5		willow			5	
Section 11	x			sycamore	7	30		
Section 12	x			oak	4	8		
Section 13		130x5		willow cottonwood			25	
Section 14		100x5		willow			75	
Section 15		9x4		mulefat			5	
Section 16	x			pittosporum	5	25		
Section 17		20x15		willow cottonwood mulefat			15	

<u>Impact Analysis and Mitigation Measures:</u>

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
This project will take 4 days to complete.

Romero Creek - A



5/19/2022

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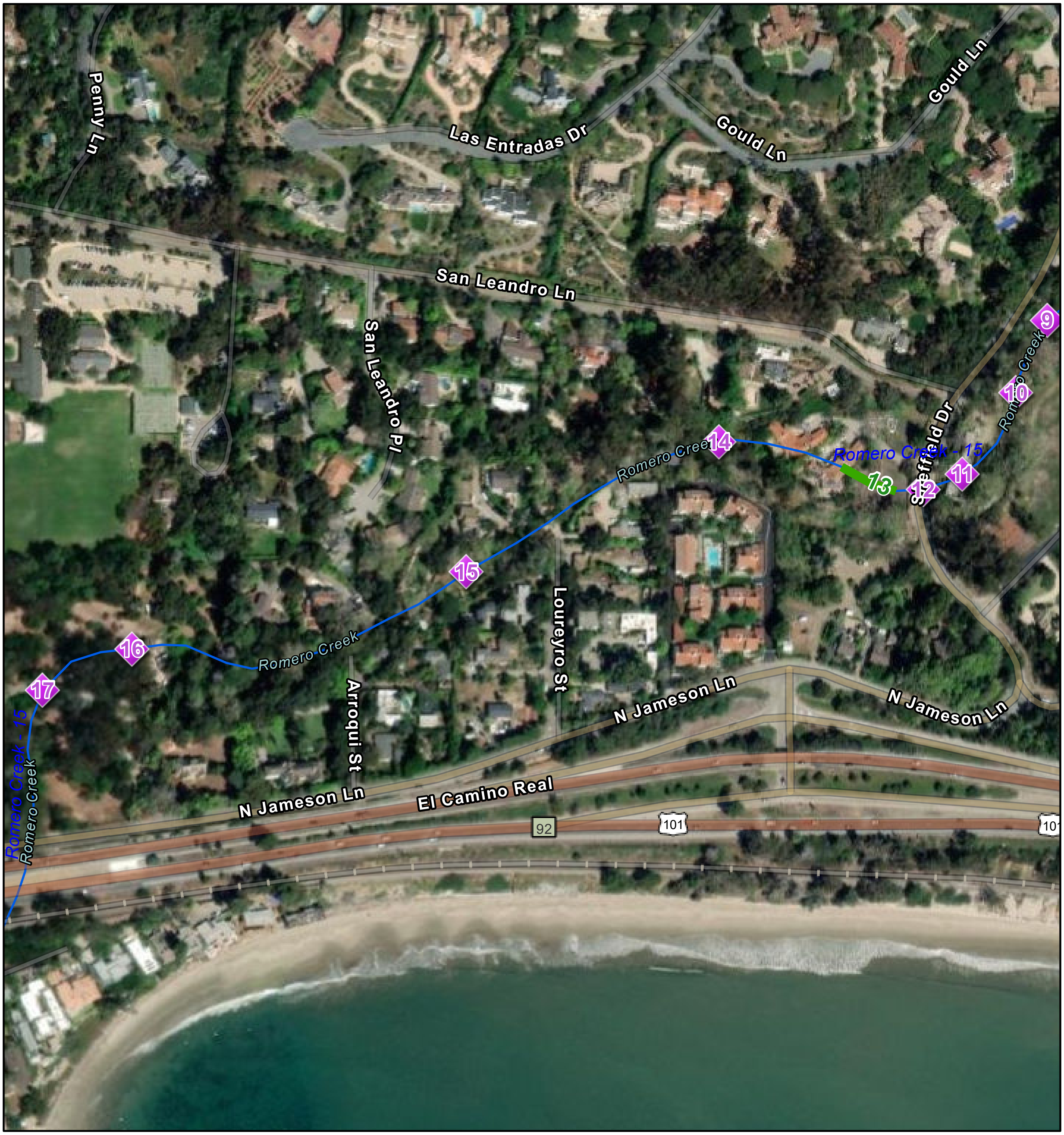
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Romero Creek - B



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Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Romero Creek

Section 5

Section 8

SAN ANTONIO CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins at Cathedral Oaks Road and continues downstream to Highway 101, at the confluence with Maria Ignacio Creek.
Setting:
Inspected on March 23, 2022.

San Antonio Creek originates in the foothills of the Santa Ynez Mountains and drains a 3,230 acre watershed capable of producing 3,700 cfs during a 100 year return period precipitation event.

From San Antonio Debris Basin downstream to Cathedral Oaks Road, the creek flows through County-owned parks and open space. The open space has become very well vegetated since it burned extensively the 1990 Painted Cave fire. Common native species of the creek corridor and adjacent banks are coast live oak, sycamore, willow, elderberry, California wild rose, blackberry, and mugwort. Downstream of Cathedral Oaks Road, the condition of the creek corridor is degraded with residences and yards running up to the top of the bank. Native riparian canopy is sparse, while landscape species, vinca, and eucalyptus trees are common. Near the confluence with Maria Ygnacio Creek, the corridor is better vegetated with a native canopy of willow shrubs and trees.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

San Antonio Creek				
Annual Plan Year	Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2002/2003	660	6,000	6,000	5,340
2006/2007	1,500	3,750	4,750	7,590
2008/2009	1,130	0	0	6,460
2009/2010	900 (check structure construction = 300 sq. ft at 3:1 replacement ratio)	0	0	5,560
2012/2013	2,015	0	0	3,545
2015/2016	130	0	0	3,415
2018/2019	25	0	0	3,390
2022/2023	130	0	0	3,260

Engineering Analysis:
Removing obstructive vegetation from the bankfull channel cross-section (active channel) is important to reduce the debris load associated with higher flows. Obstructive vegetation growing in the active channel as well as limbs projecting into the active channel and downed trees can become mobilized during flood flows, create debris plugs, raise the water surface elevation as well as plug bridges and culverts located downstream. The bankfull discharge for this section of San Antonio Creek is approximately 270 cfs. With a velocity of approximately 6 fps and a typical depth of 3', the width of clearing should be 15' to maintain channel equilibrium.

*As defined in "Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

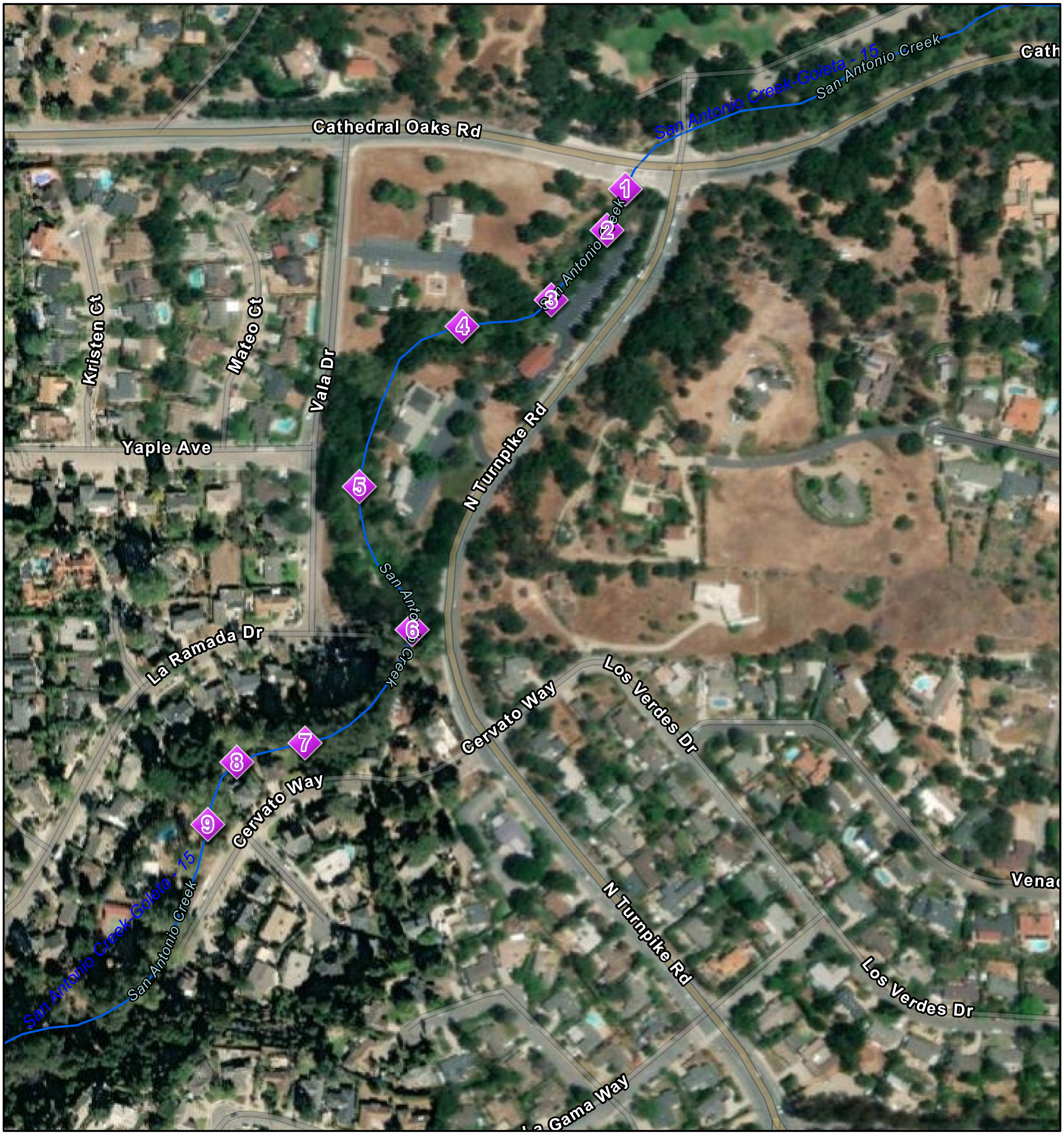
Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		10x10		castor bean tree tobacco sycamore mulefat			30	
Section 2			x	sycamore				
Section 3			x	sycamore				remove ash tree
Section 4	x			sycamore	4	10		
Section 5	x			sycamore	5	20		
Section 6	x			willow				debris plug
Section 7			x	mulefat				
Section 8			x	willow				
Section 9			x	mulefat sycamore				remove pepper tree
Section 10			x	willow tree tobacco				
Section 11		10x5		mulefat			20	
Section 12		25x15		ash tree sprouts			0	
Section 13	x			sycamore oak				multiple
Section 14	x			willow	<4	12		
Section 15			x	willow ash				
Section 16	x			willow	5	12		
Section 17		70x8		willow ash			60	

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 18	x			willow				two down trees
Section 19		75x10		cottonwood oak ash			20	

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 5 days to complete.

San Antonio Creek Goleta - A



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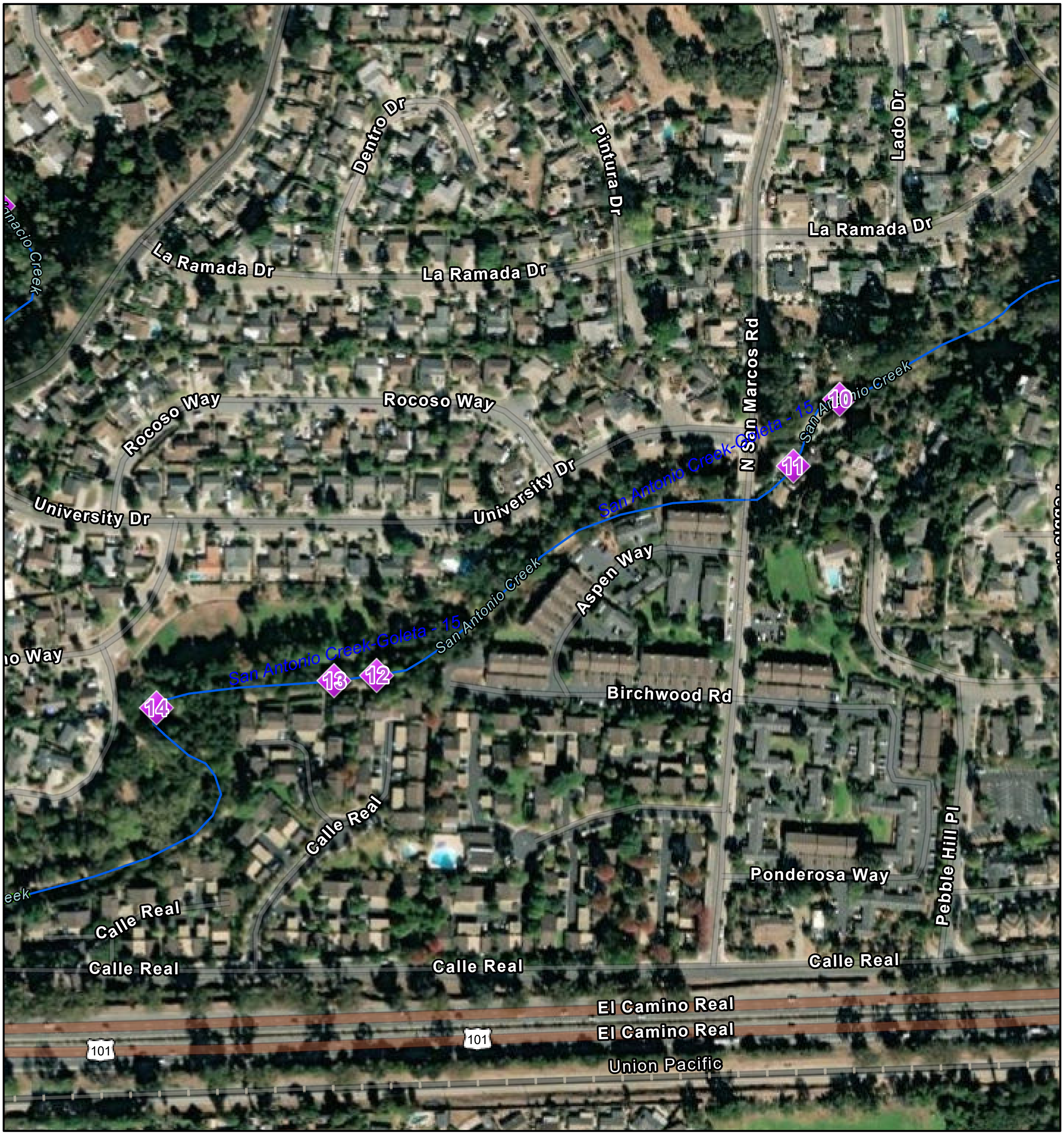
Sites_22

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Antonio Creek Goleta - B



5/19/2022

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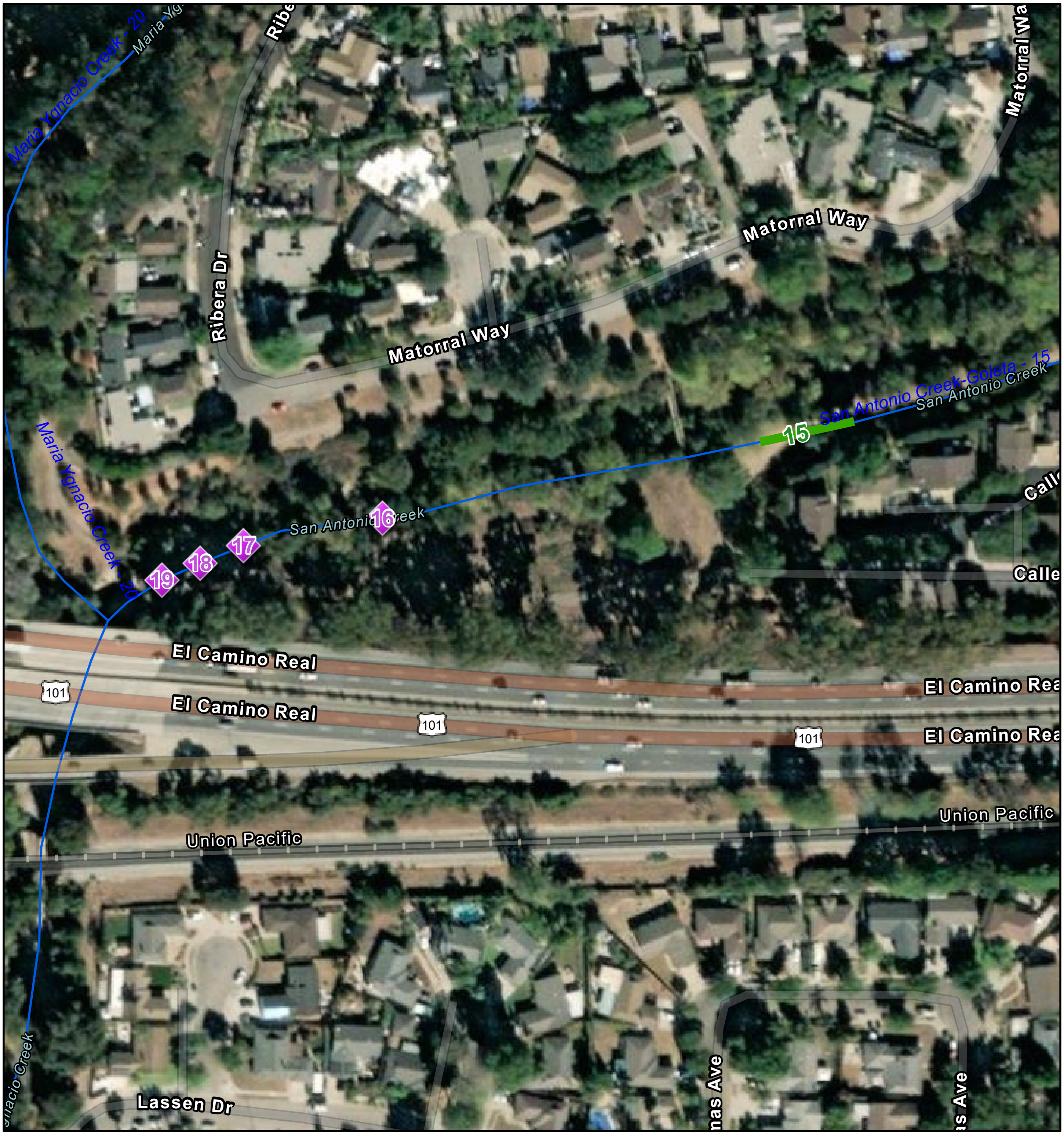
Sites_22

Lengths_22

APCreeks

San Antonio Creek Goleta - C



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Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Antonio Creek - Goleta

Section 10

Section 18

SAN JOSE CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins 500' upstream of Patterson Avenue and terminates 350' upstream of Hollister Avenue.

Setting:
Inspected on April 7, 2022.

San Jose Creek originates in the foothills of the Santa Ynez Mountains and drains a 5,503 acre watershed capable of producing 5,300 cfs during a 100 year return period precipitation event.

Creek flow was minimal and any flow went subsurface approximately half way through the creek length. Many of the pools are usually at least 3 feet deep with several up to 5 feet deep, but were much shallower this year with some dried up due to consecutive drought years. The lower portions of the creek below Cathedral Oaks Road usually dry up towards the later part of the summer.

San Jose Creek is characterized by a relatively deep channel with banks vegetated with many mature sycamores, cottonwoods, oaks and willows and a well-developed understory of poison oak, blackberry, wild rose and numerous non-native species such as nasturtium and grasses. San Jose Creek contains some of the best riparian habitat on the south coast due to the buffer zones left between the creek and residential areas. Downstream of Highway 101, the creek becomes somewhat degraded with development, lawns, or pavement all the way to the tops of the banks in some areas, along with a much narrower riparian corridor.

Downstream of Hollister Avenue, San Jose Creek transitions into a concrete lined channel and then into the Goleta Slough system.

San Jose Creek is designated critical habitat for the Southern California Distinct Population Segment of steelhead (*Oncorhynchus mykiss*). The District developed a Vegetation Management Plan in 2016, as required by the National Marine Fisheries Service (NMFS), which describes the District's approach to vegetation management as it relates to the consideration of steelhead while providing flood protection.

The District's Environmental, Engineering, and Maintenance Staff have reviewed the maintenance areas within steelhead creeks to determine areas that may have more flexibility for vegetation management. Based on decades of experience in these watersheds through several major flood seasons, District staff has determined certain reaches that are particularly sensitive to obstructions and flood hazards. These reaches tend to be narrow, shallow, with many constrictions, culverts, adjacent structures, and bridges. These areas have little to no tolerance for consideration of obstructive/woody vegetation retention within the bankfull width, including Large Woody Debris, (LWD) and Key Woody Debris (KWD) and retention of large live trees in the center of the channel. The emphasis for management approach in these areas will be to maintain the bankfull width free of obstructions. The zones where LWD/KWD and the retention of live trees within the bankfull width may be considered are generally wider, deeper, and are less sensitive to constrictions. The District retains final discretion on all decisions regarding vegetation management including when and where KWD/LWD is left behind and/or installed in the channel.

San Jose Creek is within the mapped zone where KWD, LWD and live trees in the middle of the bankfull width may be considered.

Revegetation:

Beginning with the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District began a new reporting and accounting program for the restoration component of the Annual Routine Maintenance Program. Since that time, the District has been tracking the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

San Jose Creek				
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	Surplus Restoration (ft2)
2002/2003	1,380	12,600	12,600	11,220
2003/2004	2,650	6,200	6,200	14,770
2006/2007	0	0	0	14,770
2008/2009	1,525	0	0	13,245
2010/2011	1,000	1,000	1,000	13,245
2011/2012	0	0	0	13,245
2013/2014	1,145	0	0	12,100
2014/2015	200	0	0	11,900
2015/2016	135	0	4,600	16,365
2016/2017	85	0	2,300	18,580
2017/2018	0	0	0	18,580
2018/2019	0	6,500	6,500	25,080
2019/2020	70	0	3,000	28,010
2020/2021	260	0	0	27,750
2022/2023	50	0	0	27,700

Engineering Analysis:

Removing obstructive vegetation from the bankfull channel cross-section (active channel) is important to reduce the debris load associated with higher flows. Obstructive vegetation growing in the active channel as well as limbs projecting into the active channel and downed trees can become mobilized during flood flows, raising the water surface elevation as well as plugging bridges and culverts located downstream. The bankfull discharge for this portion of San Jose Creek is approximately 375 cfs. With a velocity of approximately 6 fps and a typical depth of 3', the width of clearing should be 21' to maintain channel equilibrium.

*As defined in "Regional Curves for Bankful Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

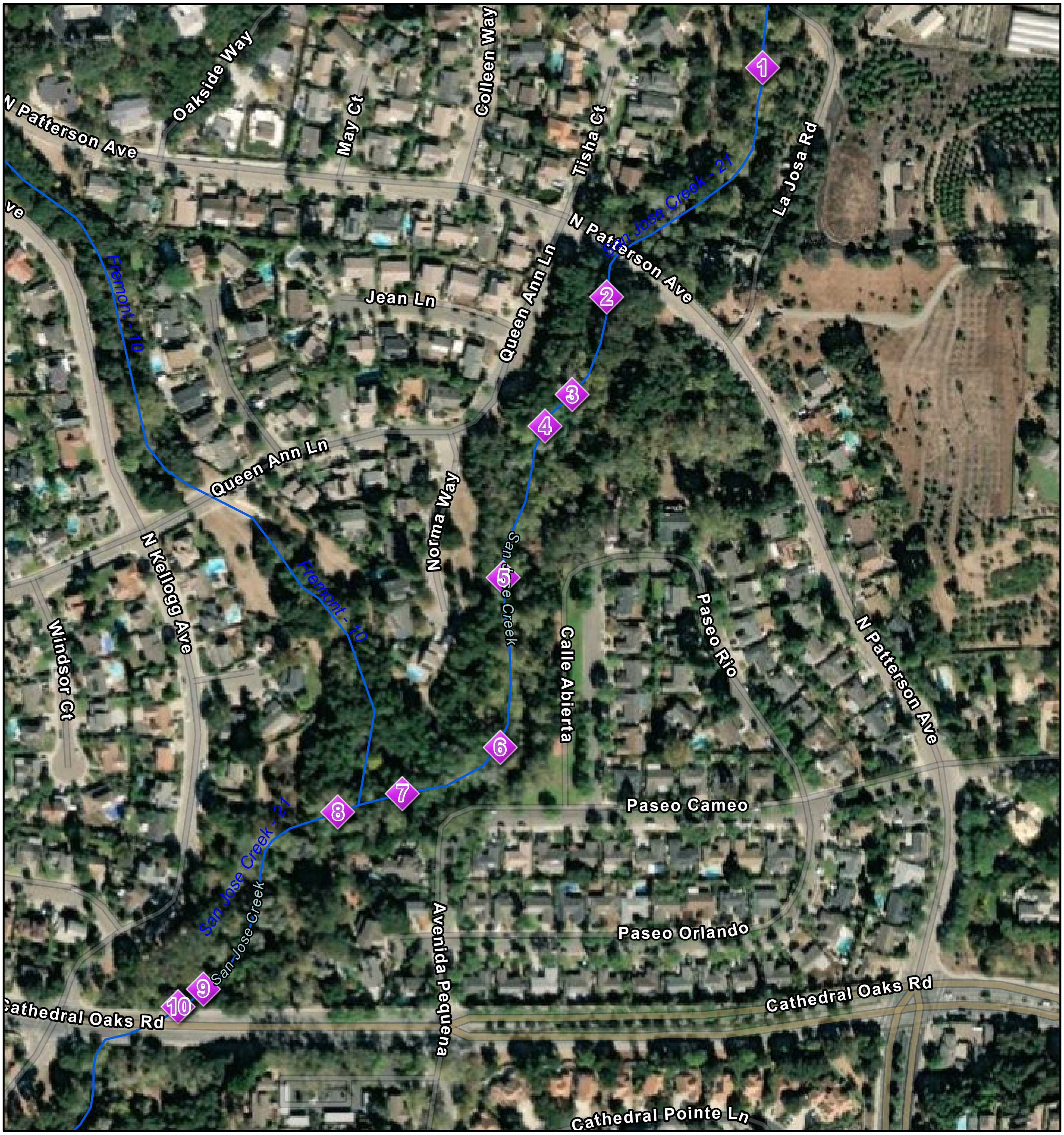
Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1			x	willow				
Section 2	x			willow				multiple
Section 3			x	arundo				
Section 4								see section 4
Section 5				willow	<4	12		
Section 6	x			willow	<4	10		
Section 7	x			willow	<4	12		
Section 8	x			willow	<4	15		
Section 9	x		x	willow				limb arundo
Section 10		x		palm			0	
Section 11	x			eucalyptus	12	30		
Section 12	x			sycamore	4	15		
Section 13			x	sycamore				
Section 14		5x5		arundo			0	
Section 15			x	bay				
Section 16		10x5		pepper			0	
Section 17	x			willow	5	20		
Section 18			x	willow elderberry				
Section 19		20x5		mulefat			50	
Section 20	x			willow	8	22		
Section 21	x			willow	9	15		
Section 22			x	willow				
Section 23			x	sycamore				
Section 24	x			willow				
Section 25			x	willow				
Section 26			x	arundo				

Section 4:
Maintenance at Section 4 will remove debris that has accumulated on LWD 16-1, and leave the LWD in place.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
This project will take 6 days to complete.

San Jose Creek - A



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

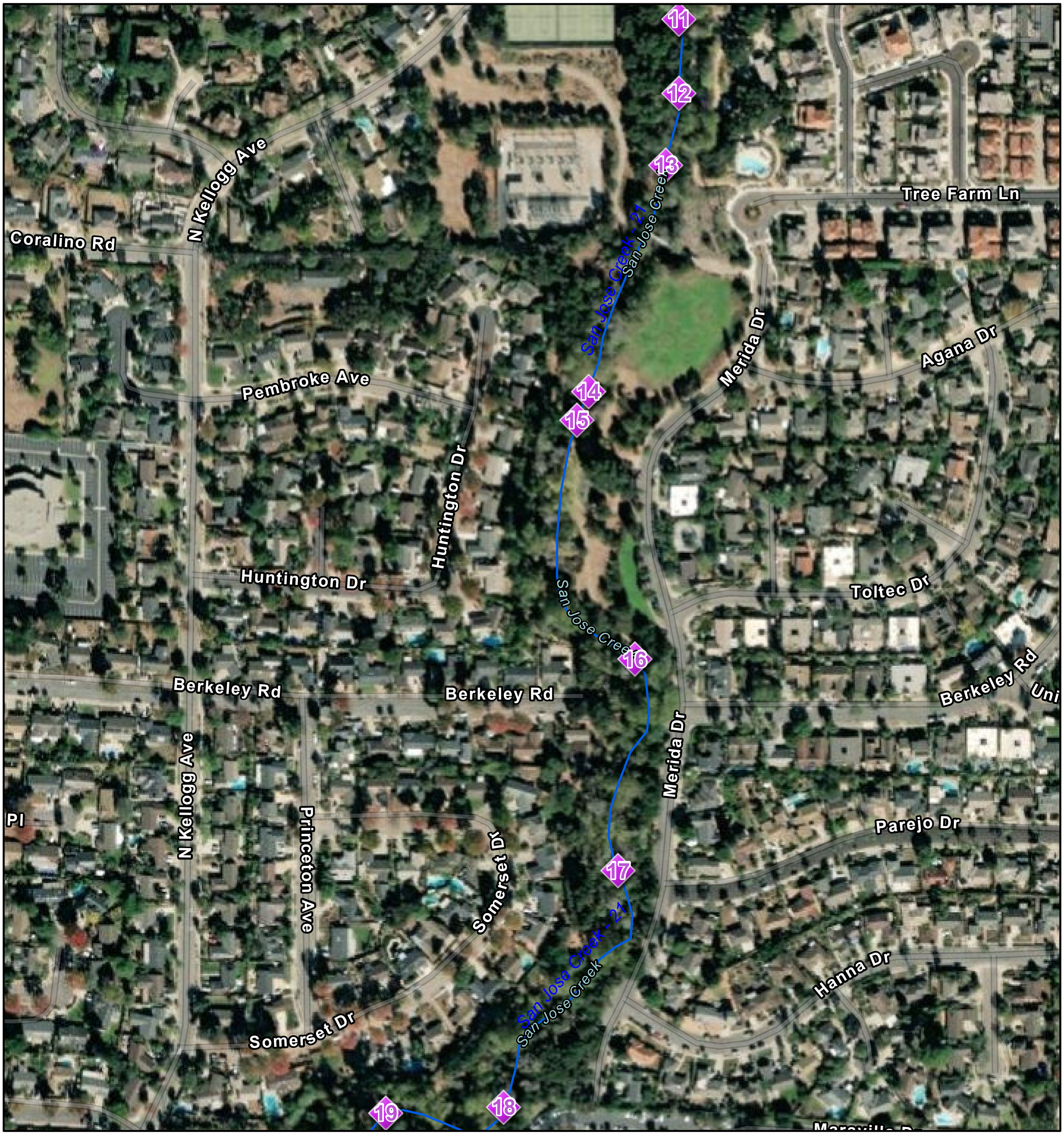
0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Jose Creek - B



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

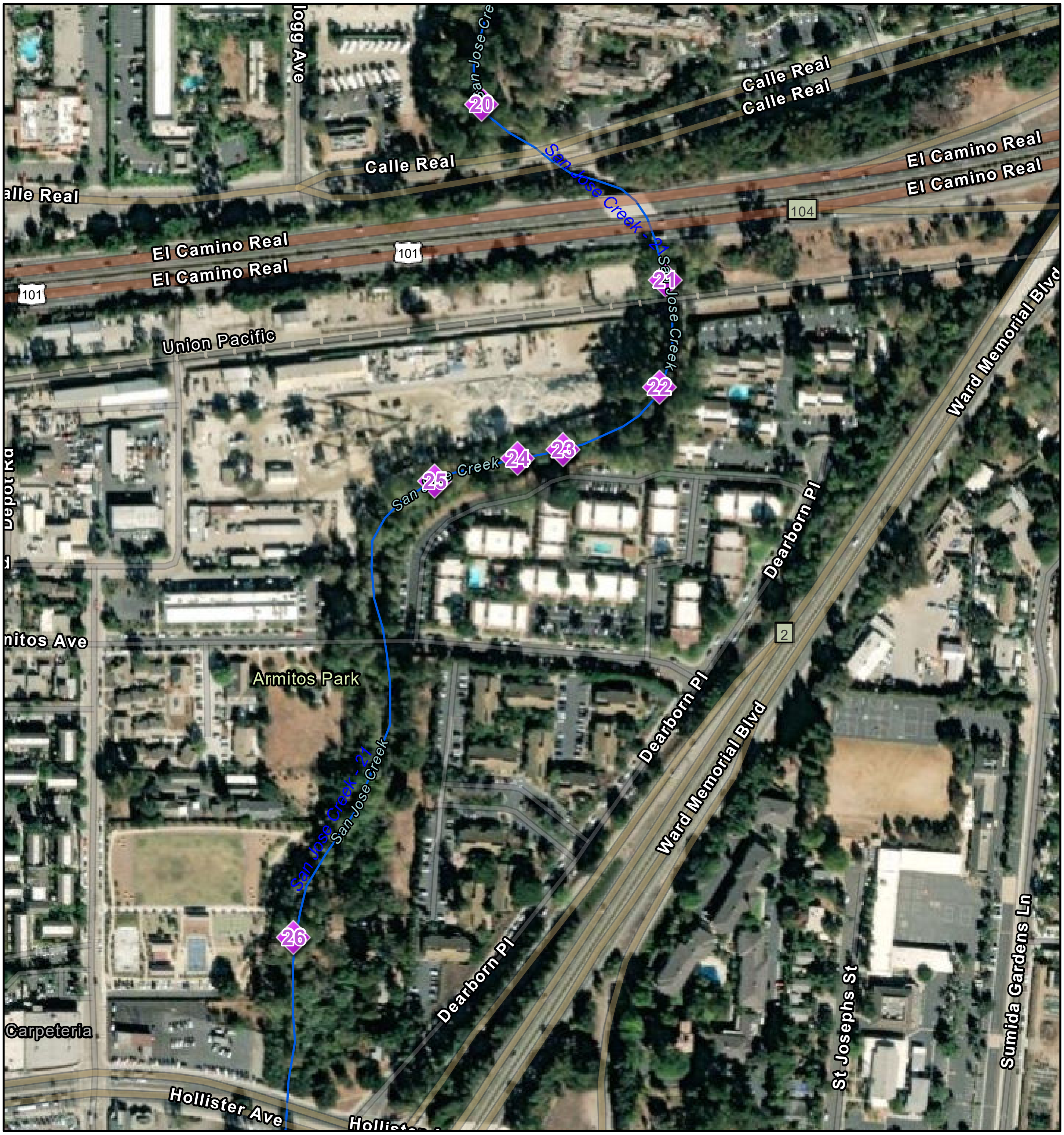
0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Jose Creek - C



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

San Jose Creek

Section 4

Section 23

TECOLOTE CREEK ROUTINE MAINTENANCE
ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
This project begins just downstream of Vereda Parque and terminates 500' downstream of Vereda del Padre in the Rancho Embarcadero Subdivision.

Setting:
Inspected on March 14, 2022.

Tecolote Creek originates in the foothills of the Santa Ynez Mountains and drains a 3,637 acre watershed capable of producing 4,200 cfs during a 100 year return period precipitation event.

The creek banks and riparian corridor are well-vegetated with coast live oak, sycamore, California bay, and willow. The creek channel is incised throughout the maintenance area, typically to a depth of 10 to 15 feet deep. A series of concrete check structures were installed in the creek more than 25 years ago to control downcutting of the creek, resulting in step-pools throughout the maintenance area.

The California red-legged frog, a threatened species, was detected in the management area of Tecolote Creek by the District in 2009. For management purposes, the District will assume that red legged frogs may occur in the entire maintenance area of Tecolote Creek. The District has developed a management strategy and special conditions that have been successful in accommodating maintenance activities and protecting red legged frogs in other District-managed drainages. All relevant mitigation measures, monitoring, and relocation (if necessary) will be implemented as developed through consultation and a Biological Opinion issued by the US Fish and Wildlife Service. Impacts to red legged frogs, as well other species addressed in the Program EIR, are expected to be less than significant with the incorporation of the proposed mitigation measures, monitoring, and special conditions developed through the Biological Opinion.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	LCMB Bank Utilized (ft2)	Surplus Restoration (ft2)
2002/2003	5,400	6,400	6,400		1,000
2004/2005	3,150	2,150	0		-2,150
2006/2007	0	0	5,000		2,850
2008/2009	0	0	0		2,850
2009/2010	80	0	0		2,770
2010/2011	0	0	80		2,850
2011/2012	240	0	0		2,610
2013/2014	550	0	0		2,060
2015/2016	3,010	0	500		-450
2017/2018	0	0	0	450	0
2019/2020	0	1,500	1,700		1,700
2020/2021	565	0	0		1,135
2022/2023	635	0	0		500

Engineering Analysis:

Removing obstructive vegetation from the bankfull channel cross-section (active channel) is important to reduce the debris load associated with higher flows. Obstructive vegetation growing in the active channel as well as limbs projecting into the active channel and downed trees can become mobilized during flood flows, raising the water surface elevation as well as plugging bridges and culverts located downstream. Sediment buildup in the channel reduces flow capacity, causes erosion along the banks and raises water surface elevations. Removal of sediment in areas with compromised capacity is important to reestablish the bankfull flow width.

The bankfull* discharge for this section of Tecolote Creek is approximately 300 cfs. With a velocity of approximately 6 fps and a typical depth of 2.5', the width of clearing should be 20' to maintain channel equilibrium.

*As defined in "Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:

The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1	x		x	willow				multiple down branches
Section 2	x			willow				multiple
Section 3	x			willow	6	20		

Section	Down tree/limb	Brushing (Area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 4	x			willow	5	8		
Section 5	x			willow				see section 5
Section 6			x	willow				
Section 7			x	willow	4	10		
Section 8			x	willow				
Section 9		50x5		willow sycamore			100	
Section 10	x			willow	5	10		
Section 11	x			sycamore	34	20		
Section 12			x	alder				
Section 13		50x5		willow			50	
Section 14		100x15		willow			300	
Section 15			x	willow				
Section 16	x			willow	4	10		
Section 17		10x8		willow			25	
Section 18			x	willow				
Section 19			x	willow				
Section 20	x			willow	5	20		
Section 21	x			willow sycamore				two down trees
Section 22	x			willow				
Section 23	x			willow	5	10		
Section 24		8x5		willow sycamore			10	
Section 25	x			willow	5	25		debris plug
Section 26			x	willow				
Section 27		80x5		willow			150	

Section 5:
Three large down trees in this section will be cut back to remove the obstructions across the channel. An 8-foot section of the largest tree will be left as LWD 22-1.

Impact Analysis and Mitigation Measures:
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed

maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

This project will take 8 days to complete.

Tecolote Creek A

5/18/2022

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Sites_22

APCreeks

Tecolote Creek B

5/18/2022

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Tecolote Creek

Section 5

Section 25

TECOLOTITO CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins upstream of Cathedral Oaks Road and terminates upstream of Highway 101.

Setting:
The creek was inspected on March 14, 2022.

Tecolotito Creek originates in the foothills of the Santa Ynez Mountains and drains a 3,858 acre watershed capable of producing 4,600 cfs during a 100 year return period precipitation event.

From the area upstream of Cathedral Oaks Blvd. downstream to Del Norte Drive the creek has well vegetated steep banks. Coast live oak, eucalyptus and willow shade the creek channel. The creek usually contains at least some water year round. Land use is residential and open space with Glenn Annie Golf Course located upstream and to the west of Cathedral Oaks Blvd. From Del Norte Drive downstream to Highway 101 the creek flows through an on-ramp/off-ramp intersection to the highway with portions of the channel completely concrete lined. Downstream of the northbound 101 on-ramp, the creek is concrete lined along the south bank. The north bank is vegetated with willows which do provide some shading to the invert. The creek invert is vegetated with occasional clumps of cattails. Downstream of Highway 101 the creek is lined with pipe and wire revetment. This entire stretch of the drainage contains a well vegetated canopy that has been restored by the District and nearby developments over the last ten years. The land use adjacent to the creek downstream of the Highway is commercial. Land use upstream of Glen Annie Road is residential and open space.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Tecolotito Creek					
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	LCMB Bank Utilized (ft2)	Surplus Restoration (ft2)
2002/2003	14,620	15,000	15,000		380
2004/2005	0	0	0		380
2005/2006	525	150	150		5
2007/2008	1,100	1,100	1,100		5
2010/2011	100	0	0		-95
2014/2015	55	0	0	150	0
2017/2018	0	0	0		0
2018/2019	50	0	0	50	0
2019/2020	445	0	0	445	0
2020/2021	0	0	0		0

2021/2022	500	0	0	500	0
2022/2023	100	0	0	100	0

Engineering Analysis:

Tecolotito Creek is prone to sedimentation and associated colonization by obstructive vegetation throughout the project reach. The creek has been improved to convey the Q100 and allow for adjacent development. Silt trapping vegetation consisting primarily of cattails and bulrush are growing in the active channel reducing capacity. Removing silt and silt trapping vegetation from the bankfull channel cross-section (active channel) is important to maintain the design capacity of the creek. The bankful discharge for this section is approximately 300 cfs. With a velocity of approximately 6 fps and a typical depth of 3', the width of clearing should be 17' to maintain channel equilibrium.

* As defined in "Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:

The maintenance tasks proposed in the drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

Section	Down tree/limb	Brushing (Area)	Desilting	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1			x				100	Sec. 1 below
Section 2	x			Cottonwood willow				
Section 3	x			sycamore				

Section 1:

There are 2 sediment islands in this reach, each measuring approximately 5'w x 25'l x 3'd. The islands will be removed by an excavator working from the top of left bank which is concrete. There is approximately 100sf of native cattail growing on the islands that will removed. This will result in 100sf of mitigation.

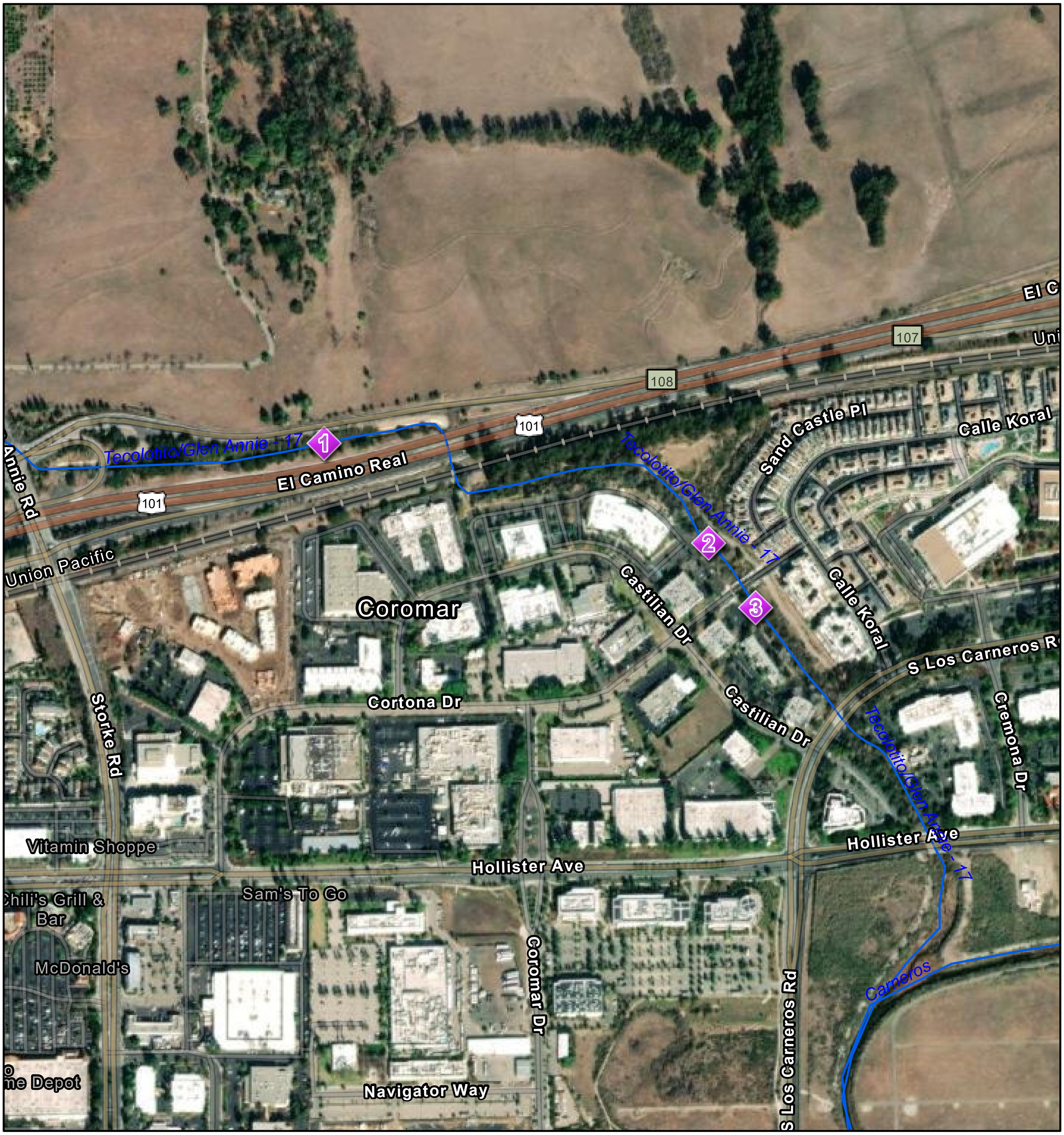
Impact Analysis and Mitigation Measures:

Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the "Impacts and Mitigation Measures" tab. Some of the impacts are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of this project and the current state of the creek this project would not be considered a worst-case scenario. Therefore the impacts associated with this project are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:

This project will take 4 days to complete.

Tecolotito Creek



5/18/2022

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Tecolotito Creek

Section 1

Section 2

TORO CANYON CREEK ROUTINE MAINTENANCE ADDENDUM TO THE PROGRAM EIR FOR SANTA BARBARA COUNTY FLOOD CONTROL ROUTINE MAINTENANCE

Location:
The project begins at East Valley Road and terminates at Padaro Lane.

Setting:
Inspected on April 5, 2022.

East and West Toro Canyon Creeks originate in the foothills of the Santa Ynez Mountains, drain 869 and 986 acre watersheds respectively and are capable of producing 1800 and 1900 cfs respectively during a 100 year return period precipitation event.

The maintenance area runs from upper Toro Canyon Road at Highway 192, downstream to the Highway 101 culvert. The west fork joins Toro Creek within the maintenance area. Toro Creek featured a dense and well-developed canopy of mature willows, sycamore, oak, and alder prior to the January 9, 2018 debris flow. Post debris flow, the banks were mostly devoid of any mature native vegetation. Native species such as canyon sunflower, blackberry, and mugwort have grown back along with non-native and landscape species encroaching from the adjacent residences and agricultural properties. The native over story vegetation remains mostly intact. The substrate consists of large cobble and boulders.

Revegetation:
Since the 2002/2003 Annual Routine Maintenance Plan, which was tiered off the 2001 EIR for the Updated Routine Maintenance Program, the District has been tracking and reporting the impacts and associated restoration on creeks included in each Annual Routine Maintenance Plan. The following table is being included in the Annual Routine Maintenance Plan addenda to more easily display and track the District's restoration efforts.

Toro Creek					
Annual Plan Year	New Temporal Impacts to Native Vegetation (ft2)	Proposed Restoration (ft2)	Restoration Implemented (ft2)	LCMB Bank Utilized (ft2)	Surplus Restoration (ft2)
2002/2003	985	4,020	4,020		3,035
2003/2004	400	0	0		2,635
2006/2007	4,070	2,500	0		-1,435
2009/2010	200	2,000	2,000		365
2011/2012	0	0	0		365
2013/2014	200	0	0		165
2014/2015	110	0	0		55
2015/2016	0	0	0		55
2017/2018	40	0	0		15
2019/2020	0	0	0		15
2020/2021	90	0	0	75	0
2022/2023	460	0	0	460	0

Engineering Analysis:
Removing obstructive vegetation from the bankfull* channel cross-section (active channels) is important to reduce the debris load associated with higher flows. Obstructive vegetation growing in the active channel as well as limbs projecting into the active channel and downed trees can become mobilized during flood flows, raising the water surface elevation as well as plugging bridges and culverts located downstream. The bankfull discharge for this portion of Toro Creek is approximately 140 cfs. With a velocity of approximately 6 fps and a typical depth of 1.5', the width of clearing should be 16' to maintain channel equilibrium.

*As defined in "Regional Curves for Bankfull Channel Dimensions-Selected South Coast Streams", URS Corporation-March 2002.

Project Description:
The maintenance tasks proposed in this drainage are provided below. Descriptions of each type of maintenance task are provided in the Maintenance Practices Summary section.

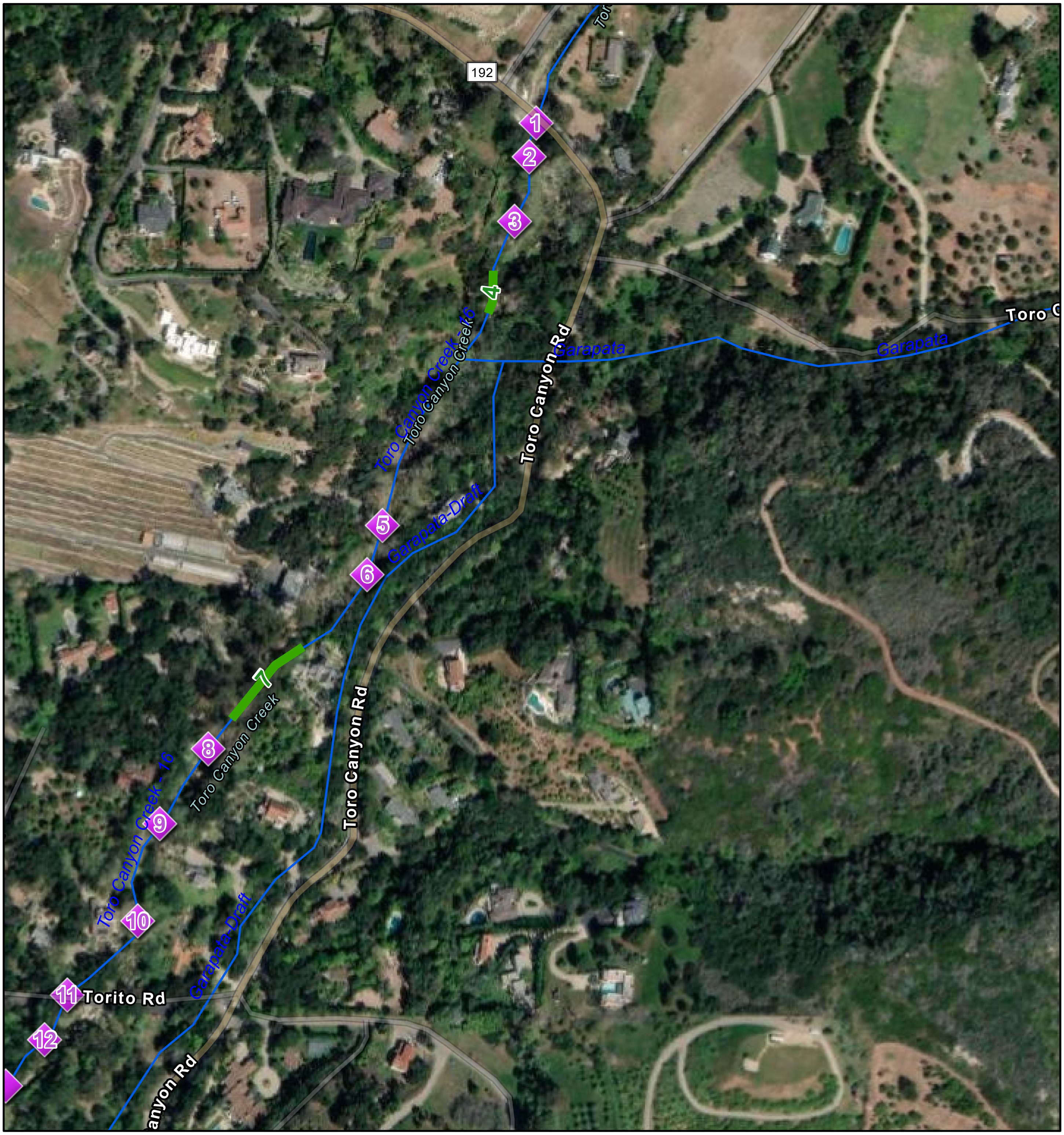
Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
Section 1		40x10		willow sycamore			60	
Section 2	x			willow	<4	12		remove castor bean
Section 3	x			cottonwood	5	10		
Section 4	x	75x6		willow sycamore			95	down oak tree
Section 5			x	sycamore				
Section 6	x			sycamore	4	15		
Section 7		225x5		willow sycamore eucalyptus pampasgrass			100	
Section 8		75x5		tree tobacco castor bean willow			15	
Section 9		100x10		castor bean willow			20	
Section 10			x	willow				
Section 11		30x5	25	willow castor bean			25	
Section 12		40x5		castor bean willow			15	
Section 13	x			oak	6	16		
Section 14		8x3		castor bean			0	
Section 15		20x4		castor bean			15	

Section	Down tree/limb	Brushing (area)	Limbing	Species	DBH (in)	Length (ft)	Impacts to be Mitigated (ft2)	Additional Info
				willow				
Section 16	x			sycamore	5	12		
Section 17		5x5		arundo			0	
Section 18		50x10		sycamore willow			35	
Section 19			x	willow mulefat				
Section 20			x	eucalyptus				
Section 21		25x5		tree tobacco willow			10	
Section 22	x			acacia	<4	15		
Section 23		25x8		tamarisk			0	
Section 24		20x5		willow sycamore			30	
Section 25		75x5		eucalyptus			0	
Section 26		50x10		willow			25	
Section 27		30x5		willow			15	
Section 28	x			sycamore	5	12		

<u>Impact Analysis and Mitigation Measures:</u>
Impacts and mitigation measures associated with this project have been identified in the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01). Impacts and Mitigation measures can be found in the appendix to the Annual Plan under the “Impacts and Mitigation Measures” tab. Some of the impacts identified in the Program EIR are considered Class I (unavoidable significant) under the worst-case scenario assumptions of the Program EIR. However, due to the limited scope of the proposed maintenance actions and the current state of the creek, the projects covered in this addendum would not be considered a worst-case scenario. Therefore the impacts associated with this addendum are considered Class II. Mitigation measures are the Adopted Standard Practices which were derived from the Preferred Alternative section of the Updated Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities (01-EIR-01).

Project Specifics:
The project will take 4 day to complete.

Toro Canyon Creek - A



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

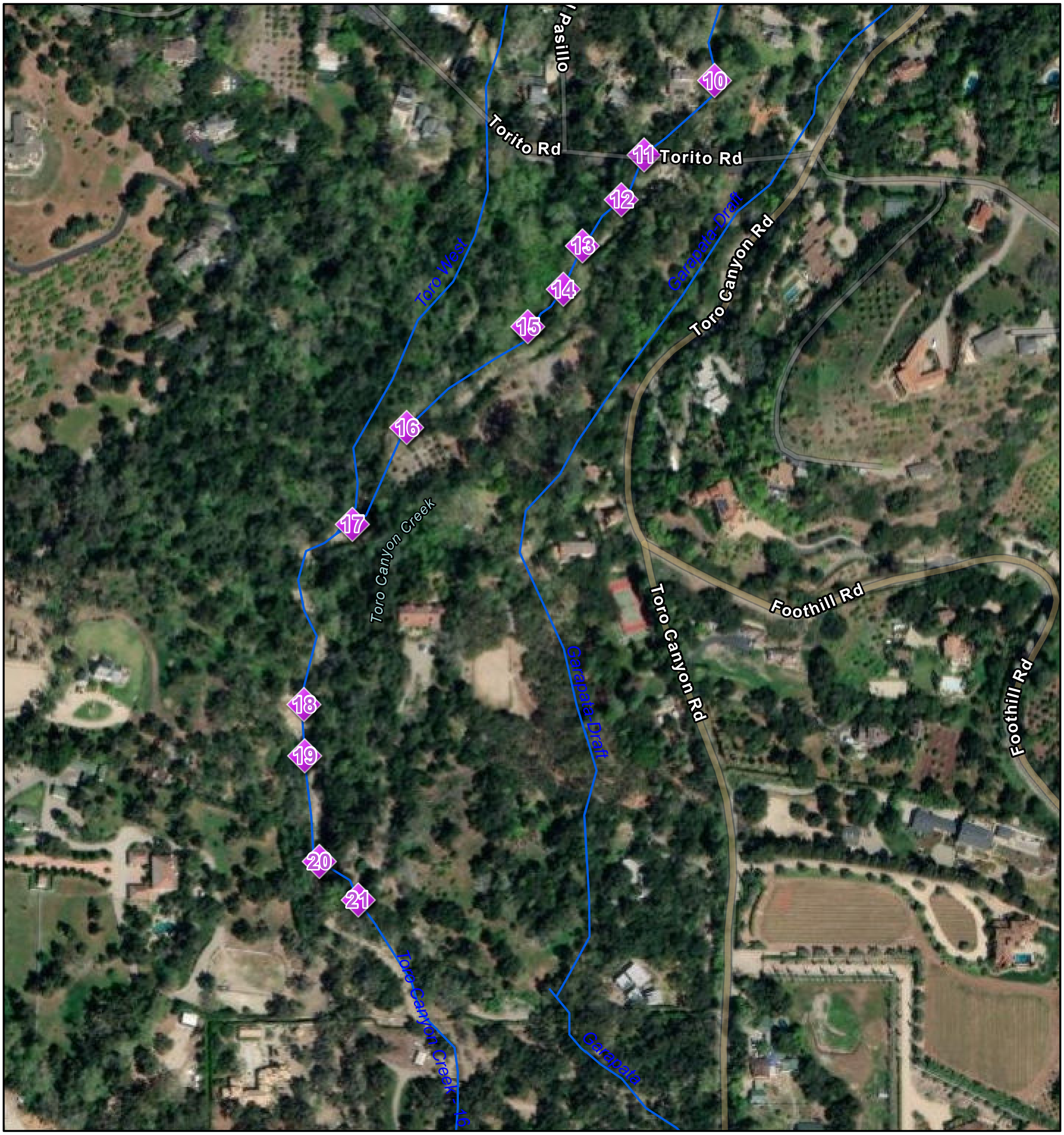
Sites_22

Lengths_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Toro Canyon Creek - B



5/19/2022

1:4,508

0 0.03 0.06 0.12 mi

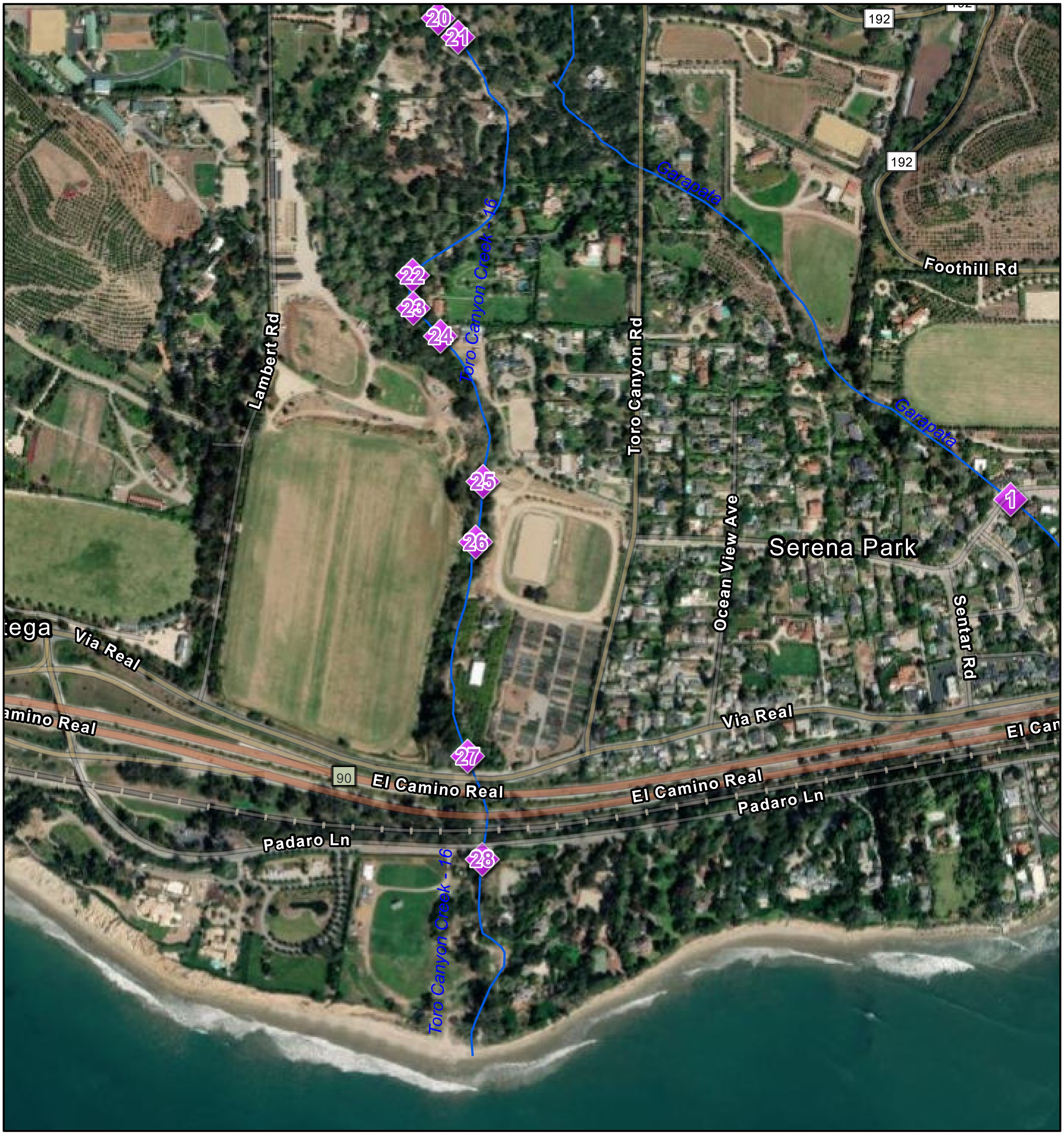
0 0.05 0.1 0.2 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Toro Canyon Creek - C



5/19/2022

1:9,015

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0 0.1 0.2 0.4 km

Sites_22

APCreeks

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Toro Canyon Creek

Section 8

Section 20

FINDINGS

1.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) FINDINGS

1.1 CONSIDERATION OF THE ADDENDA AND FULL DISCLOSURE

The Board of Directors has considered the Addenda in the 2022/2023 Annual Routine Maintenance Plan prepared for the Santa Barbara County Flood Control District, together with the previously certified Program EIR (01-EIR-01) prepared for the Santa Barbara County Flood Control's Updated Routine Maintenance Program. The Addenda reflect the independent judgment of the Board of Directors and have been completed in compliance with CEQA. The Addenda, together with the prior PEIR are adequate for this proposal. On the basis of the whole record, including the Addenda, the previously certified CEQA document, and any public comments received, the Board of Directors finds that the projects described in the 2022/2023 Annual Routine Maintenance Plan Addenda will not create any new significant effects or a substantial increase in the severity of previously identified significant effects on the environment. Therefore, since there are no substantial changes proposed in the project which will require major revisions to the Updated Routine Maintenance PEIR, no substantial changes have occurred with respect to the circumstances under which the project is undertaken, and there is no new information of substantial importance, no subsequent environmental review shall be prepared according to CEQA Guidelines Sections 15162 and 15168 (c)(2).

1.2 LOCATION OF DOCUMENTS

The documents and other materials which constitute the record of proceedings upon which this decision is based are in the custody of the Santa Barbara County Flood Control District located at 130 E. Victoria Street, Suite 200, Santa Barbara, CA 93101.

1.3 ENVIRONMENTAL REPORTING AND MONITORING PROGRAM

Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091(d) require the District to adopt a reporting and monitoring program for the project and conditions of the project adopted to mitigate or avoid significant effects on the environment. The approved project descriptions, mitigation measures, with their corresponding permit monitoring requirements, are hereby adopted as the reporting and monitoring program for these projects. The District will provide the monitoring and reporting to ensure compliance during project implementation.

REVEGETATION PLAN FOR
SANTA BARBARA COUNTY FLOOD CONTOL DISTRICT
MAINTENANCE PROGRAM

The purpose of this plan it to outline the Santa Barbara County Flood Control and Water Conservation District's (District) plan for designing, implementing, and monitoring the restoration associated with the Annual Routine Maintenance Plan. The District's maintenance practices often require mitigation in the form of restoration. As a result, the District has gained a great deal of revegetation experience over the past 10 years and has planted more than one hundred restoration sites along creek corridors throughout Santa Barbara County.

This Plan addresses seven phases of the revegetation process: 1) Identification of native plants and potential revegetation sites, 2) Use of bio-technical approaches to bank stabilization, 3) Determination of appropriate plant quantities, 4) Plant collection and propagation, 5) Revegetation of the riparian corridor, 6) Maintenance of restoration sites, and 7) Post-project monitoring.

Identification of Native Plants and Revegetation Sites

During annual creek inspections, District personnel determine maintenance needs and associated restoration opportunities on individual creeks. In general, the District implements restoration in four different situations:

1. Denuded banks
2. Areas containing large amounts of non-native invasive species such as *Arundo donax*, castor bean, mustard or poison hemlock
3. Areas with an established healthy canopy but lacking a well-developed understory, or vice versa, due to the invasion of non-natives
4. Eroded banks that have been stabilized or rebuilt

Each creek addendum included in the Annual Routine Maintenance Plan will identify appropriate restoration that mitigates the impacts of the proposed maintenance project. The identified areas will be at densities recommended in this revegetation guide.

Bio-technical Bank Protection

Bio-technical approaches to bank stabilization use woody, readily sprouting plant species which are inserted into the banks or anchored in various other ways to create structure and stabilization by providing direct protection from erosive flows and quickly developing root systems and above ground growth to further stabilize the bank.

Bio-technical bank stabilization is not appropriate in all circumstances and is most suitable for creek restoration projects where the purpose is to reduce bank erosion, establish native vegetation on the bank, and not protect expensive structures or roads. The District will evaluate the erosion problems and flow conditions at potential revegetation sites to determine whether bio-technical techniques are appropriate and if so, the combination of techniques that would be best suited for the specific site characteristics. Common types of bio-technical bank protection are briefly described below. The District has consulted directly with Ms. Ann Riley for bio-technical design as well as referring to her book, Restoring Streams in Cities. Some examples of bio-technical techniques are shown in Figures1 through 4.

1. Anchored Cuttings. This technique employs large numbers of cuttings arranged in layers or bundles, which are secured to creek banks and partially buried. They provide direct protection from erosive flows, prevent overbank erosion, promote sediment capture, and quickly develop roots.

2. Live Stakes. This is the simplest form of bio-technical slope protection in which live cuttings of willows, mulefat, or cottonwood trees are tamped into the banks to root, grow and form a thicket of new trees.

3. Live Fascines. Fascines are dormant branch cuttings of willows bound together into long cylindrical bundles that are placed in shallow trenches parallel to the bank and buried. The branches will sprout and create a mass of new woody plants.

4. Brush Mattress. A combination of live willow stakes, fascines and individual branch cuttings are interwoven and pinned to the bank with jute cord or wire held in place with stakes. The "mattress" is then covered with soil to facilitate sprouting of the willows.

5. Tree revetment. A row of downed trees are laid parallel to the base of the bank and anchored together, and to the bank with steel cable. The trees reduce flow velocities along the base of the slope, trap sediment, and provide substrate for plant establishment.

6. Coconut Fiber Roll. Cylindrical structures composed of coconut husk fibers bound together with twine woven from coconut material are placed parallel to the slope to reduce erosion and trap sediment.

7. Reed Rolls. Soil and rootballs of herbaceous plants are placed into burlap rolls and partially buried and staked along the bank.

8. Brush Layers. Cuttings of willow are placed into trenches cut into the bank so that the branches stick outward from the bank. Alternating layers of cuttings and soils are placed up the bank.

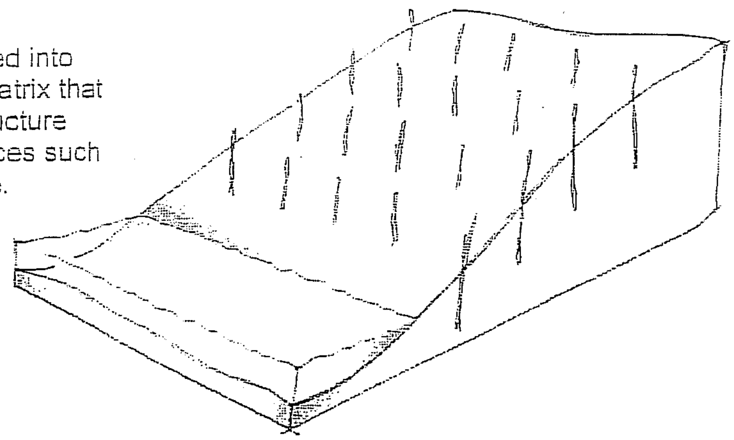
9. Geotextiles consist of plastic or biodegradable materials that hold soils in place to allow plants to become established through the mesh. There are many types of geotextiles available, designed for various flow conditions. For banks in low flow conditions geotextiles are placed across the face of a slope and cuttings or container plants are installed through the mesh. In more erosive conditions, geotextiles are placed between brush layers that are buried in trenches on the bank.

10. Joint Planting. Easily sprouting species such as willow or cottonwood are planted amongst ungrouted rip-rap or "A-jacks" at the base of eroded slopes.

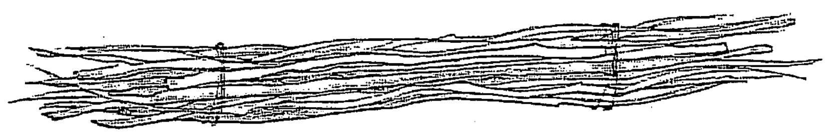
11. Live Cribwalls. Hollow box-like interlocking arrangements of timber are placed at the base of a slope and are filled with alternating layers of soil and live branch

Live Stakes

Live woody cuttings are pushed or tamped into the soil to root, grow and create a root matrix that stabilizes the soil. The above-ground structure that results reduces overland erosive forces such as raindrops or sheet flow across the site.



Willow Wattle (Fascine)



Live Fascines

Branch cuttings bound together in sausage-like bundles and placed in shallow trenches on slopes to reduce erosion and shallow sliding.

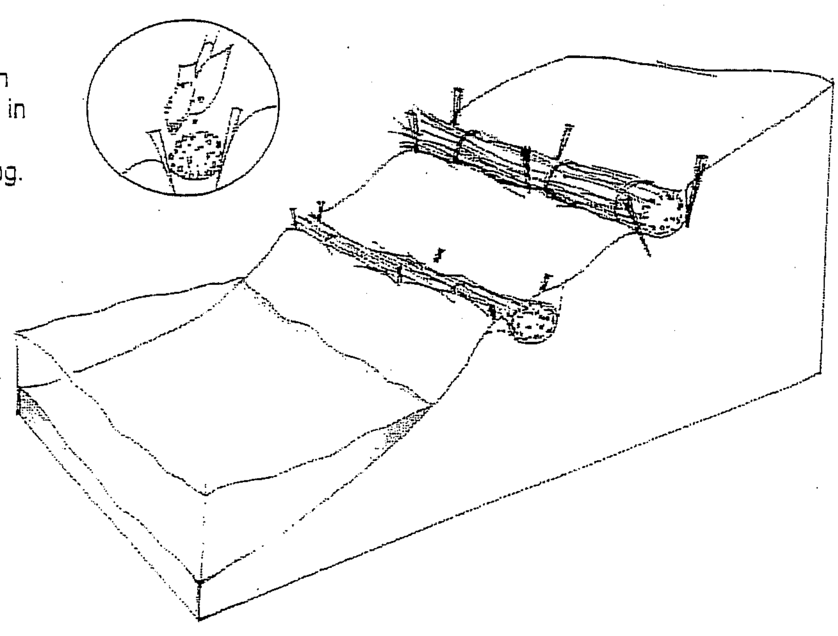
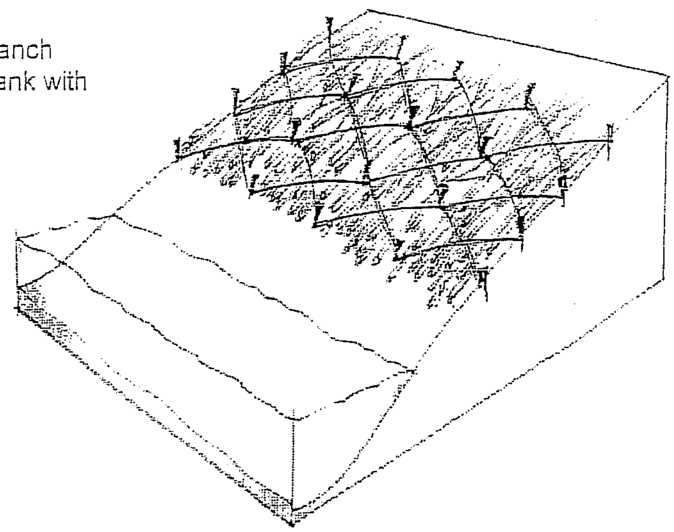


Figure 1. Examples of Bio-technical Techniques

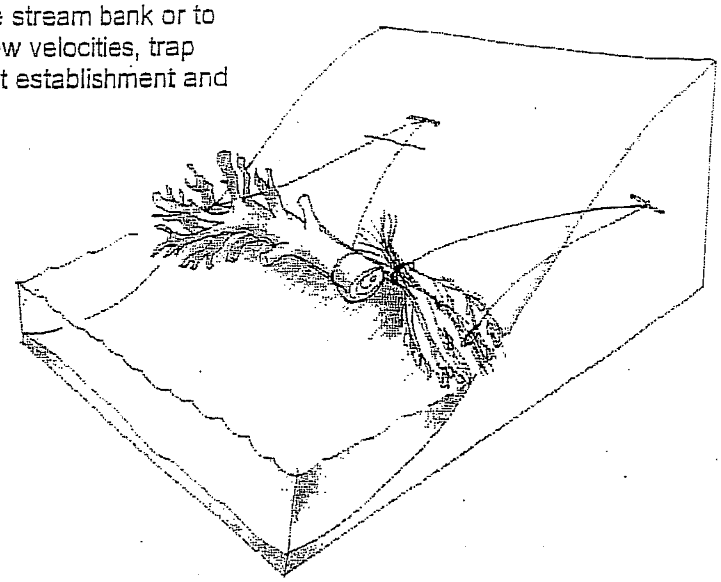
Brush Mattress

Live willow stakes, facines and individual branch cuttings are interwoven and pinned to the bank with jute cord or wire held in place with stakes.



Tree Revetment

A row of live or dead trees attached to the stream bank or to deadmen in the stream bank to reduce flow velocities, trap sediment and provide a substrate for plant establishment and erosion control.



Tree Revetment

A large root wad and stump is anchored within the stream bank to reduce flow velocities and provide structure and hiding places for aquatic species.

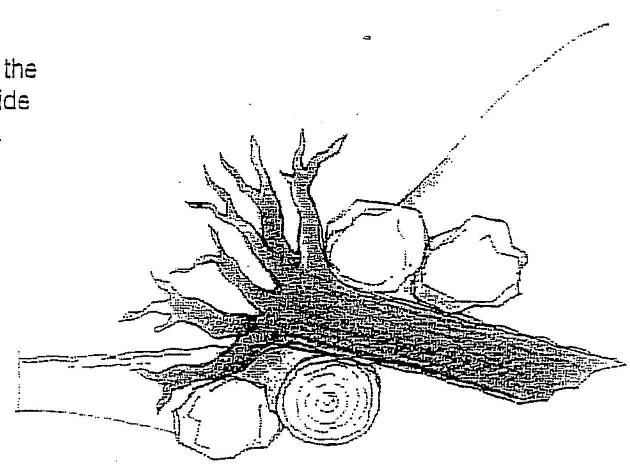
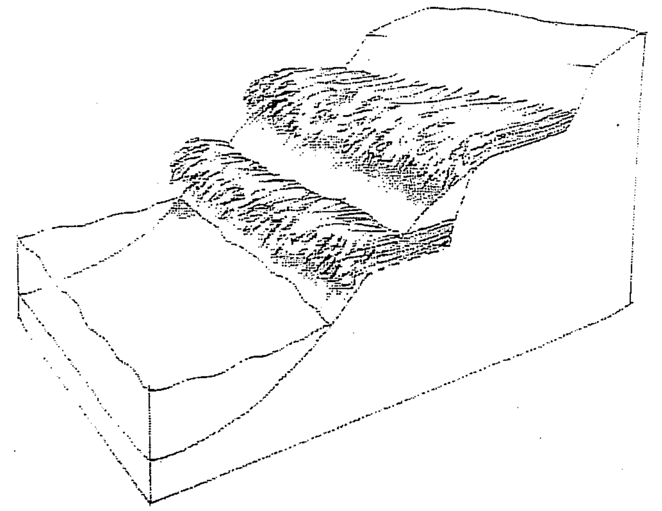


Figure 2. Examples of Bio-technical Techniques

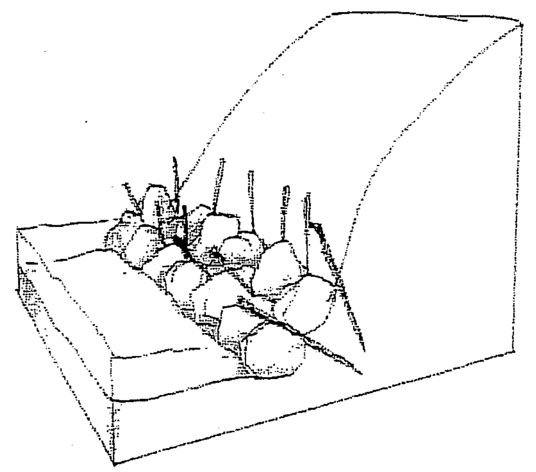
Brush Layering

Live cuttings of willow or cottonwood are placed into trenches cut into the bank so that branches stick outward from the bank. Brush layering provides live material that will root and go along with a structural component to reduce flow velocities along the bank.



Joint Planting Newly Installed

Live cuttings such as willow or cottonwood are planted among ungrouted rip-rap. Cuttings can also be placed horizontally in a trench below the rocks.



Joint Planting Three Years Later

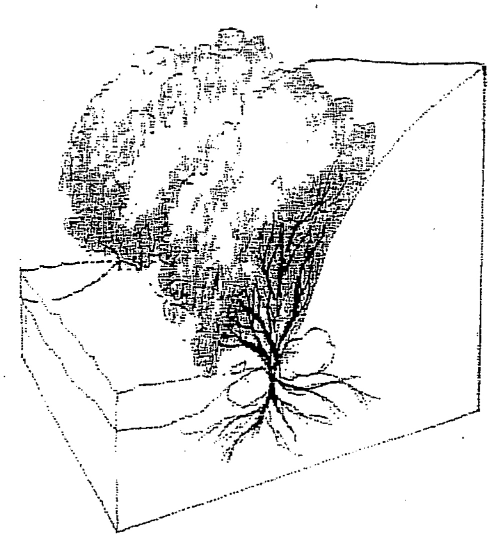
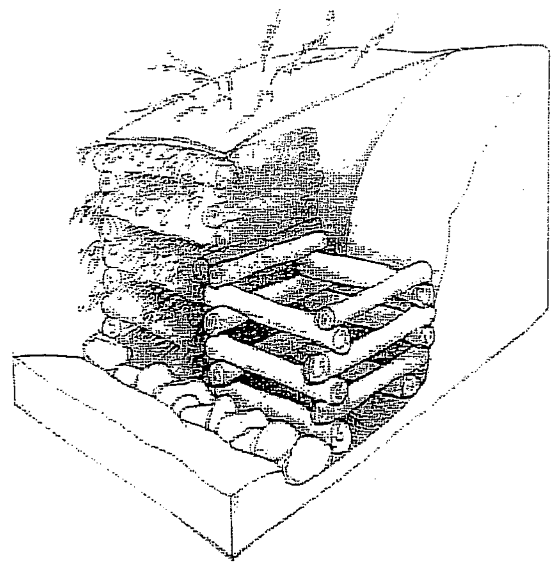


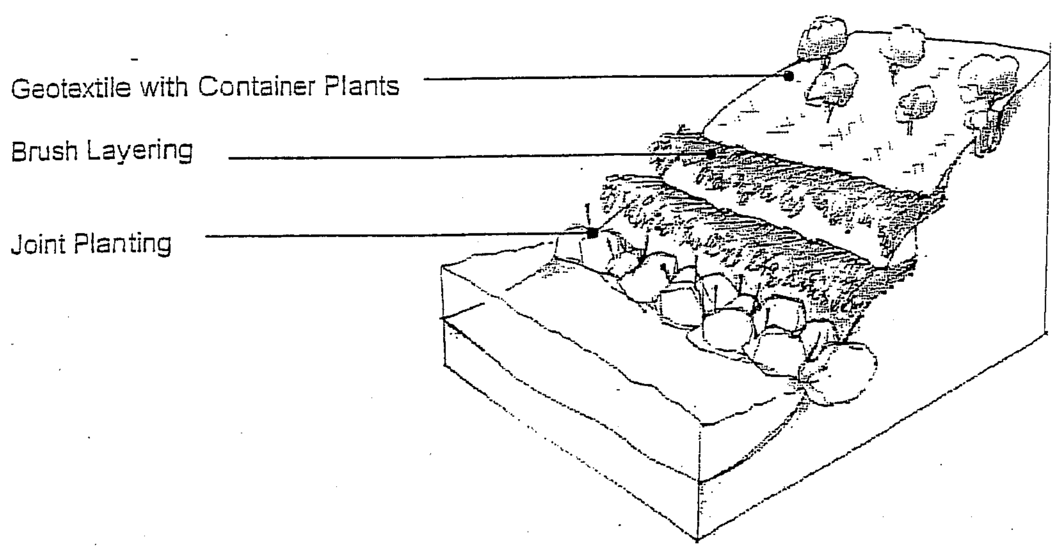
Figure 3. Examples of Bio-technical Techniques

Live Crib Wall

Hollow, box-like interlocking arrangements of logs or timber filled with alternative layers of soil material and live branch cuttings.



Combined Bio-Technical Bank Protection Techniques



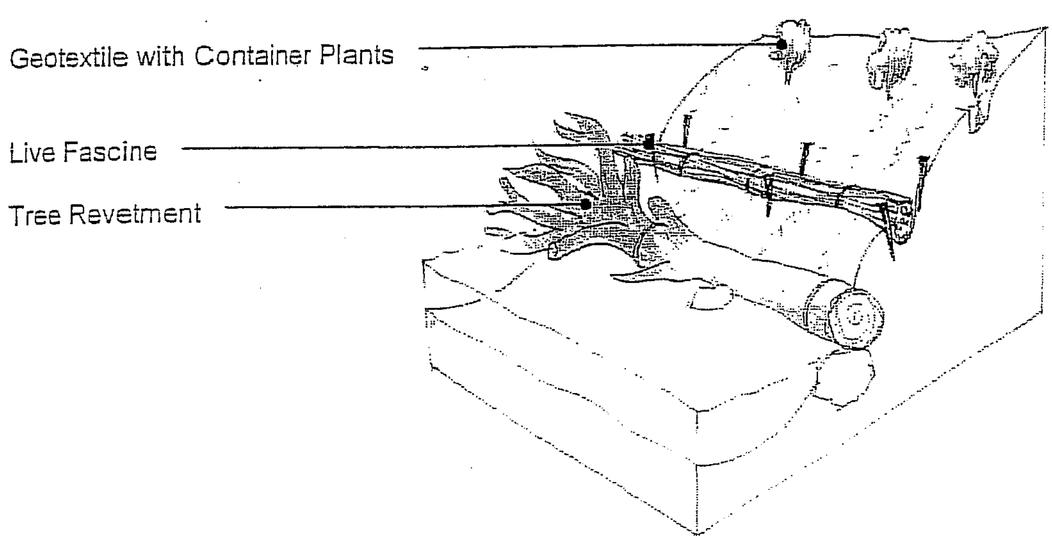


Figure 4. Examples of Bio-technical Techniques

cuttings. Live Cribwalls should be reserved for the particularly difficult projects in urban settings that require a substantial structural solution.

Determination of Appropriate Plant Quantities

After revegetation sites are identified the actual revegetation areas will be calculated. The District does not generally place understory species within three feet of the toe of the bank because even minor flows could remove these plants. Revegetation along the toe of the bank generally consists of willow or cottonwood cuttings or natural colonization.

Planting locations and densities will be determined by the District Biologist using guidance from Martha Blane, a consulting botanist, who provided planting density recommendations that the District has referred to since 1992. Most often, the District Biologist uses Ms. Blane's recommendations as a starting point for figuring plant numbers and then adjusts the numbers as appropriate for each site. It is the District's goal to increase species diversity at each of the revegetation sites as feasible depending upon site characteristics, species occurring in the watershed, and plant availability. Once a plant mix is determined, plant quantities are calculated. The District always includes the possibility of at least 30% plant mortality when calculating final plant numbers for each site. Generally, the District chooses from the following species for restoration projects, although other species are sometimes used depending upon site location:

Salix sp.	Willow
Platanus racemosa	Sycamore
Populus trichocarpa	Black cottonwood
Sambucus mexicana	Elderberry
Quercus agrifolia	Coast live oak
Umbellularia californica	California bay laurel
Baccharis salicifolia	Mulefat
Artemesia douglasiana	Mugwort
Clematis ligusticifolia	Creek Clematis
Elymus condensatus	Giant ryegrass
Hereromeles arbutifolia	Toyon
Lonicera suspicata	Santa Barbara honeysuckle
Rhamnus californica	Coffeeberry
Ribes amarum	Gooseberry
Ribes speciosum	Fushia flowered gooseberry
Rosa californica	California rose
Rubus ursinus	Blackberry

PLANTING DENSITY RECOMMENDATIONS

SPECIES	# PER ACRE	SPACING
Salix sp.	1,000	6' – 7'
Platanus racemosa	50	30'
Quercus agrifolia	50	30'
Populus sp.	70	25'
Alnus rhombifolia	70	25'
Umbellularia californica	70	25'
Sambucus mexicana	200	15'
Baccharis pilularis	200	15'
Rhus sp.	450	10'
Rosa californica	450	10'
Ribes sp.	450	10'
Heteromeles arbutifolia	450	10'
Rhamnus californica	450	10'
Lonicera subspicata	450	10'
Rubus ursinus	1740	5'
Clematis ligusticifolia	1740	5'
Artemesia douglasiana	1740	5'

Plant Collection and Propagation

When feasible, to maintain genetic integrity of the species in each creek, all material (saplings, cuttings and seeds) will be collected as close to the revegetation site as possible. Once the District identifies the creeks needing maintenance for any given year and the associated revegetation requirements, the District biologist will coordinate the plant material collecting and propagation of the species and quantities needed to fulfill the mitigation requirements for that year. Seeds will be collected year round depending upon the species. Many species of trees, shrubs and vines can also be grown from cuttings. In many cases cuttings can be collected year round and grown in a nursery setting to produce a 1-gallon size plant that is ready to be planted by the winter or early spring. The District will work with a nursery to propagate the needed plants for each given maintenance year. For the past several years, the District has used the Tree of Life Nursery, in San Juan Capistrano, to grow plants for several District projects. The District also uses local plant growers as feasible. The District most often uses 1-gallon size plants but occasionally will use 5-gallon size plants. Occasionally, the District will use willow cuttings planted directly at the revegetation site depending upon water availability and site conditions. The District has had the greatest success with container plants as opposed to cuttings planted directly at the site.

Revegetation of the Riparian Corridor

Beginning in the winter and continuing into spring, the District Biologist will coordinate the installation of the plants at the revegetation sites identified in the Annual Routine Maintenance Plan. The District hires a landscaping company with experience in native plant restoration to plant, water and maintain most ofl the revegetation sites.

The District Biologist identifies the species and plant numbers for each revegetation site (allowing for a 30% mortality) and places the color-coded flags to identify where each plant will be installed. The plants are planted at irregular intervals or appropriate groupings to simulate the appearance of a natural creek. Only as many plants that can be planted and watered in one day are delivered to the site.

Actual plantings will follow the digging of holes as rapidly as possible so that the excavated hole does not dry out. The excavated soil will be used as the backfill and will be tamped firmly to eliminate all voids and obtain contact between the root systems and native soils. Excess soil will be used to form a basin around the plant to hold either rainwater or watered delivered to the plant by a drip or hand watering system. The District will often include a slow release fertilizer tablet and some soil amendment in the planting hole at the time of plant installation, depending upon site conditions.

The District will sometimes use unrooted cuttings of easy to root natives such as Salix sp. or Populus sp. In particular, bio-technical techniques utilize cuttings in several planting methods. Standard live stakes are generally from ¾" to 1 ½ " in diameter, approximately 2 to 3 feet long and generally straight. Cuttings are prepared the day they are to be planted although a one to two day delay can be tolerated if the cuttings are kept wet. When the cuttings are prepared, the top of each cutting is cut square with a leaf bud and the base of each cutting is cut below a leaf bud at an approximate 45-degree angle. All the leaves and branches are trimmed off flush with the stem. The cuttings are either pushed into ground that is soft or into holes that have been excavated and backfilled with loose soil that is tamped firmly against the stem to eliminate any air pockets.

Maintenance of Restoration Sites

All newly planted plants are watered immediately. In most cases, the District hand-waters the revegetation sites using a water truck fitted with a hose. Occasionally, a site will be near a water source and a drip system can be installed. In yet other instances, a large site will have a drip system installed and will be watered from the water truck. In all cases, newly installed plants are watered with 5 gallons of water once a week for approximately the first year after installation, which usually takes the site into the next rainy season. If the rainy season is particularly dry or the storms are far apart, watering continues uninterrupted. The sites are evaluated the following spring and the watering schedule is adjusted to meet the plant needs. Most commonly, the sites are watered every other week for the second year. Watering amounts differ at each site depending upon the plant needs. Occasionally, instead of a bi-weekly watering scheme, the District Biologist will direct the contractor to deep water certain plants on a monthly basis to promote deep root growth. Ultimately, the goal is to have each revegetation site self-sustaining once the second rainy season is met.

In addition to watering the restoration sites, the revegetation contractor is responsible for weeding the sites. Each site is unique; however, all sites have a 3-foot diameter weed free zone maintained around each plant for at least the first year following installation. This eliminates the competition for water and sunlight. Beyond the 3-foot weed free zone, the site is allowed to have some weeds such as grasses or other low growing herbaceous species that help reduce erosion. The more noxious weeds such as castor bean, giant reed, poison hemlock, fennel, wild radish, and mustard are removed from the site repeatedly until the restoration plants are established and will not be out competed by the weeds. Noxious weeds can be selectively sprayed with Rodeo or Roundup herbicides but are most commonly removed by hand. Herbicides will be administered under the supervision of a Pest Control Advisor and the applicator will use care in avoiding natives.

Post-project Monitoring

Post-project monitoring will consist of determining water and weeding regimes, identifying areas of high mortality, and scheduling subsequent revegetation for those areas experiencing a greater than 30% mortality.

The revegetation sites will be checked at least once every three months to monitor the mortality rates and weed growth. As previously mentioned, the sites will be watered using different methods and schedules depending upon site conditions and age of the plants. The District Biologist will monitor the health and establishment of the plants and determine the ongoing watering and weeding needs at each site. Photos will be taken of each site at least once a year until they are established and do not need any further weeding, watering or replanting.

If a site experiences more than 30% mortality, additional plants will be installed during the next maintenance planting season and the watering and weeding schedule will be adjusted to accommodate the new, smaller plants.

References

Riley, Ann. 1998. Restoring Streams in Cities: a guide for planners, policymakers, and citizens.

URS Corporation. 2000. Creek Inventory and Assessment Study, City of Santa Barbara

IMPACTS AND MITIGATION MEASURES[*]

ALPHABETICAL LIST OF DEFINITIONS

A

Impacts

AQ = Air Quality

AQ-A. Equipment Emissions. Temporary emissions of reactive organic compounds (ROC), particulate matter, and NOx associated with gasoline and diesel-powered heavy-duty maintenance equipment, as well as employee vehicles and trucks transporting excavated materials to and from maintenance sites. (Class II Impact)

AQ-B. Fugitive Dust Emissions. Temporary emissions of fugitive dust (particulate matter) due to earth moving activities during maintenance, including channel shaping, desilting, bank stabilization by placing fill or grading banks, bank protection construction or repair, pilot channel construction, and access ramp construction. (Class II Impact)

Mitigation Measures

A-1 – Reduce Emissions. Implement the following Santa Barbara County APCD-approved measures for each piece of heavy-duty diesel construction equipment to minimize NO_x emissions: (1) The engine size of construction equipment shall be the minimum practical size; (2) Heavy-duty diesel-powered construction equipment manufactured after 1996 (with federally mandated clean diesel engines) should be utilized wherever feasible; (3) The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest number is operating at any one time; (4) Construction equipment operating onsite shall be equipped with two to four degree engine timing retard or precombustion chamber engines; (5) Catalytic converters shall be installed on gasoline-powered equipment, if feasible; (6) Diesel catalytic converters shall be installed, if available; and (7) Diesel powered equipment should be replaced by electrical equipment, whenever feasible.

A-2 – Reduce Fugitive Dust. Implement the following Santa Barbara County APCD-approved measures to minimize fugitive dust emissions: (1) After clearing, grading, earth moving or excavation is complete, the disturbed area must be treated with watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur; (2) During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this shall include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency shall be required whenever the wind speed exceeds 15 mph. Reclaimed water shall be

[*] Extracted from the Final Program Environmental Impact Report, Updated Routine Maintenance Program, November 2001

used whenever possible; (3) Minimize the amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less; (4) Gravel pads should be installed at all access points to prevent tracking of mud onto public roads; (5) If importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation; (6) Trucks transporting fill material to and from the site shall be tarped; and (6) Dust control requirements shall be shown on all grading plans.

B

Mitigation Measures

<u>B-1 - Compensatory Habitat Mitigation.</u> The District shall provide compensatory habitat mitigation for the removal of riparian and wetland habitat associated with brushing, herbicide spraying, channel shaping, bank stabilization by placing fill or grading banks, pilot channel construction, bank protection installation, access ramp construction, and channel desilting. The mitigation shall be required for all vegetated habitat, with the exception of areas dominated by aggressive, noxious non-native weeds (e.g., giant reed). The restoration treatment shall occur either on-site (i.e., along suitable portions of the drainage and its tributaries where the project is located) or off-site (Los Carneros Mitigation Bank) in accordance with the updated restoration plan described in the updated Program EIR, using a 1:1 acreage replacement ratio. A 2:1 ratio shall be used for impacts due to new grade stabilizers and non-vegetated bank protection, as described in the updated Program EIR. Prior to the use of the Los Carneros Mitigation Bank, the District shall consult with other organizations with expertise in habitat restoration (e.g., Wetlands Recovery Project) to determine if they have any knowledge of any on-site opportunities. Mitigation for specific affected areas shall only occur once during the next ten years of the maintenance program. That is, once habitat mitigation has been achieved for a portion of a drainage, no further mitigation is required for future maintenance of that reach or site over the next ten years regardless of the type of maintenance activity, provided the previous habitat mitigation has been successfully implemented, and the District continues to minimize habitat impacts to the extent feasible. After ten years, the habitat mitigation requirement shall begin again, regardless of previous habitat mitigation. Native trees with a diameter at breast height of 6 inches or more that are removed shall be replaced at a 10:1 ratio at the restoration site, independent of the replacement of habitat based on acreage. To the extent feasible, habitat restoration opportunities shall be sought on the tops of banks and landward of the creek that could provide a bio-filtering benefit for overland stormwater runoff. In addition, the District will seek opportunities to use regionally rare plants in the restoration plans, as feasible.

<u>B-2 – Minimize Vegetation Removal from Channel Bottom.</u> The District shall minimize vegetation removal from the channel bottom to the least amount necessary to achieve the specific maintenance objectives for the reach (i.e., removing obstructive vegetation or silt-trapping vegetation). Brushing and herbicide application for vegetation control on the channel bottom shall be conducted in a non-continuous, mosaic-like manner, to the extent feasible, allowing small patches of in-channel native vegetation to persist.

B-3 - Construction Monitoring During Maintenance Activities. The District Biologist shall monitor maintenance activities daily to ensure that the appropriate methods and limits are used. Results of the monitoring shall be documented in the annual post-maintenance report. These activities include brushing, herbicide application, channel shaping, desilting, bank stabilization by placing fill or grading banks, bank protection construction or repair, grade stabilizer construction or repair, pilot channel construction, and access ramp construction.

B-4 - Restore Temporarily Disturbed Areas. The District shall restore channel banks containing riparian or wetland vegetation that are temporarily disturbed by maintenance or construction activities associated with the following: channel shaping, placement of bank protection, ramp construction, and repair or construction of bank protection and grade stabilizers. Restoration objectives, methods, plant species, maintenance, and monitoring shall follow the guidelines in the updated restoration plan described in the Program EIR. The restoration of channel bed habitats shall only occur if it would not conflict with the maintenance needs in the affected reach.

B-5 – Pre-Construction Biological Surveys and Avoidance Measures. A District biologist shall inspect all maintenance areas in creeks and basins during the annual spring field assessments (April and May) to determine if any sensitive plants, fish, or wildlife species are present, or habitats for these species are present. If the species are present, the District shall modify maintenance activities to avoid removal or substantial disturbance of the key habitat areas or features. Avoidance and impact minimization measures shall be described in the Annual Plan for each maintenance project. If a rare plant could be affected, the District shall relocate the plant by cultivation or seeding methods to a suitable nearby site. If a sensitive fish or wildlife species will be present at a maintenance site during the work period, the District shall schedule the work to avoid the species, if possible. If avoidance is not feasible, the District shall attempt to relocate the species or population with approval from the California Department of Fish and Game, US Fish and Wildlife Service or National Marine Fisheries Service, as appropriate. This measure applies to all currently known sensitive species that occur in maintained drainages and basins, as well as species that are determined to be sensitive in the future. Endangered species experts with handling permits shall be consulted during relocation efforts to provide additional assurances that relocation is effective. Such consultation shall include assistance in field efforts, as warranted.

B-6 – Construction Monitoring for Sensitive Species. The District Biologist shall monitor, on a daily basis, earth and vegetation disturbing maintenance activities located at and adjacent to locations where sensitive species are known to occur. The need for monitoring and the areas to be monitored shall be determined during the annual field assessment in the spring. The objective of the monitoring is to ensure that key habitat features or species locations are avoided.

B-7 – Post Maintenance Channel Bed Treatment. The District shall roughen the channel bed after channel desilting maintenance to create microtopography that will encourage re-establishment of aquatic habitats over time. Pools and riffles shall be recreated in the work area if they were removed during maintenance, to the extent feasible. Modifications of the creek bed shall be consistent with geomorphological considerations identified through mitigation measure H-1.

C

Impacts

CR=Cultural Resources

CR-A. Disturb Cultural Resources. There is a remote potential for certain earth-disturbing maintenance activities to disturb buried prehistoric and historic archeological sites and isolated artifacts. This impact would occur only on undisturbed upland sites outside watercourse channels and basins due to incidental excavation grading banks for stabilization, installing or repairing bank protection, and constructing access ramps. (Class II Impact).

Mitigation Measures

C-1 - Unexpected Archeological Finds. If cultural materials are unexpectedly uncovered during maintenance activities, the District shall immediately consult with a qualified archeologist who shall inspect the material and coordinate with the District to halt or redirect earth-disturbing maintenance work until the significance of the material is determined, and the location is cleared for further work.

C–2 – Archeological Surveys. The District shall conduct an archeological field investigation in maintenance areas that may be disturbed by excavation activities associated with routine maintenance when such work occurs in upland areas outside watercourses and basins that: (1) appear to represent undisturbed ground not subject to previous excavations or significant grading; and (2) contain known significant archeological sites. The investigation shall be conducted by a qualified cultural resource specialist.

F

Impacts

FAW = Fish Aquatic Species and Wildlife

FAW-A. Displace Wildlife due to Vegetation Removal in the Channel Bottom. Removal and/or thinning of vegetation from channel bottom due to brushing, herbicide application, desilting, and channel shaping cause a temporary reduction in vigor and/or cover of successional riparian habitats and emergent wetlands. This same impact could occur due to clearing pilot channels and outlet works in debris basins, as well as removing sediments from basins. These actions could reduce foraging and loafing habitat for certain riparian and wetland dependent bird species. It can also reduce habitat heterogeneity for reptiles and small mammals, and degrade aquatic habitats by removing protective cover and increasing temperatures. While the long term functions and values of the habitat temporarily disturbed by maintenance would be replaced through the District's updated habitat restoration program, there will be a temporal impact to wildlife that cannot be fully mitigated. (Class I Impact)

FAW-B. Adverse Effects of Maintenance on Aquatic Habitat. Channel shaping, bank stabilization by placing fill or grading banks, sandbar removal, excessive removal and/or thinning of in-channel vegetation, and pilot channel construction could reduce vegetation cover, pools and gravel beds, organic input from overhanging vegetation supporting aquatic productivity, and instream cover and debris providing micro-habitat. In addition, fish and aquatic organisms could be directly displaced. These impacts are temporary and reversible. (Class I Impact)

FAW-C. Displace Wildlife for Hard Bank Protection. Placement of "hard" bank stabilization without native vegetation would permanently reduce the amount of existing and future bank riparian vegetation. This action could also adversely affect nesting and foraging habitat for riparian-dependent bird species, as well as cover for riparian amphibians, reptiles, and mammals. (Class II Impact)

FAW-D. Displace Wildlife for New Access Ramps. Construction or maintenance of access ramps could temporarily reduce the amount of riparian habitat. This action could adversely affect nesting, cover, and foraging habitat for riparian-dependent bird species, as well as cover for riparian amphibians, reptiles, and mammals. (Class II Impact)

FAW-E. Displace or Remove Sensitive Fish and Wildlife. Disturbance of channel banks and bed from heavy equipment during channel shaping, placement of bank protection, channel shaping, desilting operations, ramp construction, and repair of bank protection and grade stabilizers could remove and displace sensitive fish and wildlife species, depending upon location and time of year. This same impact could occur due to clearing pilot channels and outlet works in debris basins, as well as removing sediments from basins. Species that could be directly affected include the southern steelhead trout, arroyo chub, southwestern pond turtle, two-striped garter snake, San Diego horned lizard, California red-legged frog, silvery legless lizard, and tri-colored blackbird. Species that could be indirectly affected due to habitat modification include southwestern willow flycatcher, least Bell's vireo, yellow warbler, yellow breasted chat, purple martin, warbling vireo, Wilson's warbler, Swainson's thrush, blue grosbeak. (Class II Impact)

FAW-F. Fish and Wildlife Exposure to Herbicide The analyses presented in Section 5.2.3 indicated that the application of herbicides to control emerging vegetation on the channel bed is not expected to introduce substantial amounts of herbicide to the water in the drainage where fish, aquatic organisms, and humans could be exposed, because of reasons: (1) no herbicide is directly applied to open water; (2) overspray is minimized by precise spraying by trained field crews; (3) most spraying occurs in the fall when flows are absent in drainages; (4) glyphosate is strongly absorbed by soil particles and not easily mobilized once it has contact with soils or wet sediments; and (5) residual herbicide in soils or sediments are subject to microbial degradation. However, there is a potential, albeit very remote, that adverse herbicide concentrations may be temporarily present in aquatic areas immediately after spraying due to excessive or poor application. (Class II Impact)

FAW-G. Fish Passage Impacts from New Grade Stabilizers .New grade stabilizers may be installed to stabilize the bed of a channel that is being lowered due to headcutting. A new or reconstructed stabilizer could create a vertical drop, which may become a fish passage impediment or barrier over time, depending on the height of the vertical drop. (Class II Impact)

FAW-H. Increased Water Temperatures in Aquatic Habitats. Brushing and spraying cause the removal of vegetation in the channel bed which could increase the temperature of water present due to greater solar radiation. The higher temperatures could adversely affect the quality of aquatic habitats in the channel bottom, if present. (Class III Impact)

FAW-I. Effects of Sediments and Turbidity on Aquatic Organisms. The following activities could cause a temporary increase in sediment and turbidity levels: brushing, mowing, and spraying channel bed vegetation; channel shaping, desilting, bank stabilization by placing fill or grading banks, pilot channel construction, equipment movement on the channel bed, and pilot channel clearing in basins. The higher levels could adversely affect fish and aquatic organisms present in any aquatic habitats. (Class III Impact)

FAW-J. Impact of Accidental Releases on Aquatic Organisms. There is a very low potential for the accidental discharge of fuel, oil, and herbicides to a channel or debris basin during routine maintenance. Such spills may affect fish and aquatic organisms, if present. (Class III Impact)

Mitigation Measures

F-1 – Assist Others with Fish Passage Impediment Removal Projects. Subject to available resources, the District shall provide technical and regulatory assistance to other parties (agencies and non-governmental organizations) seeking to remove or modify fish passage impediments along reaches maintained by the District. Assistance shall include review and recommendation concerning project plans; and identifying a CEQA lead agency and assisting in the preparation of a CEQA document for the proposed project; and general assistance in acquiring access easements and permits.

H

Impacts

H = Hydrology

H-A. Preventing a Build up of Channel Resistance May Increase Velocities. Channel resistance is reduced by brushing, mowing, spraying, and discing to remove obstructive and/or silt-trapping vegetation; and by removing storm debris and obstructive sandbars. These actions can result in higher velocities, which in turn could theoretically cause minor and localized channel degradation that contributes to bank erosion in the affected reach. This impact is expected to occur very infrequently, if at all, and would only have localized hydraulic impacts. To ensure that this impact is avoided under the current program, the District would conducts an “engineering analysis” (Mitigation Measure H-1) to determine the need, nature, and extent of maintenance activities each year along maintained drainages, and give full consideration of incidental adverse hydraulic effects associated with channel maintenance. (Class II Impact)

H-B. Reduced Bank Stability due to Giant Reed Removal. The District may periodically remove giant reed plants from stream banks for habitat restoration purposes if the stands are large and appear to represent a significant threat to the local riparian vegetation. Removal of large stands could destabilize banks and result in increased local bank erosion and downstream sedimentation. Hydraulic impacts would be localized. In addition, large stands of giant reed on banks that are vulnerable to erosion are few in number. (Class II Impact)

H-C. Unintended Bank Erosion from Hard Bank Protection. Installation of hard bank protection could cause local bank erosion and channel bed degradation on the opposite banks due to increased flow velocities. This impact is expected to occur rarely, if at all, and would only have localized hydraulic impacts. (Class II Impact)

H-D. Effect of Equipment on Channel Bed. For large maintenance projects, the movement of equipment in the channel bed can disrupt any armored layer on the channel bed and loosen sediments. It may also reduce the channel topographic diversity, which imparts a certain resistance to flow, thereby increasing flow velocities and sediment transport capacity. (Class II Impact)

H-E. Impact of Removing Channel Obstructions (Excessive Desilting). Excessive desilting could result in lowering the channel bed below its previous invert elevation, which could contribute to oversteepened banks that are prone to failure. This impact is expected to occur very infrequently, if at all, and would only have localized hydraulic impacts. (Class III Impact)

H-F. Altered Channel Sinuosity and Slope. Creation of a straight pilot channel could theoretically reduce sinuosity, increase channel slope, and cause channel bed degradation. This impact is expected to occur very infrequently, if at all, and would only have localized hydraulic impacts. (Class III Impact)

H-G. New Grade Stabilizer. The District may occasionally need to stabilize the bed of a channel that is being degraded. A new grade stabilizer will prevent channel bed degradation, which in turn, leads to oversteepened banks. However, it could create a scour pool beneath the grade stabilizer and cause a need for repeated repairs. (Class III Impact)

H-H. Steep or Exposed Access Ramps. Creating an overly steep and unstabilized access ramp can cause increased local bank erosion. (Class III Impact)

H-I. Impacts of Reduced Sediments. Periodic removal of the sediments from the basins contributes to the reduction in overall sediment supply to the downstream reaches of the drainages. Reduced sediment supply can result in channel degradation over time. (Class III Impact)

Mitigation Measures

H-1 - Maintenance Need Analysis. The District shall evaluate relevant hydraulic factors when determining the need, type, and extent of channel maintenance for non-exempt watercourses where natural geomorphic processes are largely intact. Key factors that shall be included in the evaluation include: (1) hydraulic benefits of maintaining the bankful channel (if present) dimensions, natural sinuosity, and natural channel bed roughness; and (2) potential adverse hydraulic effects of excessive brushing, channel shaping, equipment activity in the channel, and bank hardening. Hydraulic principles of creating and maintaining channel stability and sediment transport equilibrium shall be applied, if applicable. The analyses and determinations relevant to this issue shall be documented in the Annual Plan. Clear maintenance objectives with attainable benefits for the protection of life, property, and habitat shall be established for each project and presented in the Annual Plan. A primary objective of this measure is to minimize maintenance activities to the extent feasible, consistent with District's program objectives.

H-2 - Extent of Desilting. The depth of channel desilting shall not cause bank undercutting or channel headcutting. The District shall make a field determination of the maximum depth of desilting based on channel capacity objectives, an evaluation of channel invert elevation and slope through the project reach, and a consideration of the maximum allowable bank length and slope that would cause bank instability. To the extent feasible, banks and bank vegetation shall not be disturbed or reconstructed during desilting to avoid destabilizing the banks.

H-3 - Post Desilting Restoration. After desilting, the District shall restore the channel geometry at the desilting site to a more natural state, as feasible, based on the channel shape, dimension, and slope upstream and downstream of the project site. The channel geometry shall be designed to enhance post-maintenance sediment transport through the desilted reach. If banks are disturbed during desilting, they should be set at a slope that matches existing undisturbed banks and stabilized, to the extent feasible and taking into account available right of way.

H-4 - Pilot Channel Construction. If it is necessary to construct a pilot channel or substantially modify an existing low flow channel, the District shall attempt to maintain the low flow channel length, width, slope, substrate, and sinuosity that are characteristic of the project reach, as determined by field observations of undisturbed low flow channels upstream and downstream of the project reach.

H-5 - Bank Protection Methods. The construction of bank protection shall be limited to situations where bank stabilization is necessary because the banks are vulnerable to continued erosion which could cause a threat to critical public infrastructure, valuable habitat, or otherwise in the public interest and it has been determined that natural slope settling would not achieve the necessary stability. The District shall evaluate different types of bank protection methods, then select one that is most suitable based on the following order of decreasing preference: (1) vegetation stabilization only; (2) bio-technical methods in which vegetation is incorporated with natural type structural components such as woody branches, natural rock, logs, natural fibers and geotextiles, and biodegradable temporary geotextiles; (3) ungrouted rip rap with vegetation; (4) pipe and wire revetment while retaining vegetation; (5) grouted rip rap; and (6) concrete sackwalls, gabion walls, soil cement, and gunite. Only native plants common to the region shall be used in all bank protection projects. Hard bank protection such as grouted and ungrouted rip-rap, pipe and wire revetment, gunite, concrete sackwalls, gabion walls, and soil cement shall only be used if the District has determined that the above methods will not achieve the desired results, are not cost effective, are logistically or technically infeasible, and/or would create greater incidental environmental impacts. Incorporation of plant material into bank protection, and maintenance and monitoring of such plantings, shall follow the guidelines in the updated Routine Maintenance Program Restoration Plan. The installation of new bank protection shall not adversely affect the stability of nearby banks. Bank protection projects that exceed 150 linear feet at any one single location would be considered a separate project, not included in the routine maintenance program.

H-6 – Removal of Giant Reed from Banks. If the District will remove a stand of mature giant reed from the bank for habitat restoration purposes, the following measures shall be implemented to ensure that the bank will remain stable after treatment. To the extent feasible, the least invasive method of giant reed removal shall be used, and the removal of native vegetation from the banks shall be minimized. The District shall stabilize the banks after giant reed removal using biotechnical methods that include native plants. This measure shall also apply if similarly large stands of other non-native plants are removed from banks.

H-7 – New or Repaired Grade Stabilizers. Prior to installing a new grade stabilizer to control channel bed degradation, the District shall conduct the hydraulic analysis described in H-1. In addition, the District shall first consider stabilizer designs that use native ungrouted rock. The new structure shall not create a passage impediment for fish. This measure also applies to the repair or reconstruction of existing stabilizers. Detailed plans for new and repaired grade stabilizers shall be presented in Annual Plans, including a consideration of alternative designs and justification for the selected design.

H-8 – Access Ramps. The distance between access ramps shall be determined by balancing the impacts of driving equipment on the channel bed versus creating extra access points. Access ramps shall be placed in areas with minimum potential for erosion. Access ways shall be sited, constructed, and maintained in a manner that minimizes disturbance to native vegetation, wildlife, and aquatic organisms. The width of all new ramps shall be minimized to the extent feasible. Unneeded access ramps shall be removed and restored to a natural condition. For ramps that will be used infrequently (e.g., every three years or more), the District shall seed or plant the ramp after each use with native species, compatible with adjacent vegetation and resistant to occasional vehicle use, to prevent infestations of noxious weeds. Permanent and frequently used ramps shall be stabilized with vegetation, as feasible, and designed to minimize unauthorized vehicle access.

H-9 - Landowner Information Regarding Bank Protection. The District shall provide information to landowners along creeks that wish to stabilize eroding banks on their property. The District shall prepare a guide for landowners that describes methods of bank protection, with an emphasis on bio-technical solutions. The booklet shall be written for an educated layperson and include clear diagrams about materials and installation methods. It shall also include discussions of hydraulic and biological impacts when considering bank protection, and permits required from local, state, and federal agencies. The District shall also make staff available to conduct site visits with property owners to provide guidance on an as-needed basis.

N

Impacts

N = Noise

N-A. Maintenance Equipment Noise. Maintenance activities that require the use of heavy equipment, such as channel shaping and desilting, could temporarily increase the ambient indoor and outdoor noise levels for noise-sensitive receptors located in close proximity to the watercourse where maintenance work is conducted. This impact would be limited to weekdays between 8 AM and 5 PM, with a limited duration of several days at any one location. Increased ambient noise levels could cause a nuisance to noise sensitive receptors, such as residences, schools, nursing homes, and day care centers. (Class II Impact)

Mitigation Measures

N-1 – Minimize Noise. Routine maintenance work shall be limited to weekdays and the hours of 7:30 AM and 4:30 PM. Equipment and haul trucks shall be equipped with functioning and properly maintained muffler systems, including intake silencers where necessary. Additional reductions in noise emissions shall be provided, as feasible, by performing noisy operations, such as chipping and loading spoils into dump trucks on the banks, as far away as practicable from sensitive receptors.

P

P = Public Health and Safety

PH-A. Excessive Herbicide Release and Exposure. Excessive application of herbicide to vegetation on the bottom of a channel or debris basin, including substantial application to the bed itself and open water, could result in increased concentrations in downstream water, which could affect the public. Excessive application of herbicide to vegetation could also adversely affect hikers using the watercourse as a trail or for recreation. This situation would arise from poor application methods or procedures, and is expected to occur rarely, if at all. (Class III Impact)

R

Impacts

R = Recreation

R-A. Potentially Adverse Herbicide Concentrations. The application of herbicides to control emerging vegetation on the channel bed is not expected to introduce substantial amounts of herbicide to the water in the drainage where fish, aquatic organisms, and humans could be exposed. However, there is a potential for localized elevated concentrations of glyphosate in drainages due to excessive application of herbicides or poor application methods that result in overspray which would degrade water quality, and affect recreational users along creeks. This impact would be localized and temporary. (Class II Impact)

R-B. Impacts of Reduced Sediment Supply to Beaches. Periodic removal of the sediments from the basins contributes to the reduction in overall sediment supply to local beaches. (Class II Impact)

R-C. Temporary Disruption of Trail and Park Use. Maintenance activities near a public trail may disrupt the use of the trail for a short period of time, and/or disrupt the use of the creek for informal recreation. (Class III Impact)

R-D. Reduced Beach Sand Supply. The periodic removal of sediments from debris basins contributes to the cumulative loss of beach sand supply. (Class III Impact)

Mitigation Measures

R–1 - Minimize Impacts to Trail and Park Users. To the extent feasible, the District shall provide temporary detours for hikers using public trails that must be closed for maintenance work. All work areas shall be marked by signs, and by flagging if necessary to protect the public from hazardous conditions. The District shall notify appropriate County and City parks departments prior to initiating maintenance work in public parks. The work area shall be visibly marked, and measures taken to prevent public entry. If feasible, work shall be restricted to off-peak park hours.

R-2 – Disposal of Sediments at Beaches. Sediments removed from debris basins or creeks on the South Coast during long-term maintenance of the basins and during routine maintenance of creeks, respectively, shall be disposed at local beaches to the extent feasible. Only suitably sized sediments shall be disposed at the beaches, as permitted by applicable regulatory agencies.

V

Impacts

V= Visual

V-A. Visual Impacts in Channels. Certain maintenance activities could reduce the visual quality of riparian corridors that are visible from both private viewpoints (e.g., private roads, backyards of private residences) and public viewpoints (e.g., public parks roads). These channel maintenance activities include channel shaping, bank protection construction or repair, bank stabilization, and desilting. An adverse visual impact would occur if such activities remove substantial amounts of riparian vegetation or very large specimen trees (such as oaks, sycamores) and/or substantially modifies the banks and bed of a watercourse such that the affected reach is clearly characterized as a man-altered landscape feature. (Class II Impact)

V-B. Visual Impacts in Basins. The grading of a pilot channel in the middle of a debris basin would reduce the amount of vegetation in the basin. The removal of vegetation and accumulated sediment from debris basins will periodically reduce the amount of riparian vegetation in the basin. These impacts would be minor because they are temporary and affect a very small area; the basin (i.e., visual setting) is a man-made feature; and public access to the basin and/or nearby public viewing locations is generally prohibited. (Class III Impact)

Mitigation Measures

V–1 - Minimize Visual Impacts in Channels. The District shall minimize brushing in the channel bottom (per Mitigation Measure B-1), minimize remove of bank vegetation (per Mitigation Measure H-2), incorporate natural channel dimensions during channel reshaping (per Mitigation Measure H-1), restore all temporarily disturbed areas with native riparian trees and shrubs (per Mitigation Measure B-4), and use biotechnical methods with riparian vegetation for bank protection and repair, as feasible (per Mitigation Measure H-4). Implementation of these measures will reduce short and long-term visual impacts.

W

Impacts

WQ = Water Quality

WQ-A. Potentially Reduce the Amount of Natural Biofiltering. Removal and/or thinning of vegetation from channel bottom due to brushing, herbicide application, desilting, and channel shaping cause a temporary reduction in vigor and/or cover of successional riparian habitats and emergent wetlands. This same impact could occur due to clearing pilot channels and outlet works in debris basins, as well as removing sediments from basins. It could potentially reduce the bio-filtration effects (if any) of emergent wetlands present along the wetted channel and debris basin bottom. As such, maintenance activities could contribute to an overall decrease in water quality. (Class I Impact)

WQ-B. Potentially Adverse Herbicide Concentrations. The application of herbicides to control emerging vegetation on the channel bed is not expected to introduce substantial amounts of herbicide to the water in the drainage where fish, aquatic organisms, and humans could be exposed because of the following reasons: (1) no herbicide is directly applied to open water; (2) overspray is minimized by precise spraying by trained field crews; (3) most spraying occurs in the fall when flows are absent in drainages; (4) glyphosate is strongly absorbed by soil particles and not easily mobilized once it has contact with soils or wet sediments; and (5) residual herbicide in soils or sediments are subject to microbial degradation. However, there is a potential for localized elevated concentrations of glyphosate in drainages due to excessive application of herbicides or poor application methods that result in overspray which would degrade water quality. While this impact would be localized and temporary, it is considered a significant, but mitigable cumulative impact because of the wide use of herbicides throughout the county. (Class II Impact)

WQ-C. Accidental Spills and Leaks. Accidental leakage or spill of fuel and/or oil from heavy equipment working within or directly adjacent to the watercourse or in a debris basin can cause discharge of pollutants to the creek, which would degrade water quality. This impact is anticipated to be highly localized because most accidental spills are limited in quantity (e.g., less than 50 gallons) and would occur in the dry season when flows are absent. Potential accidental spills of herbicides from applicators. (Class II Impact)

WQ-D. Temporary Sedimentation and Turbidity. Channel shaping, desilting, bank stabilization by placing fill or grading banks, bank protection construction or repair, pilot channel construction, access ramp construction, and excessive removal and/or thinning of in-channel vegetation could cause localized increases in suspended sediments and turbidity which could temporarily degrade water quality. This impact would also occur due to debris basin desilting and to a lesser degree, to pilot channel and outlet works clearing. (Class III Impact)

WQ-E. Increase Water Temperatures. Brushing and spraying remove of vegetation from the channel bed which could redcue shade and increase water temperatures. The magnitude of the impact is low because most of the vegetation affected under the program does not occur in standing water nor provide critical shading. The District does not remove bank vegetation, which provides most of the shade along creeks, as part of the program. (Class III Impact)

WRR = Wetland, Riparian Habitat and Rare Plants

WRR-A. Reduce Amount and Quality of Channel Bottom Habitat. Removal and/or thinning of vegetation from channel bottom due to brushing, herbicide application, desilting, and channel shaping cause a temporary reduction in vigor and/or cover of successional riparian habitats and emergent wetlands. This same impact could occur due to clearing pilot channels and outlet works in debris basins, as well as removing sediments from basins. Although the functions and values of the habitat temporarily disturbed by maintenance would be replaced through the District's habitat restoration program, there is a potentially adverse cumulative effect of annual habitat disturbances throughout the County. (Class I Impact)

WRR-B. Remove Bank Habitat. The District may place "hard" bank protection (i.e., grouted rip-rap) to stabilize a severely eroded bank. Under the updated maintenance program, the use of hard bank protection would only be allowed if no other alternatives using biotechnical methods are available or feasible. This impact would occur very rarely and typically involve a limited reach (e.g., less than 200 feet). Use of hard bank protection would permanently reduce the amount of existing and future bank riparian vegetation. (Class II Impact)

WRR-C. Access Ramp Habitat Impacts. Construction or maintenance of access ramps could temporarily reduce the amount of riparian habitat. (Class II Impact)

WRR-D. Temporary Habitat Disturbance. Disturbance of channel banks and bed from heavy equipment during channel shaping, placement of bank protection, desilting operations, ramp construction, and repair of bank protection and grade stabilizers could temporarily remove wetland, riparian and aquatic habitats in work areas. (Class II Impact)

WRR-E. Displace Sensitive Plants. Disturbance of channel banks and bed from heavy equipment during channel shaping, placement of bank protection, channel shaping, desilting operations, ramp construction, and repair of bank protection and grade stabilizers could remove regionally rare plant species This same impact could occur due to clearing pilot channels and outlet works in debris basins, as well as removing sediments from basins. This impact is expected to occur infrequently because so few sensitive plants occur in the areas maintained. (Class II Impact)

WRR-F. Facilitate Weed Colonization. Disturbance of channel banks and bed from heavy equipment during channel shaping, placement of bank protection, desilting operations, ramp construction, and repair of bank protection and grade stabilizers could facilitate colonization of disturbed areas by non-native invasive weeds. This same impact could occur due to clearing pilot channels and outlet works in debris basins, as well as removing sediments from basins. (Class III Impact)

Mitigation Measures

W-1 - Reduce Sedimentation. The District shall minimize the amount of surface disturbance and vegetation removal to the extent feasible during all maintenance activities in order to reduce the area of disturbed soils that could be eroded during winter runoff. No stockpiles or dewatering operations shall be established in the channel bed or basin bottom. All fill shall be compacted to reduce erosion. All disturbed banks and terraces above the low flow channel shall be seeded with appropriate riparian grasses and herbs and/or planted with willows, mulefat, or other woody plant species. The objectives of the seeding and/or planting are to stabilize these areas and reduce erosion. The selection of species to be used and the density of seeding or planting shall balance the need for maintaining channel capacity while meeting these objectives. If work must occur in a wetted channel that has continuous flow downstream of the work site, the District shall either temporarily divert streamflow around the work site, or provide temporary sediment containment downstream of the site. In addition, the District shall check silt fencing, diversions, and settling ponds twice a day.

W-2 – Responsible Herbicide Application. To the extent feasible, the primary herbicide application each year shall occur during the months of August through November, when stream flows are minimal. In some instances, a follow-up application will be made in the spring to reduce the frequency of maintenance.   Herbicides shall be applied by hand-held sprayers rather than from truck mounted sprayers to the extent feasible. The dilution and application of herbicides shall be conducted in strict accordance with all label recommendations, including all restrictions related to public health, worker safety, and the protection of aquatic organisms. Herbicides shall not be applied when winds at the application site exceed 5 miles per hour, within 12 hours of a forecasted rain event, or when vegetation surfaces are covered with water from recent rainfall or dew. Herbicides shall be applied carefully to plant surfaces in minimal effective amounts, minimizing drift to non-target plants and overspray onto the ground or to open water. Signs shall be placed to warn the public if herbicides are applied within 50 feet of any public recreation location, such as a trail, picnic spot, or other site of regular human activity. The signs shall remain for 48 hours after the application of the herbicide. The District shall also notify residences and businesses located adjacent to drainages to be treated with herbicides. Notification shall occur by mail within 7 days of the planned maintenance work.

W-3 - Maintain Biofiltering by Reseeding Channel Bottom Areas. To the extent feasible and consistent with the maintenance objectives, the District shall avoid removal of emergent herbaceous wetland vegetation on the channel bottom that is rooted in or adjacent to the low flow channel or a pond. This same type of vegetation shall be protected, to the extent feasible, during the removal of taller obstructive woody vegetation on the channel bottom. In addition, the District shall re-seed desilted channel areas that formerly contained emergent vegetation, provided that suitable native seeds from plants that provide biofiltration are available and that the new vegetation will not significantly affect channel conveyance or significantly increase the need for future maintenance. Seeding shall occur after the major winter runoff has occurred and stream flows have receded to prevent loss of seeds.

W-4 - Prevent Accidental Spills and Leaks. The mixing and dispensing of herbicides and equipment fueling or maintenance shall not occur within a channel or a basin. Spill containment and clean-up procedures for herbicides and vehicle fuels and oils shall be developed by the District. All field personnel shall be trained and all field vehicles shall be equipped with appropriate materials.

W-5 - Water Quality Monitoring During Herbicide Application for Large Projects. The District shall monitor concentrations of glyphosate downstream of large maintenance projects that involve herbicide application. Large projects are defined as projects that involve continuous or near-continuous herbicide application along reaches of more than 250 feet where there is flowing water along the entire reach. Water samples shall be collected from the flowing water at the following locations: Site A - above the work site, representing the ambient water quality conditions; Site B - immediately downstream of the work site; and Site C - approximately 200 feet downstream of the work site. Samples shall be collected using the following protocol: (1) Prior to herbicide application – samples at Site A, and Sites B and C if there is a storm drain outlet or similar feature within the maintenance reach that may contribute off-site flow and possible herbicides to the water samples; (2) 24 and 96 hours after herbicide application – samples at Sites A, B, and C. If glyphosate concentrations exceed 15 mg/l in the 24-hour sample or 10 mg/l in the 96-hour sample, the District shall modify the spray program at all remaining maintenance sites to be sprayed. Modification may include reducing the rate of herbicide application and/or using hand removal techniques. The District shall continue to apply herbicides only if the glyphosate concentrations are consistently below the 24 and 96-hour thresholds. If the 24 and/or 96-hour thresholds are exceeded five times during the maintenance year, regardless of location, the District shall cease application of herbicides in aquatic situations until the program can be modified to reduce concentrations to the acceptable range.

W-6 – Public Education Regarding Creek Water Quality. The District shall prepare information brochures for residents located along maintained drainages that explain: (1) how the District applies herbicides in a responsible manner, and provides guidelines on how landowners can use herbicides for residential and commercial uses in a similarly responsible manner to minimize water quality impacts to the creeks; and (2) how landowners can reduce pollution to the creek from their activities by employing best management practices for landscape fertilization; disposal of household paints, hazardous materials and petroleum products; management of trash and landscaping debris; and handling of pet wastes. The brochure shall be prepared in coordination with Project Clean Water and mailed to affected areas on a 3-year rotating basis. It shall include the Project Clean Water phone numbers for technical assistance and for reporting illegal dumping. The brochure shall also include information on how landowners can make their land available for habitat restoration under the routine maintenance program.

W-7 – Reporting Water Quality Incidents. The District shall train its maintenance crews to identify and report incidents or materials observed in the creeks during routine maintenance work that could cause significant water quality impacts, including illegal dumping of trash, pet waste, and green waste; homeless encampments; and drain outlets with evidence of poor water quality. The staff shall contact appropriate authorities in the County or affected municipalities.

W-8 - Reduce Overall Herbicide Use. The District shall make every feasible effort to reduce the overall amount of herbicides used in the maintenance program over the next ten years through more restrictive and selective applications, greater use of manual clearing, actions to reduce in channel obstructive vegetation through shading by new canopy trees, and coordination with the the County's Integrated Pest Management Strategy to identify more environmentally friendly pesticides. The IPM Strategy was adopted by the Board of Supervisors to promote the maintenance of the County's landscapes in way that protects and enhances natural resources and public health, while providing a framework for evaluating pesticide use by County Departments in pursuit of their missions.

2001 PEIR CLASS I, II AND III IMPACTS
WITH ASSOCIATED MITIGATION MEASURES
SANTA YNEZ RIVER PROJECT

Class I Impacts

No Class I Impacts are identified for the Santa Ynez River Routine Maintenance Project.

WATER QUALITY
CLASS II IMPACTS

SY-WQ-A. Equipment Leaks and Spills. Accidental leakage or spill of fuel and/or oil from the mowing equipment working within the channel can cause discharge of pollutants and degrade water quality.

Mitigation:
SY-H-1. - *Prevent Equipment Leaks and Spills.* Equipment fueling or maintenance shall not occur within the river channel. Spill containment and clean-up procedures for vehicle fuels and oils shall be developed by the District. All field personnel shall be trained and all field vehicles shall be equipped with appropriate materials.

WATER QUALITY
CLASS III IMPACTS

SY-WQ-B. Temporary Sedimentation and Turbidity. Mowing activities would generate vegetative debris that is discharged to the riverbed and susceptible to being suspended in winter runoff. This debris could cause temporary increases in suspended solids and turbidity in downstream areas. This impact is not considered significant because the effect would be temporary, similar to natural suspended material in winter flows, and the sediments produced would be very small compared to the sediments from the entire watershed.

Mitigation:
No mitigation required for a Class III (adverse but not significant) impacts.

WETLAND, RIPARIAN HABITAT AND RARE PLANTS
CLASS II IMPACTS

SY-WRR-A. Habitat Disturbance. Periodic disturbance to immature willow scrub due to mowing operations. Early to mid-successional woody vegetation dominated by willows in the channel bottom is periodically mowed, then allowed to re-sprout and develop for 3 to 5 years, depending upon runoff conditions. The amount of such habitat disturbed during each maintenance event will not exceed 16 acres.
Mitigation:

SY-B -1 – Compensatory Habitat Mitigation. The District has already initiated long-term compensatory habitat mitigation for the periodic disturbance of riparian habitats in the river channel, establishing 18 acres of various riparian habitats along the river upstream of the project site at three permanent mitigation sites, per the requirements of the California Department of Fish and Game. The creation, maintenance, and protection of these restoration sites represents full and complete mitigation for removal of up to 16 acres of riparian habitat at any time in the future as part of the project. However, subject to available resources, to further mitigate impacts of future periodic maintenance activities on riparian habitat, the District shall remove giant reed plants by the use of herbicides from the lower Santa Ynez River (Robinson Bridge to 13th Street Bridge) and prevent the colonization of this reach of the river for the life of the maintenance project. Stands of giant reed shall be removed, as needed in each reach maintained, in an on-going and proactive program to protect the lower river from this aggressive species. The District shall consider additional habitat restoration if and when future mitigation opportunities arise along the lower river through efforts by other public agencies and private entities.

SY-B-2 – Limits of Disturbance**.** Prior to clearing, District personnel shall place flagging, stakes, or other readily visible markers along the margins of the swaths to be cleared. No more than 16 acres of riparian woodland shall be mowed within the river channel. No clearing shall occur within 25 feet of the primary low-flow channel except when it is necessary to connect cleared swaths from one side of the low flow channel to the other side, or when it is necessary to clear a path across the low-flow channel for temporary equipment and crew access.

SY-B-3 – Minimize Surface Disturbance***.*** Disturbance of the riverbed shall be avoided to the extent feasible. The riverbed shall not be scraped, pushed, excavated, filled, or otherwise directly manipulated by equipment. Vegetative material cut from the riverbed shall be less than six feet in length. Cut vegetative material shall be allowed to fall in place, and shall not be collected, stockpiled, and/or disposed in a directed and purposeful manner.

SY-B-4 – Training and Monitoring. Prior to clearing, the District biologist shall conduct a training session with construction personnel to instruct them on areas to avoid and other environmental protection measures. The District biologist shall be present at all times during clearing activities to ensure that limits of work are observed. Monitoring activities shall be recorded daily.

SY-WRR-B. Disturbance to Wetlands. Mowing operations and accessing the river channel could in advertently disturb ponds and wetlands. The latter are defined as areas dominated by perennial wetland herbs such as watercress, spikerush, cattails, and bulrushes, and do not have a substantial number or density of willow trees or large mulefat plants.

Mitigation:
SY-B-5 – Avoid Ponds and Wetlands. No clearing shall occur within 25 feet of ponds and wetlands. Prior to clearing, District personnel shall place flagging, stakes, or other readily visible markers around ponds and wetlands to be avoided.

See Mitigation Measure SY-B-1- Compensatory Habitat Mitigation

SY-WRR-C. Access Ramp Habitat Impacts. Construction or maintenance of access ramps could temporarily reduce the amount of riparian habitat, which in turn could adversely affect nesting, cover, and foraging habitat for riparian-dependent bird species, as well as cover for riparian amphibians, reptiles, and mammals.

Mitigation:
SY-B-6 – Access Ramp Restoration. After each mowing event, the access ramps shall be seeded with low-growing native grasses, herbs, and shrubs common to the river banks of the project reach to restore habitat after the mowing event, but without dense woody plants that would preclude it use for the next maintenance event.

SY-WRR-D. Impacts to Rare Plants. Accessing the river channel with the crew and mower could potentially affect the regionally rare Lompoc figwort which occurs in woodland habitat along the river banks. Although this species is not known to be present at any of the existing access points, there is a remote possibility that it may be present in the future.

Mitigation:
SY-B-7 - Pre-Construction Biological Surveys. The District biologist shall conduct a biological survey no later than five (5) days prior to the clearing to confirm the limits of the work area, the flagging of environmentally sensitive areas, and to search for: (1) Lompoc figwort at access points; and (2) the western pond turtles and California red-legged frog, both of which could occur in ponds or portions of the low flow channel. The latter species would be physically captured and removed if they occur in areas where clearing or equipment access must occur. They would not be removed from ponds that are protected from clearing or from the low flow channel that is protected by a 25-foot wide buffer zone. The District biologist has the requisite permits and authorizations to handle and relocate these species from CDFG and USFWS. If the Lompoc figwort is present, the District shall modify access routes, if feasible, to avoid removal or disturbance. If the plant cannot be avoided, the District shall relocate the plant by cultivation or seeding methods to a suitable nearby site.

FISH, AQUATIC SPECIES, AND WILDLIFE
CLASS II IMPACTS

SY-FAW-A. General Impacts to Wildlife. Mowing will temporarily displace wildlife that utilize immature willow scrub, and reduce the quality of the habitat. Between mowing events, the habitat would recover and be recolonized by wildlife.

Mitigation:
SY-B-8 – Seasonal Avoidance. Clearing shall occur during the months of October 1st to December 1st, to prevent conflicts with the riparian breeding birds, and the endangered southwestern willow flycatcher and the least Bell's vireo.

See Mitigation Measures:
SY-B-2- Limits of Disturbance
SY-B-5- Avoid Ponds and Wetlands

SY-FAW-B. Displace or Disturb Sensitive Wildlife. Mowing operations and accessing the river channel could displace or disturb the California red-legged frog and the southwestern pond turtle. These species are residents in ponds and wetland areas of the river channel. Impacts to these species would be avoided. The willow flycatcher, least Bell's vireo, and various regionally rare riparian breeding birds are absent from the river during the work period. Periodic mowing of immature willow scrub would not adversely affect the quality of the habitat for these species.

Mitigation:
SY-B-9 - Monitor for Sensitive Species. The District biologist shall monitor clearing events located at or near sensitive species locations, as determined during the pre-construction survey. The objective of the monitoring is to ensure that key habitat features or species locations are avoided, and to relocate species if they are unexpectedly encountered in a work area. The District biologist shall examine ponds and channels near the work areas for the presence of pond turtles and/or red-legged frogs; and move these species if it appears that they may be indirectly affected by the clearing activities. Results of the monitoring shall be documented in a post-maintenance report.

See Mitigation Measures:
SY-B-2-Limits of Disturbance
SY-B-5- Avoid Ponds and Wetlands
SY-B-7- Pre-Construction Biological Surveys
SY-B-8-Seasonal Avoidance

SY-FAW-C. Disturbance to Migrating Steelhead. Mowing operations and accessing the river channel could displace or disturb steelhead if they are migrating through the project reach. The southern steelhead migrates upstream from December 1st through March 1st. Smolts migrate downstream to the lagoon or ocean during the period February through May. The mowing will be restricted to the period October through November, and as such, will avoid impacts to migrating steelhead.

Mitigation:
See Mitigation Measure:
SY-B-8 Seasonal Avoidance

SY-FAW-D. Equipment Leaks and Spills, as it affects aquatic organisms and sensitive species (see Water Quality)

Mitigation:
See Mitigation Measure SY-H-1-Prevent Leaks and Spills

HYDROLOGY
CLASS III IMPACTS

SY-H-A. Reduced Channel Resistance. Mowing in-channel vegetation may have a slight effect on velocities of low to moderate flows that would otherwise pass through this vegetation. The reduction in channel resistance could result in increase in velocities of certain flows, which in turn, could cause increased channel bed scour and downstream sedimentation. This hydraulic impact is expected to be negligible due to the small area removed, the low resistance of the vegetation being mowed, and the wide channel available for flows to spread.

Mitigation:
No mitigation required for a Class III (adverse but not significant) impacts.

AIR QUALITY
Class III Impacts

SY-AQ-A. Equipment Emissions. Temporary emissions of reactive organic compounds (ROC), particulate matter, and NOx associated with the mower and chain saws.

Mitigation:
SY-A-1 – Reduce Emissions. Implement the following Santa Barbara County APCD-approved measures for each piece of heavy-duty diesel construction equipment to minimize NO_x emissions: (1) The engine size of construction equipment shall be the minimum practical size; (2) Heavy-duty diesel-powered construction equipment manufactured after 1996 (with federally mandated clean diesel engines) should be utilized wherever feasible; (3) The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest number is operating at any one time; (4) Construction equipment operating onsite shall be equipped with two to four degree engine timing retard or pre-combustion chamber engines; (5) Catalytic converters shall be installed on gasoline-powered equipment, if feasible; (6) Diesel catalytic converters shall be installed, if available; and (7) Diesel powered equipment should be replaced by electrical equipment, whenever feasible.

SY-AQ-B. Fugitive Dust Emissions. Temporary emissions of fugitive dust (particulate matter) due to mower operations.

Mitigation:
No feasible measures can be employed to reduce unavoidable dust created during mowing operations and none are required for Class III (adverse but not significant) impacts.

NOISE
CLASS III IMPACTS

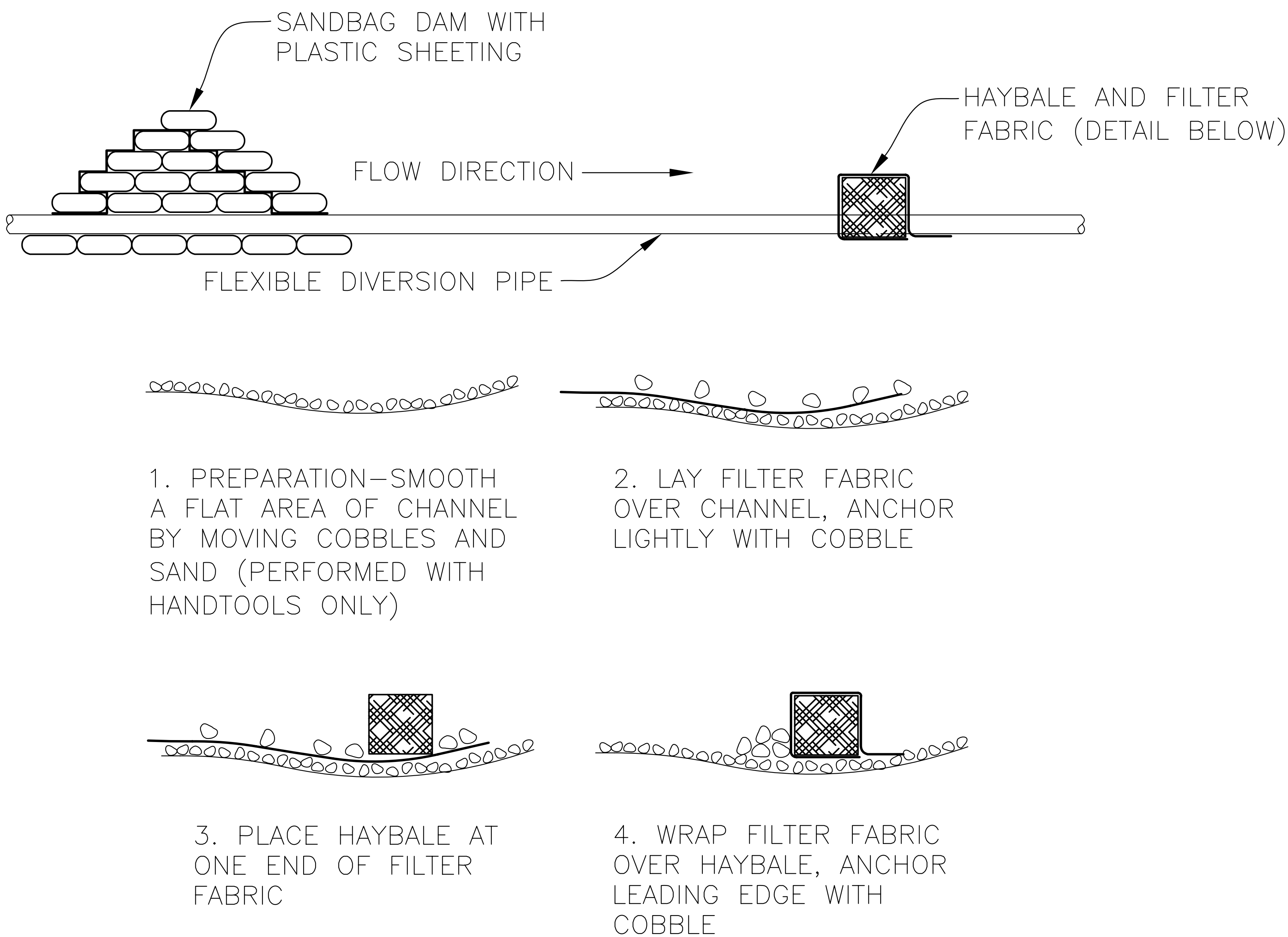
SY-N-A. Mower Noise. Mowing and chain saw operations would temporarily increase the ambient noise levels in adjacent land uses. However, there are no noise-sensitive receptors in proximity to the project site. This impact would be limited to weekdays between 7 AM and 5 PM, with a limited duration of several days at any one location.

Mitigation:
No mitigation required for Class III (adverse, but not significant) impacts.

VISUAL
CLASS III IMPACTS

SY-V-A. Visual Impacts of Mowing. Mowing would increase the open areas in the river channel, exposing open sandy floodplain. This impact would be minor because only a small proportion of the channel would be affected, dense woodland and mature trees on the banks would be avoided, and public viewing locations of the river channel are not present.

Mitigation:
No mitigation required for Class III (adverse, but not significant) impacts.



HAYBALE AND FILTER FABRIC INSTALLATION

N.T.S.

SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

TEMPORARY WATER DIVERSION

APPENDIX - Vascular Plant Lists

Annual Routine Maintenance Plan 202н/202о

ADOBE CANYON CREEK
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN
AMARANTHACEAE		
Amaranthus sp.	Amaranth	I
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Apium graveloens	Celery	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyote Bush	N
Centaurea melitensis	Tocalote	
Cirsium vulgare	Bull Thistle	I
Gnaphalium sp.	Everlasting	I
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Milk Thistle	I
Xanthium strumarium	Cocklebur	I
BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium -aquaticum	Watercress	I

CAPRIFOLIACEAE		
Lonicera sp.	Garden Honeysuckle	I
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		
Chenopodium murale	Nettle-Leaved Goosefoot	I
RUBIACEAE		
Galium trifidum	Bedstraw	I
SALICACEAE		
Populus fremontii	Fremont Cottonwood	N
Salix exigua	Narrowleaf Willow	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SAURURACEAE		
Anemopsis californica	Yerba Mansa	N
TYPHACEAE		
Typha sp.	Cattail	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N
VERBENACEAE		
Verbena lasiostachys	Verbena	N

VASCULAR PLANT LIST
ALAMO PINTADO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
AMARANTHACEAE		
Amaranthus albus	Tumbleweed	I
Amaranthus deflexus	Low Amaranth	I
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Apium graveolens	Celery	I
Conium maculatum	Poison Hemlock	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Calendula officinalis	Pot-Marigold	I
Centaurea solstitalis	Barnaby's Thistle	I
Conyza canadensis	Horseweed	I
Gnaphalium luteo-album	Weedy Everlasting	I
Gnaphalium palustre	Wooly Everlasting	N
Hapbpapus squarrosus	Sawtooth Golden bush	N
Helianthus sp.	Garden Sunflower	I
Lactuca serriola	Prickly Lettuce	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Milk Thistle	I
Solidago occidentalis	Western Goldenrod	N
Sonchus oleraceus	Sow Thistle	I
Xanthium strumarium	Cocklebur	I
BETULACEAE		
Alnus rhombifolia	White Alder	N

BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium-aquaticum	Watercress	I
CACTACEAE		
Opuntia sp.	Beavertail Cactus	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
JUGLANDACEAE		
Juglans californica	California Walnut	N
PLATANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		
Arundo donax	Giant Reed	I
Avena barbata	Slender Wild Oats	I
Bromus diandrus	Rupgut	I
Cynodon dactylon	Bermuda Grass	I
Elymus condensatus	Giant Rye	N
Lolium perenne	Italian Ryegrass	I
Oryzopsis miliacea	Rice Grass	I
Polypogon interruptus	Beard Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Polygonum capitatum	Common Knotweed	I
Polygonum lapathifolium	Willow Smartweed	N
Rumex crispus	Curly Dock	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Rosa californica	Wild Rose	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus fremontii	Fremont Cottonwood	N
Populus balsamifera	Black Cottonwood	N

Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SCROPHULARIACEAE		
Mimulus guttatus	Marsh Monkey Flower	N
Veronica americana	Speedwell	N
SOLANACEAE		
Datura meteloides	Jimson Weed	I
Nicotiana glauca	Tobacco Tree	I
TYPHACEAE		
Typha sp.	Cattail	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N
VERBENACEAE		
Verbena lasiostachys	Verbena	N
VISCACEAE		
Phorandendron villosum	Oak Mistletoe	N

* I = Introduced
N = Native

ARROYO PAREDON CREEK
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equistum telmateia	Giant Horsetail	N
ANACARDIACEAE		
Rhus integrefolia	Lemonadeberry	N
Malosma laurina	Laurel Sumac	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Ageratina adenophora	Ironweed	I
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyotebush	N
Gnaphalium palustre	Wooly Everlasting	N
Picris ecioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Sonchus asper	Sow Thistle	I
Venegasia carpesioides	Canyon Sunflower	N
BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea	I
Chenopodium murate	Nettle-Leaved -Goosefoot	I

CONVOLVULACEAE		
Calystegia macrostegia ssp. cyclostegia	Morning-Glory	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Cyperus esculentus	Yellow Nutgrass	N
Scirpus robustus	Prairie Bulrush	N
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Melilotus albus	White Sweet Clover	I
Vicia benghalensis	Vetch	I
FAGACEAE		
Quercus agrifloia	Coast Live Oak	N
GROSSULARIACEAE		
Ribes amarum	Bitter Gooseberry	N
Ribes malvaceum	Chapperal-Flowering -Gooseberry	N
Ribes speciosum	Fuchsia-Flowered -Ribes	N
HYDROPHYLLACEAE		
Phacelia ramossissima	Branching Phacelia	N
JUNCACEAE		
Juncus xiphioides	Iris-Leaved Juncus	N
LAMIACEAE		
Salvia mellifera	Black Sage	N
Salvia spatheca	Pithcher Sage	N
LAURACEAE		
Umbellularia californica	California Laurel	N
MALCACEAE		
Lavatera sp.	Lavatera	N
MYOPORUM		
Myoporum laetum	Myoporum	I

MYRTACEAE		
Eucalyptus globulus	Blue Gum	I
ONAGRACEAE		
Epilobium paniculatum	Willow-Herb	N
OXALIDACEAE		
Oxalis pes-caprae	Sour Grass	I
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
Plantago major	Common Plantain	I
PLATANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Bromus mollis	Soft Chess	I
Bromus rubens	Foxtail	I
Cortaderia atacamensis	Pampas Grass	I
Lolium perenne	Italian Ryegrass	I
POLYGONACEAE		
Polygonum lapathifolium	Willow Smartweed	N
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
RHAMNACEAE		
Ceanothus spinosus	Greenbark	N
ROSACEAE		
Cerocarpus betuloides	Mountain Mahogany	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus fremontii	Fremont Cottonwood	N

Populus balsamifera	Black cottonwood	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
Salix exigua	Sandbar Willow	N
SCHROPHULARIACEAE		
Mimulus aurantiacus	Bush Monkeyflower	N
Keckiella cordifolia	Climbing Pensteman	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	N
Solanum douglasii	Douglas Nightshade	N
Solanum xanti	Chaparral Nightshade	N
TAMARICACEAE		
Tamarix sp.	Tamarisk	I
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	I
TYPHACEAE		
Typha sp.	Cattail	N
VERBENACEAE		
Verbena lasiostchys	Verbena	N

* I = Introduced
 N = Native

VASCULAR PLANT LIST
ARROYO BURRO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Apium graveolens	Celery	I
Conium maculatum	Poison Hemlock	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARALICEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Artemisia douglasiana	Mugwort	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Conyza canadensis	Horseweed	I
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Sonchus arvensis	Prickly Sow Thistle	I
Venegasia carpesioides	Canyon Sunflower	N
Xanthium strumarium	Cocklebur	I
BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium -aquaticum	Watercress	I
CAPRIFOLIACEAE		
Lonicera sp.	Honeysuckle	I
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		

Chenopodium ambrosioides	Mexican Tea	I
Chenopodium macrospermum var. farinosum	Coast Goosefoot	I
Chenopodium murale	Nettle-Leaved -Goosefoot	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Cyperus eragrostis	Umbrella Sedge	I
Scirpus micrcarpus	Small-Fruited Bulrush	N
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
JUGLANDACEAE		
Juglans sp.	Walnut	I
LAMIACEAE		
Marrubim vulgare	Horehound	I
Mentha citrata	Bargamont Mint	I
MYRTACEAE		
Euclayptus globulus	Blue Gum	I
ONAGRACEAE		
Epilobium adenocaulon	Willow-Herb	N
OXALIDACEAE		
Oxails pes-caprae	Sour Grass	I
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
Plantago major	Common Plantain	I
PLATANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		
Arundo donax	Giant Reed	I
Bromus diandrus	Ripgut Grass	I
Cortaderia atacamensis	Pampas Grass	I
Oryzopsis miliacea	Rice Grass	I
Polypogon interruptus	Beard Grass	I

POLYGONACEAE		
Polygonum lapathifolium	Willow Smartweed	I
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
PRIMULACEAE		
Anagallis arvenisis	Scarlet Pimpernel	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Rubus urnsinus	California Blackberry	N
SALICACEAE		
Populus fremonti	Fremont Cottonwood	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SCOPHULARIACEAE		
Mimulus cardinalis	Scarlet Monkey	N
Scrophularia californica	California Figwort	N
SOLANCEAE		
Nicotiana glauca	Tobacco Tree	I
Solanum douglasii	Douglas Nightshade	N
TROPAELACEAE		
Tropaeolum majus	Garden Nastutium	I
TYPHACEAE		
Typha sp.	Cattail	N
VALERIANACEAE		
Centranthus rubber	Red Valerian	I
VERBENACEAE		
Verbena lasiostachys	Verbena	N

* I - Introduced
N – Native

VASCULAR PLANT LIST
BRADLEY CANYON CHANNEL

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
ASTERACEAE		
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Carduus phonozephalus	Italian Thistle	I
Gnaphalium luteo-album	Weedy Everlasting	I
Lactuea serriola	Prickly lettuce	I
Picris echioides	Ox Tongue	I
Silybum marianum	Milk Thistle	I
Taraxcum officinale	Common Dandelion	I
Xanibum strumarium	Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium	Watercress	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea	I
Chenopodium berlandieri	Lamb's Quarters	I
Chenopodium murale	Nettle-Leaved -Goosefoot	I
CYPERACEAE		
Cyperus esculentus	Yellow Nutgrass	I
Scirpus californicus	California Bulrush	N
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I

FABACEAE		
Melilotus albus	White Sweet Clover	I
Trifolium sp.	Clover	I
LAMIACEAE		
Marrubium vulgare	Horebound	I
PLANTAGINACEAE		
Plantago major	Common Plantain	I
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Bromus rubens	Foxtail	I
Lolium perenne	Italian Rye	I
Oryzopsis miliacea	Rice Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Polygonum arenastrum	Italian Ryegrass	I
Polygonum lapathifolium	Willow Smartweed	N
Rumex crispus	Curly Dock	I
SALICACEAE		
Populus balsamifera	Black Cottonwood	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SOLANACEAE		
Nicotiana glauca	Tree Tobacco	I
TYPHACEAE		
Typha sp.	Cattail	N

* I - Introduced
N - Native

CANADA DE LA PILA CREEK
VASCULAR PLANT LIST

SCIENTIFIC NAME	***COMMON NAME***	***ORIGIN****
ANACARDIACEAE		
Malosma laurina	Laurel Sumac	N
Toxicodendron diversilobumPoison	Oak	N
ASTERACEAE		
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyote Bush	N
Carduus pycnocephalus	Italian Thistle	I
Gnaphalium luteo-album	Weedy Everlasting	
Picris echioides	Ox Tongue	I
Silybum marianum	Milk Thistle	I
Sonchus arvensis	Prickly sow Thistle	I
Taraxcum officinale	Common Dandelion	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea	I
Chenopodium belandieri	Lamb's Quarters	
CYPERACEAE		
Cyperus alternifolium	Umbrella Plant	I
Scirpus californicus	California Bulrush	N
EUPHORBIACEAE		
Eremocarpus setigerus	Turkey Mullein	N
Ricinus communis	Castor Bean	I
FABACEAE		
Melilotus albus	White sweet Clover I	
Vicia benghalensis	Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N

SCIENTIFIC NAME (cont'd)	***COMMON NAME*** (cont'd)	***ORIGIN*** (cont'd)
LAMIACEAE		
Marrubium vulgare	Horehound	I
Mentha spicata	Spearment	I
ONAGRACEAE		
Epilobium ciliatum	Willow-Herb	N
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Elymus condensatus	Giant Rye	I
Piptatherum miliacea	Rice Grass	I
Pennisetum clandestinum	Kikuyu Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Rumex crispus	Curly Dock	I
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
ROSACEAE		
Rubus ursinus	California Blackberry	N
SALICACEAE		
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SOLANACEAE		
Solanum douglasii	Douglas Nightshade	N
TYPHACEAE		
Typha sp.	Cattail	N
VERBENACEAE		
Verbena lasiostachys	Verbena	N

* I = Introduced
N = Native

CAT CANYON CREEK
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
AMACARDOACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium Maculatum	Poison Hemlock	I
ASTERACEAE		
Ambrosia Psilostachya	Western Ragweed	I
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyote Bush	N
Carpobrotus edulis	Iceplant	I
Ciriusum vulgare	Bull Thistle	I
Heterotheca grandiflora	Telegraph Weed	N
Isocoma venetus ssp. verniodes	Coast Goldenbrush	N
Lactuca serriola	Prickly Lettuce	I
Picris echioides	Ox Tongue	I
Silybum marianum	Milk thistle	I
Sisymbrium irio	London Rocket	I
Xanthium strumarium	Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CHENOPDIACEAE		
Chenopodium murale	Nettle-Leaved Goosefoot	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
EUPHORBIACEAE		
Euphoria peplus	Petty Surge	I
FABACEAE		
Melilotus indicus	Yellow Sweet Clover	I

MALVACEAE		
Malva parviflora	Cheeseweed	I
PLANTAGINACEAE		
Plantago major	Common Plantain	I
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Cynodon dactylon	Bermuda Grass	I
Lolium perenne	Italian Ryegrass	I
Piptatherum miliaceum	Rice grass	I
Polypogon monspeliensis	Rabbitfoot Grass	I
POLYGONACEAE		
Polygonum arenastrum	Common Knotweed	I
Rumex crispus	Curly Dock	I
PRUMULACEAE		
Angallis arvensis	Scarlet Pimpernel	I
ROSACEAE		
Rubus ursinus	Calif. Blackberry	N
SALICACEAE		
Salix exigua	Narrowleaf Willow	N
Salix lasiolepis	Arroyo Willow	N
TROPAEOLACEAE		
Tropaelum majus	Garden Nasturtium	I
URTICACEAE		
Urtica holosericea	Giant Nettle	N

* I = Introduced
  N = Native

CEBADA CANYON CHANNEL
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
ASTERACEAE		
Artemisia california	Calif. Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Gnaphalium californicum	Pearly Everlasting	N
Lactuca serriola	Prickly Lettuce	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
MALVACEAE		
Malva parviflora	Cheeseweed	I
POACEAE		
Avena fatua	Wild Oaks	I
Bromus diandrus	Ripgut Grass	I
Oryzopsis sp.	Rice grass	I
Polypogon monspeliensis	Rabbitfoot Grass	I
PRUMULACEAE		
Angallis arvensis	Scarlet Pimpernel	I
ROSACEAE		
Rubus ursinus	Calif. Blackberry	N

SALICACEAE		
Salix lasiolepis	Arroyo Willow	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N

* I = Introduced
N = Native

VASCULAR PLANT LIST
CIENEGUITAS CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
AMARANTHACEAE		
Amaranthus deflexus	Low Amaranth	I
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Apium graveolens	Celery	I
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARACEAE		
Zantedeschia aethiopica	Calla-Lily	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Ambrosia psilostachya	Western Ragweed	N
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Carduus pycnocephalus	Italian Thistle	I
Conyza bonariensis	Flax-Leaved Fleabane	I
Conyza canadensis	Horseweed	I
Cotula coronopifolia	Brass Buttons	I
Gnaphalium luteo-album	Weed Everlasting	I
Lactuca serriola	Prickly Lettuce	I
Malacothrix saxtitilis var. tenuifolia	Cliff Aster	N
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Milk Thistle	I
ASTERACEAE		

Sonchus arvensis	Prickly Sow Thistle	I
Sobchus oleraceaus	Sow Thistle	I
Xanthium strumarium	Cocklebur	I
BRASSICACEA		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium -aquaticum	Watercress	I
CACTACEAE		
Opuntia sp.	Beavertail Cactus	N
CAPRIFOLIACEAE		
Lonicera japonica	Garden Honeysuckle	I
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		
Artiplex hastata	Hastate-Leaved Saltbush	I
Artiplex semibaccata	Australian Saltbush	I
Chenopodium ambrosioides	Mexican Tea	I
Chenopodium murale	Nettle-Leaved Goosefoot	I
Salsola iberica	Russian Thistle	I
CONVOLVULACEAE		
Convolvulus althaeoides	Garden Morning Glory	I
Convolvulus arvensis	Bindweed	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Scirpus californicus	California Bulrush	N
EUPHORBIACEAE		
Eremocarpus setigerus	Turkey Mullein	N
Ricinus communis	Castor Bean	I
FABACEAE		
Acacia decurrens	Green Wattle	I
Lathyrus latifolius	Common Sweetpea	I
Melilotus alba	White Sweet Clover	I
Melilotus indicus	Yellow Sweet Clover	I
Vicia sativa	Spring Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N

OLEACEAE		
Fraxinus dipetala	Flowering ash	N
GERANEACEAE		
Erodium botrys	Broad-Leaf Filaree	I
JUGLANDACEAE		
Juglans regia	English Walnut	I
JUNCACEAE		
Juncus effusus var. brunneus	Common Rush	N
LAMIACEAE		
Marrubium vulgare	Horehound	
Mentha spicata	Spearmint	I
Stachys bullata	Wood Mint	N
MALVACEAE		
Malva parviflora	Cheeseweed	I
MORACEAE		
Ficus carica	Cultivated Fig	I
MYRTACEAE		
Eucalyptus globulus	Blue Gum	I
OXALIDACEAE		
Oxalis pes-caprae	Sour Grass	I
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
Plantago major	Common Plaintain	I
PLATANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		
Agrostis stolonifera	Redtop	I
Avena fatua	Wild Oats	I
Avena barbata	Slender Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Bromus mollis	Soft Chess	I
Cortaderia atacamensis	Pampas Grass	I
Cynodon dactylon	Bermuda Grass	I
Hordeum glaucum	Glaucus Barley	I
POACEAE		

Koeleria macrantha	June Grass	I
Lolium perenne	Italian Ryegrass	I
Oryzopsis miliacea	Rice Grass	I
Paspalum dilitatum	Dallas Grass	I
Paspalum distichum	Knotgrass	I
Pennisetum clandetinum	Kikuyu Grass	I
Pennisetum setaceum	Fountain Grass	I
Phalaris stenoptera	Harding Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Polygonum arenastrum	Common Knotweed	I
Polygonum lapathifolium	Willow Smartweed	N
Polygonum punctatum	Dotted Smartweed	N
Rumex crispus	Curly Dock	I
PORTULACACEAE		
Portulaca oleracea	Purslane	N
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
ROSACEAE		
Heteromeles arbutifloia	Toyon	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus balsamifera	Black Cottonwood	N
Salix lasiolepis	Arroyo Willow	N
SOLANACEAE		
Nicotiana glauca	Tobacco tree	I
Solanum douglasii	Douglas Nightshade	N
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	I
TYPHACEAE		
Typha domingensis	Cattail	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N

* I = Introduced
N = Native

DAVIS CREEK
VASCULAR PLANT LIST

Scientific Name	Origin	Common Name
Populus trichocarpa	Native	Black cottonwood
Salix laevigata	Native	Red willow
Salix lasiolepis	Native	Arroyo willow
Baccharis salicifolia	Native	Mule fat
Frangula californica ssp. *californica*	Native	Coffeeberry
Lonicera involucrata	Native	Twin berry
Rubus ursinus	Native	California blackberry
Toxicodendron diversilobum	Native	Poison oak
Anagallis arvensis	Introduced	Scarlet pimpernel
Apium graveolens	Native	Celery
Artemisia douglasiana	Native	Mugwort
Bowlesia incana	Native	Bowlesia
Cardamine oligosperma	Native	Bitter-cress
Cerastium glomeratum	Introduced	Mouse-eared chickweed
Claytonia perfoliata	Native	Miner’s lettuce
Conium maculatum	Introduced	Poison hemlock
Crassula connata	Native	Pygmyweed
Melilotus officinalis	Introduced	Yellow sweet clover
Nasturtium officinale	Native	Common watercress
Phacelia ramosissima	Native	Branching phacelia
Stellaria media	Introduced	Chickweed
Urtica dioica	Native	Stinging nettle
Veronica anagallis-aquatica	Native	Water speedwell
Elymus glaucus	Native	Blue wildrye
Juncus effusus	Native	Bog rush
Juncus phaeocephalus	Native	Brown headed rush
Polypogon monspeliensis	Introduced	Annual beard grass
Schoenoplectus californicus	Native	California tule
Sparganium eurycarpum	Native	Bur-reed
Typha domingensis	Native	Narrowleaf cattail

FOXENWOOD 3 BASIN
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN
AMARANTHACEAE		
Amaranthus albus	Tumbleweed	I
APIACEAE		
Conium maculatum	Poison Hemlock	I
ASTERACEAE		
Ambrosia psilostachya	Western Ragweed	I
Baccharis salicifolia	Mulefat	N
Cotula coronopifolia	Brass Buttons	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Sisymbrium irio	London Rocket	I
CYPERACEAE		
Heleocharis sp	Spike Rush	N
Scirpus californicus	California Bulrush	N
EUPHORBIACEAE		
Eremocarpus setigerus	Turkey Mullein	N
FABACEAE		
Metilotus albus	White Sweet Clover	I
LAMIACEAE		
Marrubium vulgare	Horehound	I
MYRTACEAE		
Eucalyptus sp.	Eucalyptus	I
ONAGRACEAE		
Epilobium paniculatum	Willow-Herb	N
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Piptatherum miliaceum	Rice Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		

Polygonum lapathiflium	Willow Smartweed	N
Rumex crispus	Curly Dock	I
SALICACEAE		
Salix lasiolepis	Arroyo Willow	N

*I = Introduced
N = Native

VASCULAR PLANT LIST
GREEN CANYON DRAINAGES

SCIENTIFIC	COMMON NAME	ORIGIN*
APIACEAE		
Conium maculatum	Poison Hemlock	I
ASTERACEAE		
Ambrosia psilostachya	Western Ragweed	I
Conyza bonariensis	Horseweed	I
Heterotheca grandiflora	Telegraph Weed	N
Sencio vulgaris	Common Groundsel	I
Sonchus asper	Sow Thistle	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturium -aquaticum	Watercress	N
FABACEAE		
Melilotus indicus	Yellow Sweet Clover	I
MALVACEAE		
Malva parviflora	Cheeseweed	I
MYRTACEAE		
Eucalyptus sp.	Eucalyptus	I
ONAGRACEAE		
Epilobium adenocaulation	Willow-Herb	N
POACEAE		
Avena fatua	Wild Oat	I
Bromus mollis	Soft Chess	I
Bromus rubens	Foxtail	I
Cortaderia acacamensis	Pampas Grass	I
Lolium perenne	Italian Rye	I
Oryzopsis sp.	Rice grass	I
POLYGONACEAE		
Polygonum lapathifolium	Willow Smartweed	N
Rumex crispus	Curly Dock	I
SALICACEAE		

Salix lasiolepis	Arroyo Willow	N
TYPHACEAE		
Typha sp.	Cattail	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N

* I = Introduced
N = Native

VASCULAR PLANT LIST
LAS VEGAS CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
APIACEAE		
Foeniculum vulgare	Sweet Fennel	I
ASTERACEAE		
Baccharis glutinosa	Mulefat	N
Baccharis pilularis ssp. Consanguinea	Coyote Bush	N
Picris echioides	Ox Tongue	I
Xanthium strumarium	Cocklebur	I
BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Raphanus sativus	Wild Radish	I
EUPHORIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Vicia benghalensis	Vetch	I
JUGLANDACEAE		
Juglans regia	English Walnut	I
PLANTAGINACEAE		
Plantago major	Common plantain	I
PLANTANACEAE		
Plantanus racemosa	Western Sycamore	N
POLYGONACEAE		
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
ROSACEAE		
Rubis ursinus	Blackberry	N
SALICACEAE		
Populus trichocarpa	Black Cottonwood	N
Salix laevigata	Red Willow	N

Salix lasiolepis	Arroyo Willow	N
Salix hindisan	Sandbar Willow	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I
TROPAEOLACEAE		
Teopaeolum majus	Garden Nasturtium	I

* I = Introduced
N = Native

LAS POSITAS CREEK
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ASTERACEAE		
Artemisia doulgasiana	Mugwort	N
Baccharis glutinosa	Mulefat	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Senecio mikanioides	German Ivy	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
FABACEAE		
Vicia benghalensis	Vetch	N
FAGACEAE		
Qurcus agriolia	Coast Live Oak	N
JUGLANDACEAE		
Juglans regia	English Walnut	I
MYRTACEAE		
Eucalyptus globulus	Blue Gum	I

SCIENTIFIC NAME	***COMMON NAME***	***ORIGIN***
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
Plantago major	Common Plantain	I
POACEAE		
Arundo donax	Giant Reed	I
Cortaderia atacamensis	Pampas Grass	I
POLYGONACEAE		
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Rosa californica	Wild Rose	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SOLANABEAE		
Nicotiana glauca	Tobacco Tree	I
Solanum douglasii	Douglas Nightshade	N
TYPHACEAE		
Typha sp.	Cattail	N

*N = NATIVE
I= INTRODUCED

VASCULAR PLANT LIST
MARIA YGNACIO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
APIACEAE		
Apium graveolens	Celery	I
Foeniculum vulgare	Sweet Fennel	I
ASTERACEAE		
Artemisia douglasiana	Mugwort	N
Xanthium strumarium	Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium-aquaticum	Watercress	I
CONVOVULACEAE		
Calystegia macrostegia ssp. cyclostegia	Morning Glory	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Scirpus californicus	California Bulrush	N
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Melilotus albus	White Sweet Clover	I
Vicia benghalensis	Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
HYDROPHYLLACEAE		
Phacelia ramossissima	Branching Phacelia	N
ONAGRACEAE		
Clarkia deflexa	Clarkia	N

Oenothera hookeri	Primrose	N
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
PLATANACEAE		
Plantanus racemosa	Western Sycamore	N
POACEAE		
Arundo donax	Giant Reed	I
Cortaderia atacamensis	Pampas Grass	I
POLYGONACEAE		
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
SALICACEAE		
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I
Solanum douglasii	Douglas Nightshade	N
VERBENACEAE		
Verbena lasiotachys	Verbena	N

* N = Native
I = Introduced

MIGUELITO CHANNEL OUTLET
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Apium graveolens	Celery	I
Conium maculatum	Poison Hemlock	I
Foenicumum vulgare	Sweet Fennel	I
ASTERACEAE		
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pillaris	Coyote Bush	N
Cirisium vulgare	Bull Thistle	I
Lactuca serriola	Prickly Lettuce	I
Picris ecioides	Ox Tongue	I
Silybum marianum	Milk Thistle	I
Sonchus arvensis	Prickly Sow Thistle	I
Xanthium strmarium	Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
CARIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CYPERACEAE		
Scirpus californicus	California Bulrush	N
FABACEAE		
Metilotus albus	White Sweet Clover	I
Metilotus indicus	Yellow Sweet Clover	I
FAGACEAAE		
Quercus agrifolia	Coast Live Oak	N
PLANTANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		

Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Lolium perenne	Italian Ryegrass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus balsamifera	Black Cottonwood	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SCROPHULARIACEAE		
Scrophularia californica	California Figwort	N
SOLANCEAE		
Nicotiana glauca	Tobacco Tree	I
Solananum douglasii	Douglas Nightshade	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N

*I = Introduced
N = Native

VASCULAR PLANT LIST
MONTECITO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
ANACARDIACEAE		
Rhus integrefolia	Lemonadesberry	N
Rhus laurina	Laurel Sumac	N
Schinus molle	PepperTree	I
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Ageratina adenophora	Ironweed	I
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis glutinosa	Mulefat	N
Baccharis pilularis ssp. Consanguinea	Coyote Bush	N
Cardus pyncnocephalus	Italian Thistle	I
Cirsium vulgare	Bull Thistle	I
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Milk Thistle	I
Sonchus arvensis	Prickly Sow Thistle	I
Taraxcum officinale	Common Dandelion	I
Venegasia carpesioides	Canyon Sunflower	N
BRASSICACEAE		
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		

Chenopodium ambrosioides	Mexican Tea	I
CONVULVULACEAE		
Calystegia macrostegia	Morning Glory	I
EUPHORBIACEAE		
Ricinus Communis	Castor Bean	I
FABACEAE		
Vicia sativa	Spring Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
HYDROPHYLLACEAE		
Phacelia ramossissima	Branching Phacelia	N
JUGLANDACEAE		
Juglans regia	English Walnut	I
LAMIACEAE		
Mentha citrata	Bergamont Mint	N
Mentha Spicata	Spearmint	N
Stachys bullata	Wood Mint	N
MYOPORACEAE		
Myoporum laetum	Myoporum	I
MYRTACEAE		
Eucalyptus gloubulus	Blue Gum	I
ONAGRACEAE		
Epilobium adenocaulon	Willow-Herb	N
PITTOSPORACEAE		
Pittosporum undulatum	Pittosporum	I
PLANTAGINACEAE		
Plantago Major	Common Plantain	I
PLATANACEAE		
Plantanus racemosa	Western Sycamore	N
POLYGONACEAE		
Polygonum lapathifolium	Willow Smartweed	N

Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Heteromeles arbitufolia	Toyon	N
Pyracantha sp.	Pyracantha	I
Rubus discolor	Himalayan Blackberry	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Salix lasiolepis	Arroyo Willow	N
SCROPHULARIACEAE		
Mimulus guttatus	Marsh Monkey - Flower	N
Scrophularia californica	Figwort	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	I
URTICACEAE		
Urtica holosericea	Giant Nettle	I

* N - Native
  I - Introduced

VASCULAR PLANT LIST
ORCUTT- SOLOMON CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
AMACARDOACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium Maculatum	Poison Hemlock	I
ASTERACEAE		
Achillea millefolium	Yarrow	N
Ambrosia Psilostachya	Western Ragweed	I
Artemisia biennis	Biennial Sagewort	I
Artemisia douglasiana	Mugwort	N
Baccharis douglasii	Marsh Baccharis	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyote Bush	N
Carpobrotus edulis	Iceplant	I
Ciriusum vulgare	Bull Thistle	I
Conyza bonariensis	Horseweed	I
Cotula coronopifolia	Brass Buttons	I
Gnaphalium purpureum	Purple Cudweed	I
Helenium puberulum	Sneezeweed	N
Heterotheca grandiflora	Telegraph Weed	N
Isocoma venetus ssp. verniodes	Coast Goldenbrush	N
Lactuca serriola	Prickly Lettuce	I
Picris echioides	Ox Tongue	I
Sencio blochmaniae	Blochman's -Groundsel	I
Silybum marianum	Milk thistle	I
Sisymbrium irio	London Rocket	I
Sonchus asper	Sow Thistle	I
Xanthium spinosum	Spiny Cocklebur	I
Xanthium strumarium	Cocklebur	I
BORAGINACEAE		
Heliotropium curassavicum var. occulatrum	Heliotrope	N
BRASSICACEAE		

Brassica nigra	Black Mustard	I
Brassica campestris	Field Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturium -aquaticum	Watercress	I
CACTACEAE		
Opuntia sp.	Beavertail Cactus	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CARYOPHYLLACEAE		
Spergularia st.	Sand Spurrey	I
CHENOPDIACEAE		
Artiplex hastata	Hastate-Leaved -Saltbush	N
Chenopodium berlandiere	Lamb’s Quarters	I
Chenopodium murale	Nettle-Leaved -Goosefoot	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Cyperus esculentus	Yellow Nutgrass	N
Eleocharis macrostachya	Common Spikerush	N
Scirpus californicus	California Bulrush	N
Scirpus robustus	Prairie Bulrush	N
EUPHORBIACEAE		
Euphoria peplus	Petty Surge	I
FABACEAE		
Lotus purshianus var. purshianus	Spanish Clover	N
Lotus salsuginosus	Lotus	N
Melilotus indicus	Yellow Sweet Clover	I
Vicia benghalensis	Vetch	I
JUNACEAE		
Juncus bufonius	Toad Rush	N
Juncus phaeocephalus	Brown-Headed Rush	N
LEMNACEAE		
Lemna sp.	Dutchweed	N

MALVACEAE		
Malva parviflora	Cheeseweed	I
ONAGRACEAE		
Epilobium adenocaulation	Willow-Herb	N
PLANTAGINACEAE		
Plantago major	Common Plantain	I
POACEAE		
Agrostis stolonifera	Redtop	I
Cynodon dactylon	Bermuda Grass	I
Digitaria sanguinalis	Crab grass	I
Echonochloa crusgalli	Barnyard Millet	I
Lolium perenne	Italian Ryegrass	I
Piptatherum miliaceum	Rice grass	I
Polypogon monspeliensis	Rabbitfoot Grass	I
POLEMONIACEAE		
Microsteris gracilis spp. gracilis	Microsteris	N
POLYGONACEAE		
Polygonum arenastrum	Common Knotweed	I
Polygonum lapathifolium	Willow Smartweed	N
Polygonum punctatum	Dotted Smartweed	N
Rumex crispus	Curly Dock	I
Rumex fueginus	Golden Dock	I
Rumes hymenosephalus	Wild Rhubarb	I
PORTULACEAE		
Portulaca oleraceae	Purslane	I
PRUMULACEAE		
Angallis arvensis	Scarlet Pimpernel	I
ROSACEAE		
Poentilla egedii	Silverweed	
Rubus ursinus	Calif. Blackberry	N
SALICACEAE		
Salix exigua	Narrowleaf Willow	N
Salix lasiolepis	Arroyo Willow	N

SCROPHULARICEAE		
Mimulus guttatus	Marsh Monkey -Flower	N
Scrophularia californica	Figwort	N
SOLANACEAE		
Solanum nodiflorum	Small-Flowered -Weed	I
SPARGANIACEAE		
Sparganium ecrycarpum	Bur Reed	N
TROPAEOLACEAE		
Tropaelum majus	Garden Nasturtium	I
URTICACEAE		
Urtica holosericea	Giant Nettle	N
Urtica urens	Dwarf Nettle	N
VERBENACEAE		
Verbena lasiotachys	Verbena	N

* I = Introduced
N = Native

VASCULAR PLANT LIST
PICAY CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
ANACARDIACEAE		
Schinus molle	Pepper Tree	I
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Ageratina adenophora	Ironweed	I
Artemisia douglasiana	Mugwort	I
Baccharis glutinosa	Mulefat	I
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Milk Thistle	I
Xanthium strumarium	Cocklebur	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Saambucus mexicana	Elderberry	N
CONVOLVULACEAE		
Calystegia macrostegia	Morning-Glory	N
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Scirpus californicus	California Bulrush	N

EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Melilotus albus	White Sweet Clover	I
Vicia benghalensis	Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
LAMIACEAE		
Mentha citrata	Bergamont Mint	N
ONAGRACEAE		
Epilobium adenocaulon	Willow-Herb	N
PLATANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		
Avena fatua	Wild Oats	I
Pennisetum clandestinum	Kikuyu Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Rumex crispus	Curly Dock	I
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Rubus ursinus	California Blackberry	N
SALICACEAE		
Salix lasiolepis	Arroyo Willow	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I
TROPAEOLACEAE		

Tropaeolum majus	Garden Nasturtium	I
TYPHACEAE		
Typha sp.	Cattail	N

* N - Native
I - Introduced

VASCULAR PLANT LIST
REFUGIO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
ANACARDIACEAE		
Schinus molle	Pepper Tree	I
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ASTERACEAE		
Ambrosia psilostachya	Western Ragweed	I
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Carduus pycnocephalus	Italian Thistle	I
Cotula coronopifolia	Brass Buttons	I
Helenium puberulum	Sneezeweed	I
Lactuca serriola	Prickly Lettuce	I
Picris echioides	Ox Tongue	I
Silybum marianum	Milk Thistle	I
Sonchus arvensis	Prickly Sow Thistle	I
Taraxcum officinale	Common Dandelion	I
Xanthium strumarium	Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea	I

EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Melilotus indicus	Yellow Sweet Clover	I
Vicia benghalensis	Vetch	N
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
PLATANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		
Arudo donax	Giant Reed	I
Avena fatua	Wild Oats	I
Bromus rubens	Foxtail	I
Echinochloa crusgalli	Barnyard Millet	I
Oryzopsis miliacea	Rice Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
ROSACEAE		
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus balsamifera	Black Cottonwood	N
Salix lasiolepis	Arroyo Willow	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I
Solanum douglasii	Douglas Nightshade	N
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	I
TYPHACEAE		
Typha sp.	Cattail	N
URTICACEAE		
Urtica holosericea	Giant Nettle	I

* N - Native
  I - Introduced

VASCULAR PLANT LIST
RODEO-SAN PASQUAL CREEK AND BASIN

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telematia	Giant Horsetail	N
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Fennel	I
ASTERACEAE		
Achillea millefolium	Yarrow	N
Artemisia california	Calif. Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis gutinosa	Mulefat	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Ciriusum vulgare	Bull Thistle	I
Carduus pycnocephalus	Italian Thistle	I
Gnaphalium californicum	Pearly Everlasting	N
Lactuca serriola	Prickly Lettuce	I
Picris echioides	Ox Tongue	I
Venegasia carpesoides	Canyon Sunflower	N
Xanthium spinosum	Spiny Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturium -aquaticum	Watercress	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
Lonicera involucrata	Twinberry	N
EQUISETACEAE		
Equisetum telmateia	Horsetail	N

FABACEAE		
Lupinus sp.	Lupine	N
Melilotus indicus	Yellow Sweet Clover	I
Vicia benghalensis	Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
MALVACEAE		
Malva parviflora	Cheeseweed	I
MYRTACEAE		
Eucalyptus sp.	Eucalyptus	I
ONAGRACEAE		
Epilobium adenocaulation	Willow-Herb	N
POACEAE		
Avena fatua	Wild Oaks	I
Bromus diandrus	Ripgut Grass	I
Oryzopsis sp.	Rice grass	I
Polypogon monspeliensis	Rabbitfoot Grass	I
PRUMULACEAE		
Angallis arvensis	Scarlet Pimpernel	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
RHAMNACEAE		
Rhamnus california	Coffeeberry	N
ROSACEAE		
Heteromeles arbutifolia	Toyon	N
Rubus ursinus	Calif. Blackberry	N
SALICACEAE		
Populus trichocarpa	Black Cottonwood	N
Salix lasiolepis	Arroyo Willow	N
SCROPHULARICEAE		
Mimulus cardinalis	Scarlet Monkey -Flower	N
Scrophularia california	California Figwort	N

SOLANACEAE		
Solanum douglasii	Douglas Nightshade	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N
VERBENACEAE		
Verbena lasiotachys	Verbena	N

* I = Introduced
N = Native

VASCULAR PLANT LIST
ROMERO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
ACERACEAE		
Acer sp.	Ormamental Maple	I
AGAVACEAE		
Agave sp.	Ornamental Agave	I
ANACARDIACEAE		
Rhus integrefolia	Lemonadesberry	N
Rhus laurina	Laurel Sumac	N
Schinus molle	PepperTree	I
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARACEAE		
Zantedeschia aethiopica	Calla-Lily	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Ageratina adenophora	Ironweed	I
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Carduus pycnocephalus	Italian Thistle	I
Cirsium vulgare	Bull Thistle	I
Picris echioides	Ox Tonuge	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Milk Thistle	I
Sonchus arvensis	Prickly Sow Thistle	I
Taraxcum carpesioides	Canyon Sunflower	N
Xanthium strumarium	Cocklebur	I

BRASSICACEAE		
Raphanus sativus	Wild Radish	I
Rorippa nasturtium -aquaticum	Watercress	I
CAPRIFOLIACEAE		
Sambucus meicana	Elderberry	N
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea	N
CONVULVULACEAE		
Calystegia macrostegia	Morning-Glory	I
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Vicia sativa	Spring Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
GROSSULARIACEAE		
Ribes amarum var. hoffmannii	Bitter Gooseberry	N
Ribes malvaceum	Chapparral Currant	N
Ribes speciosum	Fuschia-Flowered Ribes	N
HYDROPHYLLACEAE		
Phacelia ramossissima	Branching Phacelia	N
JUGLANDACEAE		
Juglans regia	English Walnut	I
LAMIACEAE		
Mentha citrata	Bergamont Mint	N
Mentha spicata	Spearmint	N
Stachys bullata	Wood Mint	N
MYOPORACEAE		
Myoporum laetum	Myoporum	I
MYRTACEAE		
Eucalyptus globulus	Blue Gum	I

ONAGRACEAE		
Epilobium adenocaulon	Willow- Herb	N
PITTOSPORACEAE		
Pittosporum undulatum	Pittosporum	I
PLANTAGINACEAE		
Plantago major	Common Plantain	I
PLANTANACEAE		
Plantanus racemosa	Western Sycamore	N
POLYGONACEAE		
Polygonum lapathifolium	Willow Smartweed	N
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Heteromeles arbutifolia	Toyon	N
Pyrancantha	Pyrancantha	I
Rosa californica	Wild Rose	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus trichocarpa	Black Cottonwood	N
Salix lasiolepis	Arroyo Willow	N
SCROPHULARIACEAE		
Mimulus guttatus	Marsh Monkey Flower	N
SOLANACEAE		
Nicotiana glauca	Tobacco tree	I
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	N
URTICACEAE		
Urtica holosericea	Giant Nettle	I

* N - Native
I - Introduced

SAN ANTONIO CREEK - GOLETA
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum temateia	Giant Horsetail	N
ANACARDIACEAE		
Schinus molle	Pepper Tree	I
toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca Major	Periwinkle	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Ageratina adenophora	Ironweed	I
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis glutinosia	Mulefat	N
Baccharis pilularis ssp. Consanguinea	Coyote Bush	N
Gnaphalium califoricum	Pearly Everlasting	N
Gnaphalium luteo-album	Weedy Everlasting	I
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Venegasia carpesioides	Canyon Sunflower	N
BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa-nasturtium-aquaticum	Watercress	I
CAPRIFOLIACEAE		
Lonicera japonica	Garden Honeysuckle	I
Sambucus mexicana	Elderberry	N

CARYOPHYLLACEAE		
Silene gallica	Windmill Pink	I
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea I	I
Chenopodium murale	Nettle Leaved -Goosefoot	I
CONVULVULACEAE		
Calystegia macrostegia ssp. cyclostegia	Morning-Glory	I
CYPERACEAE		
Cyperus erageotis	Cyperus	I
Scirpus robustus	Prairie Bulrush	N
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Lathyrus latifloius	Common Sweetpea	I
Lupinus bicolor	Bicolor Lupine	N
Lupinus succulentus	Succulent Lupine	N
Melilotus albus	White Sweet Clover	I
Melilotus indicus	Yellow Sweet Clover	I
Vicia americana	American vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
GERANEACEAE		
Erodium botrys	Broad-Leaf Filatree	I
GROSSULARIACEAE		
Ribes amarum var. hoffmannii	Bitter Gooseberry	N
Ribes speciosum	Fuchsia-Flowered -Ribes	N
HYDROPHYLLACEAE		
Phacelia grandiflora	Phacelia	N
Phacelia ramossissima	Branching Phacelia	N
JUNCACEAE		
Juncus xiphioides	Iris-Leaved Juncus	N

LAMIACEAE		
Marrubium vulgare	Horehound	
Salvia mallifera	Black Sage	N
Stachys bullata	Wood Mint	N
MALVACEAE		
Malcothamnus sp.	Mallow	N
MYOPORUM		
Myoporum sp.	Myoporum	I
MYRTACEAE		
Eucalyptus globulus	Blue Gum	I
ONAGRACEAE		
Epilobium adenocaulon	Willow- Herb	N
Clarkia purpurea	Clarkia	N
OXALIDACEAE		
Oxallis pes-caprae	Sour Grass	I
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
Plantago major	Common Plantain	I
PLANTANACEAE		
Platanus racemosa	Western Sycamore	N
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Bromus mollis	Soft Chess	I
Cortaderia atacamensis	Pampas Grass	I
Elymus condensatus	Giant Rye	N
Lolium perenne	Italian Ryegrass	I
Oryzopsis miliacea	Rice Grass	I
Polypogon interruptus	Beard Grass	I
POLEMONIACEAE		
Gilia achilleaefolia	Gilia	N
POLYGONACEAE		
Rumex crispus	Curly Dock	I
Rumex hymenosepalus	Wild Rhubard	I

PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
RHAMNACEAE		
Rhamnus californica	Coffeeberry	N
Ceanothus spinosus	Greenbark	N
ROSACEAE		
Heteromeles arbutifolia	Toyon	N
Pyracantha sp.	Pyracantha	I
Rosa californica	Wild Rose	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus trichocarpa	Black cottonwood	N
Salix exigua	Narrowleaf Willow	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Wiilow	N
SCROPHULARIACEAE		
Mimulus aurantiacus	Monkey Flower	N
Mimulus guttatus	Mash Monkey Flower	N
Scropularia californica	California Figwort	N
Veronica anagallis-aquatica	Speedwell	I
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I
Solanum douglasii	Douglas Nightshade	N
Solanum xantii	Chaparral Nightshade	N
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	I
TYPHACEAE		
Typha sp.	Cattail	N
VERBENACAEAE		
Verbena lasiostachys	Verbena	N

* I = Introduced
N = Native

VASCULAR PLANT LIST
SAN ANTONIO CREEK - LOS ALAMOS

SCIENTIFIC NAME	COMMON NAME	ORIGIN
ACERACEAE		
Acer negundo	Box elder	N
AMARANTHACEAE		
Amaranthus albus	Tumbleweed	I
Amaranthus deflexus	Low Amaranth	I
ANACARDIACEAE		
Malosma laurina	Laurel Sumac	N
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Apium graveolens	Celery	I
Conium maculatum	Poison Hemlock	I
Foenicumum vulgare	Sweet Fennel	I
ARALIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Ambrosia psilostachya	Western Ragweed	I
Anthemis cotula	Mayweed	I
Artemisia biennis	Biennial Sagewort	
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis douglasii	Marsh Baccharis	N
Baccharis salicifolia	Mulefat	N
Baccharis pillaris	Coyote Bush	N
Carduus pysnocephalus	Italian thistle	I
Centaurea sostitalis	Barnaby's Thistle	I
Cirisium vulgare	Bull Thistle	I
Conyza canadensis	Horseweed	I
Cotula coronopifolia	Brass Buttons	I
Gnaphalium chilense	Cottonvatting	N
Isocoma venetus ssp. Vernoniodes	Coast Goldenbrush	N
Lactuca serriola	Prickly Lettuce	I
Picris ecioides	Ox Tongue	I
Senecio vulgare	Common Groundsel	I
Silybum marianum	Milk Thistle	I
Sonchus arvensis	Prickly Sow Thistle	I

Xanthium spinosium	Spiny Cocklebur	I
Xanthium strmarium	Cocklebur	I
BORAGINACEAE		
Heliotropium curassavicum var. occulatum	Heliotrope	N
Amsinckia intermedia	Fiddleneck	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Capsella bursa-pastoris	Shepherd's Purse	I
Cardaria draba	Hoary Cress	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium -aquaticum	Watercress	I
Sisymbrium altissimum	Tumbling Mustard	I
Sisymbrium irio	London Rocket	I
CARIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CARYOPHYLLACEAE		
Spergula arvensis	Spurrey	I
Spergularia sp.	Sand Spurrey	I
CHENOPODIACEAE		
Artiplex hastate	Hastate-Leaved -Saltbush	N
Artiplex serenana	Bractscale	N
Chenopodium album	Lamb's Quarters	I
Chenopodium macrospermum var. farinosum	Coast Goosefoot	I
Chenopodium murale	Nettle-Leaved -Goosefoot	I
Salsola iberica	Russian Thistle	I
CONVOLVULACEAE		
Convolvulus arvensis	Bindweed	I
Cuscuta claifornica	Dodder	N
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Cyperus esculentus	Yellow Nutgrass	N
Scirpus acutus	Common Tule	N
Scirpus californicus	California Bulrush	N
Scirpus pungens	Bulrush	N

Scirpus robustus	Prairie Bulrush	N
EUPHORBIACEAE		
Eremocarpus setigerus	Turkey Mullein	N
FABACEAE		
Lotus purshianus var. purshianus	Spanish Clover	N
Lotus salsuginosus	Lotus	N
Lupius bicolor	Bicolor Lupin	N
Medicago polymorpha	Bur Clover	I
Metilotus albus	White Sweet Clover	I
Metilotus inducus	Yellow Sweet Clover	I
Vicia benghalensis	Vetch	I
FAGACEAAE		
Quercus agrifolia	Coast Live Oak	N
Quercus lobata	Valley Oak	N
FRANKENIACEAE		
Frankenia grandifolia	Alkali Heath	N
GROSSULARIACEAE		
Ribes divaricatum	Straggly Gooseberry	N
JUGLANDACEAE		
Juglans regia	English Walnut	I
JUNCACEAE		
Juncus bufonius	Toad Rush	N
Juncus effusus var. brunneus	Common Rush	N
Juncus texilis	Indian Rush	N
Juncus Xipihiodes	Iris-Leaved Juncus	N
LAMIACEAE		
Marrubium vulgare	Horehound	I
Stachys bullata	Wood Mint	N
LEMNACEAE		
Lemma sp.	Duckweed	N
MALVACEAE		
Malva prviflora	Cheeseweed	I
Sidalcea leprosa	Alkali Mallow	N

MYRTACEAE		
Eucalyptus globulus	Blue Gum	I
ONAGRACEAE		
Camissonia cheiranthifolia ssp. cheiranthifolia	Primose	N
Epilobium paniculatum	Willow-Herb	N
Epilobiumm ciliatum	Willow-Herb	N
PAPAVERACEAE		
Eschscholzia californica	California Poppy	N
PLANTANACEAE		
Platanus racemosa	Western Sycamore	N
PLUMBAGINACEAE		
Limonium sinatum	Statice	I
POACEAE		
Arundo donax	Giant Reed	I
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Cynodron dactylon	Bermuda Grass	I
Digitaria sanguinalis	Crab-Grass	I
Distichlis spicata	Saltgrass	I
Echinocgkia crysgakku	Barbyard Nukket	I
Elymus condensatus	Giant Rye	N
Hordeum glacum	Glausus Barley	I
Koeleria macrantha	June Grass	I
Leptochloa univeria	Sprangletop	I
Lolium perenne	Italian Ryegrass	I
Piptatherum miliaceum	Rice Grass	I
Phalaris stenoptera	Harding Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLEMONIACEAE		
Navarretia atractyloides	Navarretia	I
POLYGONACEAE		
Chorizanthe saticoides	Turkish Rugging	I
Polygonum arenastrum	Common Knotweed	I
Polygonum lapathiflium	Willow Smartweed	N
Polygonum punctatum	Dotted Smartweed	N
Rumex angiocarpus	Sheep Sorrel	I
Rumex crispus	Curly Dock	I
Rumex fueginus	Golden Dock	I

Rumex hymenosepalus	Wild Rhubarb	N
PORTULACEAE		
Portulaca oleracea	Purslane	I
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Rosa californica	Wild Rose	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus fremontii	Fremont Cottonwood	N
Populus balsamifera	Black Cottonwood	N
Salix exigua	Narrowleaf Willow	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SCROPHULARIACEAE		
Datura ferox	Chinese Thornapple	I
Datura meteloides	Jimson Weed	I
Diplacus longiflorus	Bush Monkeyflower	N
Mimulus guttatus	Marsh Monkey -Flower	N
Scrophularia californica	California Figwort	N
Veronica Americana	Speedwell	N
SOLANCEAE		
Nicotiana glauca	Tobacco Tree	I
Solananum douglasii	Douglas Nightshade	N
SPARGANIACEAE		
Sparganium euycarpum	Bur Reed	I
TAMARICACEAE		
Tamarix sp.	Tamarisk	I
TYPHACEAE		
Typha domingensis	Cattail	N
ULMACEAE		
Ulmus minor	Smoothleaved Elm	I

URTICACEAE		
Urtica holosericea	Giant Nettle	N
Urtica urens	Dwarf Nettle	N
VERBENACEAE		
Verbena lasiostachys	Verbena	N
VITACEAE		
Vitis sp.	Grape	I

*I = Introduced
N = Native

VASCULAR PLANT LIST
SAN JOSE CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
AIZOACAE		
Carpobrotus edulis	Hottentot Fig	I
ANACARDIACEAE		
Toxicoclendron diversilobum	Poison Oak	N
Schinus molle	Pepper Tree	I
Schinus terebenthifolius	Pepper Tree	I
APIACEAE		
Apium graveolens	Wild Celery	I
Conium maculatum	Poison Hemlock	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARALIACEAE		
Hedera canariensis	Algerian Ivy	I
ASTERACEAE		
Ambrosia psilostachya var. california	Western Ragweed	N
Amaranthus albus	Tumbleweed	I
Artemesia biennis	Marsh Sagebrush	N
Artemesia californica	CA. Sagebrush	N
Artemesia douglasiana	Muswort	N
Baccharis pilularis	Coyotebrush	N
Baccharis salicifolia	Mulejat	N
Carduus pyenocephalus	Italian Thistle	I
Conyza canadensis	Horseweed	I
Gnaphalium bicolor	Bicolored Everlasting	N
Gnaphalium californicum	Green Everlasting	N
Gnaphalium luteo-album	Cudweed Everlasting	I
Isocoma veneta	Coast Golden Bush	N
Lactuca serriola	Prickly Lettuce	I
Picris echioides	Ox tongue	I
Senecio micanioides	German Ivy	I
Senecio vulgaris	Common Groundsel	I
Sylibum marianum	Milk Thistle	I
Venegasia carpesioides	Canyon Sunflower	N
Xanthium strumarium	Cocklebur	I

BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Brassica geniculata	Summer Mustard	I
Brassica nigra	Black Mustard	I
Lobularia maritime	Sweet Alyssum	I
Raphanus sativus	Wild Raddish	I
Rorippa Nasturtium-aquaticum	Watercress	I
CACTACEAE		
Opuntia ficus-indica	Indian Fig	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CARYOPHYLLACEAE		
Sagina occiclentalis	Western Pearlwort	N
Stellaria media	Common Chickweed	I
CHENOPODIACEAE		
Atriplex patula ssp. hastate	Spear-leaved Saltbush	N
Chenopodium ambrosioides	Mexican Tea	I
Chenopodium berlanclieri	Berlander's Goosefoot	N
Chenopodium murale	Nettle-leaved Goosefoot	I
Salsola australis	Russian Thistle	I
CUCURBITACEAE		
Marah herbaceous	Wild Cucumber	N
CYPERACEAE		
Carex sp.	Sedge	
Cyperus alternifolius	African Umbrella Sedge	I
Cyperus eragrostis	Tall Umbrella Sedge	N
Eragrostis sp.		
EQUISETACEAE		
Equisetum telmateia var. braunii	Giant Horsetail	N
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
Euphorbia Peplus	Petty Spurge	I
FABACEAE		
Acacia sp.		I
Lotus salsuginosus	Coastal Hosackia	N
Melilotus alba	White Sweetclover	I

FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
GROSSULARIACEAE		
Ribes amarum	Gooseberry	N
GERANIACEAE		
Erodium cicutarium	Redstem Filaree	I
HYDROPHYLLACEAE		
Phacelia viscida	Sticky phacelia	N
Phacelia ramosissima	Branching phacelia	I
JUGLANDACEAE		
Juglans californica	So. CA. Black Walnut	N
Juglans regia	English Walnut	I
JUNCACEAE		
Juncus bufonius	Toad Rush	N
LAMIACEAE		
Salvia mellifera	Black Sage	N
Mentha sp.	Mint	I
LAURACEAE		
Umbellularia californica	CA. Bay	N
LYTHRACEAE		
Lythrum hyssopifolia	Hyssop-leaved Loosestrfe	N
MALVACEAE		
Lavatera cretica	Annual Lavatera	I
Malva nicaeensis	Mallow	I
Malva parvifolia	Cheeseweed	I
MYOPORACEAE		
Myoporum laetum	Myoporum	I
MYRTACEAE		
Eucalyptus globulus	Blue Gum	I
Eucalyptus camaldulensis	Murray Red Gum	I
Eucalyptus citriodora	Lemon-scented Gum	I
Eucalyptus lehmannii	Lehmann’s Gum	I
OLEACEAE		
Fraxinus uhdei	Shamel Ash	I

PINACEAE		
Pinus radiata	Monterey Pine	I
PLATAGINACEAE		
Plantago major	Common Plantain	I
Plantago lanceolata	Plantain	I
PLANTANACEAE		
Platanus racemosa	Ca. Sycamore	N
POECEAE		
Agrostis semiverticellata	Water Bent	I
Arundo donax	Giant Reed	I
Avena fatua	Wild Oat	I
Bromus diandrus	Ripgut Grass	I
Bromus mollis	Soft Chess	I
Cortadena jubata	Pampas Grass	I
Cynodon dactylon	Bermuda Grass	I
Echinochloa crusgalli	Barnyard Millet	I
Elymus condensatus	Giant Rye	I
Hordeum murinum	Foxtail	I
Lolium multiflorum	Italian Ryegrass	I
Lolium miliacea	Rice Grass	
Pennisetum clandestinum	Kikuyu Grass	I
Polypogon interruptus		
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Polygonum arenastrum	Common Knotweed	I
Polygonum lapathifolium	Willow Smartweed	I
Polygonum punctatum	Dotted Water Smartweed	N
Rumex crispus	Curly Dock	I
PTERIDACEAE		
Pteridium aquilinum var. pubescens	Western Bracken	N
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Contoneaster lacteus	Cotoneaster	I
Heteromeles arbutifolia	Toyon	N
Malosma laurina	Sumac	N
Prunus illicifolia	Holly-leaved Cherry	N
Pyracantha sp.	Fire Thorn	I
Rosa californica	CA. Rose	N
Rubus procerus	Himalya Berry	I
Rubus ursinus	CA. Blackberry	N

SALICACEAE		
Populus balsamifera	Black Cottonwood	N
Salix exigua	Sandbar Willow	N
Salix lasiolepsis	Arroyo Willow	N
Salix laevigata	Red Willow	N
Salix lucida	Yellow Willow	N
SCROPHULARIACEAE		
Scrophularia californica	CA. Figwort	N
Veronica anagallis-aquatica	Water Speedwell	I
SOLANACEAE		
Datura wrightii	Jimson Weed	N
Nicotiana glauca	Tree Tobacco	I
Solanum doughasii	Douglas Nightshade	N
Solanum nigrum	Black Nightshade	I
Solanum xanti	Nightshade	N
TROPAEOLACEAE		
Tropaeolum majus	Nasturium	I
TYPACEAE		
Typha domingensis	Narrow-leaved Cattail	N
Typha latifolia	Broad-leaved Cattail	N
ULMACEAE		
Ulmus sp.	Elm	I
Ulmus parviflorus	Chinese Elm	I
VISCACEAE		
Phoradendron tomentosum	Bigleaf Mistletoe	N

* N = Native
I = Introduced

VASCULAR PLANT LIST
SANTA MARIA AIRPORT/ABEX CHANNELS

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
ANACARDIACEAE		
Schinus molle	Pepper Tree	I
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
ASTERACEAE		
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Carduus phonozephalus	Italian Thistle	I
Gnaphalium luteo-album	Weedy Everlasting	I
Picris echioides	Ox Tongue	I
Taraxcum officinale	Common Dandelion	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium	Watercress	I
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea	I
Chenopodium murale	Nettle-Leaved -Goosefoot	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Cyperus esculentus	Yellow Nutgrass	I
Scirpus californicus	CA Bulrush	N
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Melilotus albus	White Sweet Clover	I
JUNCACEAE		
Juncus effusus var. brunneus	Common Rush	N
Juncus xiphioides	Iris-Leaved Juncus	N

LAMIACEAE		
Marrubium vulgare	Horebound	I
MYRTACEAE		
Eucalyptus	Eucalyptus	I
PAPAVERACEAE		
Eschscholia californica	California Poppy	N
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
Plantago major	Common Plantain	I
POACEAE		
Agrostis stolonifera	Redtop	I
Avena fatua	Wild Oats	I
Bromus rubens	Foxtail	I
Cortaderia acacamensis	Pampas Grass	I
Lolium perenne	Italian Rye	I
Oryzopsis miliacea	Rice Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
SALICACEAE		
Salix lasiolepis	Arroyo Willow	N
SOLANACEAE		
Nicotiana glauca	Tree Tobacco	I
TROPAELACEAE		
Tropaeolum majus	Garden Nasturtium	I
TYPHACEAE		
Typha sp.	Cattail	N

* I - Introduced
N - Native

SANTA MARIA RIVER
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
ANACARDIACEA		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
ASTERACEAE		
Artemiasia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis douglasii	Marsh Baccharis	N
Baccharis pilularis	Coyotebrush	N
Cotula coronopifolia	Brass Buttons	I
Gnaphalium luteo-album	Weedy Everlasting	I
Picris echioides	Ox Tongue	I
Silybum marianum	Milk Thistle	I
Taraxcum officinale	Common Dandelion	I
Senecio blochmaniae	Dune ragwort	N
Xanthium strumarium	Cocklebur	N
BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium-aquaticum	Watercress	I
CHENOPODIACEAE		
Chenopodium ambrosioides	Mexican Tea	I
Chenopodium berlandieri	Lamb’s Quarters	N
CONVOLVULACEAE		
Convolvulus althaeoides	Garden Morning Glory	I
CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
Cyperus eragrostis	Sedge	N

CYPERACEAE		
Scirpus americanus	Three square	N
Scirpus californicus	California Bulrush	N
EQUISATACEAE		
Equisetum telmateia	Giant Horsetail	N
EUPHORBIACEAE		
Eremocarpus setigerus	Turkey Mullein	N
Ricinus communis	Castor Bean	I
FABACEAE		
Lupinus arborus	Lupine	N
Melilotus albus	White Sweet Clover	I
Melilotus indicus	Yellow Sweet Clover	I
Vicia benghalensis	Vetch	N
GROSSULARIACEAE		
Ribes amarum	Bitter Gooseberry	N
LAMIACEAE		
Marrubium vulgare	Horehound	I
Mentha xpiperita	Peppermint	I
MALVACEAE		
Malva parviflora	Cheeseweed	I
ONAGRACEAE		
Epilobium ciliatum	Willow-Herb	N
Camissonia cheiranthifolia	Beach Evening-primrose	N
PAPAVERACEAE		
Argemone munita	Prickly Poppy	N
PLANTAGINACEAE		
Plantago major	Common Plantain	I
POACEAE		
Avena fatua	Wild Oats	I
Pennisetum calnestinum	Kikuyu Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Rumex crispus	Curly Dock	I
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I

ROSACEAE		
Rosa californica	Wild Rose	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus fremontii	Fremont Cottonwood	N
Salix lasiolepis	Arroyo Willow	N
Salix exigua	Sandbar Willow	N
SCROPHULARIACEAE		
Mimulus guttatus	Marsh Monkey Flower	N
Minmulus guttatus	Monkey Flower	N
Veronica angallis-aquatica	Speedwell	N
SOLANCEAE		
Nicotiana glauca	Tobacco Tree	I
URTICACEAE		
Urtica holosericea	Giant Nettle	N
VERBENACEAE		
Verbena lasiostachys	Verbena	N

* I = Introduced
N = Native

Table 3

Santa Ynez River - West of Lompoc

Plant Species Inventory

Species	Habit[1]	Status[2]
***Agrostis exarata* Trin.** "Spike bentgrass"	PG	N
Ambrosia acanthicarpa Hook. "Sand-bur"	AH	N
Ambrosia psilostachya DC. "Western ragweed"	PH	N
Amsinckia intermedia F. & M. "Fiddleneck"	AH	N
Amsinckia spectabilis F. & M. var. ***microcarpa*** (Greene) Jeps. & Hoov. "Seaside Amsinckia"	AH	N
Anemopsis californica Hook. "Yerba mansa"	PH	N
Apium graveolens L. "Celery"	PH	I
Artemisia californica Less. "California sagebrush"	S	N
Artemisia douglasiana Bess. in Hook. "Mugwort"	PH	N
Artemisia dracunculus L. "Tarragon"	PH	N
Astragalus sp. "Locoweed"	PH	N

(continued)

Table 3
(continued)
Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Avena barbata Brot. "Slender wild oat"	AG	I
Avena fatua L. "Wild oat"	AG	I
Baccharis douglasii DC. "Douglas' Baccharis"	PH	N
Baccharis glutinosa Pers. "Mule fat"	S	N
Baccharis pilularis DC. ssp. ***consanguinea*** (DC.) C. B. Wolf. "Coyote brush"	S	N
Brassica geniculata (Desf.) J. Ball. "Mediterranean mustard"	BH	I
Brassica nigra (L.) Koch. "Black mustard"	AH	I
Bromus diandrus Roth. "Ripgut brome"	AG	I
Bromus mollis L. "Soft chess"	AG	I
Bromus rubens L. "Red brome"	AG	I
Bromus willdenovii Kunth. "Rescue grass"	AG	I
Calandrinia ciliata (R. & P.) DC. var. ***menziesii*** (Hook.) Macbr. "Red maids"	AH	N
Camissonia micrantha (Hornem. ex Spreng.) Raven. "Small primrose"	AH	N

(continued)

Table 3
(continued)
Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Camissonia strigulosa (Fisch. & Meyer) Raven. "Contorted primrose"	AH	N
Cardaria draba (L.) Desv. "Hoary cress"	PH	I
Carduus pycnocephalus L. "Italian thistle"	AH	I
Centaurea melitensis L. "Tocalote"	AH	I
Claytonia perfoliata Donn. "Miner's lettuce"	AH	N
Clematis ligusticifolia Nutt. in T. & G. "Virgin's bower"	V.	N
Conium maculatum L. "Poison hemlock"	BH	I
Cortaderia atacamensis (Phil.) Pilger. "Pampas grass"	PG	I
Cotula coronopifolia L. "Brass buttons"	PH	I
Cryptantha sp. "Popcorn flower"	AH	N
Cyperus eragrostis Lam. "Tall Cyperus"	PH	N
Descurainia pinnata (Walt.) Britton ssp. ***menziesii*** (DC.) Detl. "Tansy mustard"	AH	N
Dipsacus sativus (L.) Honckeny. "Teasel"	BH	I
Ehrharta calycina Sm. "Veldt grass"	PG	I

(continued)

Table 3
(continued)
Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Eleocharis macrostachya Britton in Small. "Common spikerush"	PH	N
Epilobium adenocaulon Hausskn. "Willow-herb"	PH	N
Equisetum telmateia Ehrh. var. ***braunii*** Milde. "Giant horsetail"	PH	N
Eremocarpus setigerus (Hook.) Benth. "Doveweed"	AH	N
Eriogonum fasciculatum Benth. "California buckwheat"	S	N
Erodium cicutarium L. "Filaree" AH; I		
Eucrypta chrysanthemifolia (Benth.) Greene. "Common Eucrypta"	AH	N
Euphorbia peplus L. "Petty spurge"	AH	I
Festuca arundinacea Schreb. "Alta fescue"	PG	I
Festuca megalura Nutt. "Foxtail fescue"	AG	N
Foeniculum vulgare Mill. "Sweet fennel"	PH	I
Galium aparine L. "Bedstraw"	AH	I
Geranium dissectum L. "Cranesbill"	AH	I
Gnaphalium luteo-album L. "Cudweed"	AH	I

(continued)

Table 3
(continued)
Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Gnaphalium sp. "Everlasting"	AH or BH	N
Haplopappus ericoides (Less.) H. & A. "Mock heather"	S	N
Hedypnois cretica (L.) Willd. "Crete Hedypnois"	AH	I
Helenium puberulum DC. "Sneezeweed"	BH	N
Heliotropium curassavicum L. var. ***oculatum*** (Heller) Jtn. "Heliotrope"	PH	N
Heterotheca grandiflora Nutt. "Telegraph weed"	BH	N
Hordeum leporinum Link. "Foxtail"	AG	I
Hypochoeris glabra L. "Cat's ear"	AH	I
Juncus bufonius L. "Toad rush"	AH	N
Juncus effusus L. var. ***brunneus*** Engelm. "Bog rush"	PH	N
Juncus patens E. Mey. "Wire grass"	PH	N
Juncus xiphioides E. Mey. "Iris-leaved rush"	PH	N
Lemna sp. "Duckweed"	AH	N
Lupinus latifolius J. G. Agardh. "Canyon lupine"	PH	N

(continued)

Table 3
(continued)

Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Lupinus succulentus Dougl. ex Koch. "Succulent lupine"	AH	N
Marah macrocarpus (Greene) Greene. "Wild cucumber"	PH	N
Marrubium vulgare L. "Horehound"	PH	I
Medicago polymorpha L. "Burr clover"	AH	I
Melilotus albus Desr. "Sweet clover"	AH	I
Melilotus indicus L. "Yellow sweet clover"	AH	I
Mimulus guttatus Fisch. ex DC. "Monkey flower"	PH	N
Nicotiana glauca Grah. "Tree tobacco"	S	I
Picris echioides L. "Ox tongue"	AH	I
Phalaris minor Retz. "Mediterranean canary grass"	AG	I
Plantago lanceolata L. "English plantain"	PH	I
Plantago major L. "Common plantain"	PH	I
Polygonum lapathifolium L. "Willow weed"	AH	I

(continued)

Table 3
(continued)

Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Polypogon monspeliensis (L.) Desf. "Beard grass"	AG	I
Populus trichocarpa T. & G. "Black cottonwood"	T	N
Psoralea macrostachya DC. "Leather root"	S	N
Raphanus sativus L. "Wild radish"	AH	I
Ribes sp. "Gooseberry" S; N		
Rorippa nasturtium-aquaticum (L.) Schinz & Thell. "Water-cress"	PH	I
Rorippa palustris (L.) Besser ssp. ***occidentalis*** (Wats. in Gray) Abrams "Marsh cress"	AH	N
Rubus ursinus C. & S. "California blackberry"	S	N
Rumex crispus L. "Curly dock"	PH	I
Salix hindsiana Benth. "Sandbar willow"	S	N
Salix laevigata Bebb. "Red willow"	T	N
Salix lasiolepis Benth. "Arroyo willow"	T	N
Sambucus mexicana Presl. "Mexican elderberry"	T	N

(continued)

Table 3
(continued)

Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Satureja douglasii (Benth.) Briq. "Yerba buena"	PH	N
Schismus barbatus (L.) Thell.	AG	I
Scirpus californicus (C. A. Mey.) Steudel. "California bulrush"	PH	N
Scirpus microcarpus Presl. "Small-fruited bulrush"	PH	N
Scirpus robustus Pursh. "Prairie bulrush"	PH	N
Scrophularia atrata Penn. "Black-flowered figwort"	PH	N*
Scrophularia californica C. & S. var. ***floribunda*** Greene. "California figwort"	PH	N
Silybum marianum (L.) Gaertn. "Milk thistle"	AH	I
Sonchus oleraceus L. "Sow thistle"	AH	I
Sparganium angustifolium Michx. "Bur-reed"	PH	N
Stachys bullata Benth. "Hedge-nettle"	PH	N
Toxicodendron diversilobum (T. & G.) Greene. "Poison oak"	S	N
Trifolium sp. "Clover"	AH	

(continued)

Table 3
(continued)

Santa Ynez River - West of Lompoc
Plant Species Inventory

Species	Habit[1]	Status[2]
Typha domingensis Pers. "Cattail"	PH	N
Urtica holosericea Nutt. "Giant creek nettle"	PH	N
Urtica urens L. "Dwarf nettle"	AH	I
Verbena lasiostachys Link. "Verbena"	PH	N
Veronica anagallis-aquatica L. "Great water speedwell"	PH	I
Vicia sativa L. "Spring vetch"	AH	I
Xanthium strumarium L. var. ***canadense*** (Mill.) T. & G. "Cocklebur"	AH	I

Habit abbreviations:
AH = Annual herb; BH = Biennial herb; PH = Perennial herb; AG = Annual grass; PG = Perennial grass;
V = Vine; S = Shrub; T = Tree

Native/introduced species:
N = Native; I = Introduced

*California Native Plant Society List 4 species

Sources: Munz, P. A. 1974. A Flora of Southern California. Univ. of Calif. Press,

VASCULAR PLANT LIST
TANGLEWOOD CHANNEL

SCIENTIFIC NAME	COMMON NAME	ORIGIN
AMARANTHACEAE		
Amaranthus albus	Tumbleweed	I
APIACEAE		
Apium graveolens	Celery	I
Conium maculatum	Poison Hemlock	I
Foenicumum vulgare	Sweet Fennel	I
ASTERACEAE		
Ambrosia psilostachya	Western Ragweed	I
Anthemis cotula	Mayweed	I
Artemisia douglasiana	Mugwort	N
Baccharis pillaris	Coyote Bush	N
Carduus pycnocephalus	Italian thistle	I
Cirisium vulgare	Bull Thistle	I
Conyza canadensis	Horseweed	I
Cotula coronopifolia	Brass Buttons	I
Gnaphalium chilense	Cottonvatting	N
Senecio vulgare	Common Groundsel	I
Silybum marianum	Milk Thistle	I
Xanthium spinosium	Spiny Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium -aquaticum	Watercress	I
Sisymbrium irio	London Rocket	I
CHENOPODIACEAE		
Chenopodium album	Lamb's Quarters	I
Chenopodium macrospermum var. farinosum	Coast Goosefoot	I
Chenopodium murale	Nettle-Leaved -Goosefoot	I
CYPERACEAE		
Eleocharis macrostachya	common spikerush	N
Cyperus alternifolius	Umbrella Plant	I
Scirpus californicus	California Bulrush	N

EUPHORBIACEAE		
Eremocarpus setigerus	Turkey Mullein	N
FABACEAE		
Lotus purshianus var. purshianus	Spanish Clover	N
Lotus salsuginosus	Lotus	N
Metilotus albus	White Sweet Clover	I
LAMIACEAE		
Marrubium vulgare	Horehound	I
LEMNACEAE		
Lemna sp.	Duckweed	N
MALVACEAE		
Malva prviflora	Cheeseweed	I
PAPAVERACEAE		
Eschscholzia californica	California Poppy	N
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Cynodron dactylon	Bermuda Grass	I
Lolium perenne	Italian Ryegrass	I
Phalaris stenoptera	Harding Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Rumex crispus	Curly Dock	I
Rumex fueginus	Golden Dock	I
PRIMULACEAE		
Anagallis arvensis	Scarlet Pimpernel	I
SOLANCEAE		
Nicotiana glauca	Tobacco Tree	I

* I = Introduced
N = Native

VASCULAR PLANT LIST
TECOLOTE CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telmateia	Giant Horsetail	N
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Foeniculum vulgare	Sweet Fennel	I
APOCYNACEAE		
Vinca major	Periwinkle	I
ARARLIACEAE		
Hedera helix	English Ivy	I
ASTERACEAE		
Artemisia douglasiana	Mugwort	N
Baccharis douglasiana	Mulefat	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Cirsium vulgare	Bull Thistle	I
Gnaphalium californicum	Everlasting	
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Milk Thistle	I
Venegasia carpesioides	Canyon Sunflower	N
Xanthium strumarium	Cocklebur	I
BETULACEAE		
Alnus rhombifolia	White Alder	N
BORAGINACEAE		
Heliotropium curassavicum		N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus sativus	Wild Radish	I
Rorippa nasturtium-aguaticum	Watercress	I

CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Elymus condensatus	Giant Rye	N
Hordeum glaucum	Glaucus Barley	I
Lolium perenne	Italian Ryegrass	I
Oryzopsis miliacea	Rice Grass	I
Phalaris stenoptera	Harding Grass	I
POLYGONACEAE		
Rumex conglomeratus	Green Dock	I
Rumex crispus	Curly Dock	I
PRIMULACEAE		
Anagallis arvenis	Scarlet Pimpernel	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Heteromeles arbutifolia	Toyon	N
Pyracantha sp.	Pyracantha	I
Rubus ursinus	California Blackberry	N
SALICACEAE		
Populus fremontii	Fremont Cottonwood	N
Salix hindsiana	Sandbar Willow	N
Salix laevigata	Red Willow	N
Salix lasiolepis	Arroyo Willow	N
SCHROPHULARIACEAE		
Mimulus aurantiacus	Sticky Monkey -Flower	N
Scrophularia californica	California Figwort	N
Veronica angallis-aquatica	Speedwell	I
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I
Solanum douglasii	Douglas Nightshade	N
TAMARICACEAE		
Tamarix sp.	Tamarisk	I

TROPAELACEAE		
Tropaeolum majus	Garden nasturtium	I
TYPHACEAE		
Typha sp.	Cattail	N

* I = Introduced
N = Native

VASCULAR PLANT LIST
TECOLOTITO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telemateia	Giant Horsetail	N
ANACARDIACEAE		
Rhus integrefolia	Lemonadeberry	N
Rhus laurina	Laurel Sumac	N
APIACEAE		
Foeniculum vulgare	Sweet Fennel	I
ASTERACEAE		
Artemisia californica	California Sagebrush	N
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Xanthium strmarium	Cocklebur	I
BRASSICACEAE		
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CHENOPODIACEAE		
Artiplex Hastata	Hastate-Leaved -Saltbush	
CYPERACEAE		
Cyperus alternifolius	Umbrella plant	I
Scirpus californicus	California Bulrush	N
Scirpus cernuus var. californicus	Low Club-Rush	N
Scirpus microcarpus	Small-Fruited Bulrush	N
Scirpus robustus	Prairie Bulrush	N
EUPHORBIACEAE		
Ricinis communis	Castor Bean	I
FABACEAE		
Lotus scoparius	Deerweed	N

JUGLANDACEAE		
Juglans regia	English Walnut	I
MYRTACEAE		
Eucalyptus globulus	Blue Gum	I
PLATANACEAE		
Plantus racemosa	Western Sycamore	N
POACEAE		
Cortaderia atacamensis	Pampas Grass	I
POLYGONACEAE		
Rumex crispus	Curly Dock	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
ROSACEAE		
Hetermeles arbutifolia	Toyon	N
Rubus ursinus	California Blackberry	N
SALICACEAE		
Salix lasiolepis	Arroyo Willow	N
SROPHULARIACEAE		
Scrophularia californica	California Figwort	N
SOLANCEAE		
Nicotiana glauca	Tobacco Tree	I
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	I
TYPHACEAE		
Typha sp.	Cattail	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N

* I = Introduced
  N = Native

VASCULAR PLANT LIST
TORO CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
EQUISETACEAE		
Equisetum telemateia	Giant Horsetail	N
ANACARDIACEAE		
Malosma laurina	Laurel Sumac	N
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	N
APOCYNACEAE		
Vinca major	Perwinkle	I
ARALIACEAE		
Hedera Helix	English Ivy	I
Ageratina adenophora	Ironweed	I
Artemisia caloifornica	California Sagebush	N
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyote Bush	N
Gnaphalium luteo-album	Weedy Everlasting	I
Picris echioides	Ox Tongue	I
Senecio mikanioides	German Ivy	I
Silybum marianum	Mild Thistle	I
Venegasia carpesioides	Canyon Sunflower	N
BETULACEAE		
Alnus rhombifolia	White Alder	N
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Raphanus Satuvus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
CONVOLVULACEAE		
Calystegia Macrostegia ssp. cyclostegia	Morning-Glory	I

CYPERACEAE		
Cyperus alternifolius	Umbrella Plant	I
EUPHORBIACEAE		
Ricinus communis	Castor Bean	I
FABACEAE		
Vicia benghalensis	Vetch	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
HYDROPHYLACEAE		
Phacelia ramossissima	Branching Phacelia	N
LAMIACEAE		
Mentha citrata	Bergamont Mint	I
Salvia mellifera	Black Sage	N
MALVACEAE		
Lavatera cretica	Cretan Lavatera	I
MYRTACEAE		
Eucalyptus camaldulensis	Red Gum	I
PLANTAGINACEAE		
Plantago lanceolata	English Plantain	I
PLATANACEAE		
Plantanus racemosa	Western Sycamore	N
POACEAE		
Elymus condensatus	Giant Rye	N
Pennisetum clandestinum	Kikuyu Grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Polygonum lapathifolium	Willow Smartweed	N
Rumex crispus	Curly Dock	I
RANUNCULACEAE		
Clematis ligusticifolia	Creek Clematis	N
RHAMNACEAE		
Ceanothus spinosus	Greenbark	N

ROSACEAE		
Heteromeles arbutfolia	Toyon	N
Rosa californica	Wild Rose	N
Rubus ursinus	California Blackberry	N
SCHROPHULARIACEAE		
Scrophularia californica	California Figwort	N
SOLANCEAE		
Nicotiana glauca	Tobacco Tree	I
Solanum douglasii	Douglas Nightshade	N
TROPAEOLACEAE		
Tropaeolum majus	Garden Nasturtium	I

* I = Introduced
N = Native

VASCULAR PLANT LIST
Unit II/West Main, East and Unit II Tailwater Channels

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
AIZOACEAE		
Carpobrotus edulis	Iceplant	I
APIACEAE		
Conium maculatum	Poison Hemlock	I
ASTERACEAE		
Ambrosia psilostachya	Western Ragweed	I
Baccharis pilularis ssp. consanguinea	Coyote Bush	N
Cotula coronopifolia	Brass Buttons	I
Heterotheca grandiflora	Telegraph Weed	I
Lactuca serriola	Prickly Lettuce	I
Silybum marianum	Milk thistle	I
Xanthium spinosum	Spiny Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	I
Rrippa nasturium -aquaticum	Watercress	I
CHENOPDIACEAE		
Chenopodium ambrosioides	Mexican Tea	I
CYPERACEAE		
Scirpus californicus	Ca. Bullrush	N
MALVACEAE		
Malva parviflora	Cheeseweed	I
ONAGRACEAE		
Epilobium adenocaulation	Willow-Herb	N
POACEAE		
Echinochloa crusgalli	Barnyard Millet	I
Oryzopsis sp.	Rice grass	I
Polypogon monspeliensis	Rabbitsfoot Grass	I
POLYGONACEAE		
Polygonum arenastrum	Common Knotweed	I

SALICACEAE		
Salix lasiolepis	Arroyo Willow	N
TYPHACEAE		
Typha sp.	Cattail	N
URTICACEAE		
Urtica holosericea	Giant Nettle	N

* I = Introduced
N = Native

VASCULAR PLANT LIST
ZACA CREEK

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
APIACEAE		
Conium maculatum	Poison Hemlock	I
Sanicula crassicaulis	Senicle	
Foeniculum Vulgare	Fennel	I
ASTERACEAE		
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyotebush	N
Cirsium vulgare	Bull Thistle	I
BRASSICACEAE		
Brassica nigra	Black Mustard	N
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
FABACEAE		
Lupinus arboreus	Bush Lupine	N
Melilotus indicus	Yellow Sweet Clover	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
MYRTACEAE		
Eucaplyptus globulus	Blue Gum	I
POACEAE		
Avena fatua	Wild Oats	I
Bromus diandrus	Ripgut Grass	I
Hordeum sp.	Hordeum	I
SALICACEAE		
Salix laevigata	Red Willow	N
Salix exigua	Sandbar Willow	N
Populus balsamifera	Black Cottonwood	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I

* I = Introduced
N = Native

ZANJA DE COTA CREEK
VASCULAR PLANT LIST

SCIENTIFIC NAME	COMMON NAME	ORIGIN*
AMARANTHACEAE		
Amaranthus sp.	Amaranth	I
ANACARDIACEAE		
Toxicodendron diversilobum	Poison Oak	N
APIACEAE		
Conium maculatum	Poison Hemlock	I
Sanicula crassicaulis	Senicle	
Foeniculum Vulgare	Fennel	I
ASTERACEAE		
Artemisia californica	California Sagebrush	N
Artemisia douglasiana	Mugwort	N
Baccharis salicifolia	Mulefat	N
Baccharis pilularis	Coyotebush	N
Cirsium vulgare	Bull Thistle	I
Silybum marianum	Milk Thistle	I
Xanthium strumarium	Cocklebur	I
BRASSICACEAE		
Brassica nigra	Black Mustard	N
Raphanus sativus	Wild Radish	I
CAPRIFOLIACEAE		
Sambucus mexicana	Elderberry	N
FABACEAE		
Lupinus arboreus	Bush Lupine	N
Melilotus indicus	Yellow Sweet Clover	I
FAGACEAE		
Quercus agrifolia	Coast Live Oak	N
MYRTACEAE		
Eucaplyptus globulus	Blue Gum	I
POACEAE		
Avena fatua	Wild Oats	I

Bromus diandrus	Ripgut Grass	I
Hordeum sp.	Hordeum	I
ROSACEA		
Rubus ursinus	California Blackberry	N
Rubus armeniacus	Himalayan Blackberry	I
SALICACEAE		
Salix laevigata	Red Willow	N
Salix exigua	Sandbar Willow	N
Populus balsamifera	Black Cottonwood	N
SOLANACEAE		
Nicotiana glauca	Tobacco Tree	I