Staff Report to the Agricultural Policy Advisory Commission

Application Number: 211042

Applicant: County of Santa Cruz Department of Public Works (DPW)
Owner: Santa Cruz County Public Improvement Corporation
APN: 052-021-33

Date: 5/20/2021

Agenda Item #: 7

Time: 1:30 p.m.

Project Description: Study Session to discuss a proposal to build a solid waste transfer station at the Buena Vista Landfill to meet State mandates. The project includes re-aligning Harkins Slough Road to the northeast to keep all recycling and solid waste activities on internal facility roads and maintain a public road on the outer perimeter of the facility. The project requires amendment to the General Plan and Local Coastal Program Land Use Plan designation from AG (Agriculture) to P (Public Facility) and Rezoning of a portion of the parcel from CA-AIA (Commercial Agriculture- Airport Combining District) to PF-AIA, removal of Type 3 Agricultural Resource land designation, an Agricultural Buffer Reduction Determination to reduce the required 200-foot agricultural buffer setback to approximately 40 feet, and a Coastal Development Permit.

Purpose of Study Session: DPW is coming to the Commission early in the design process for the transfer station to obtain feedback on the project. DPW would like to know if the items below are acceptable in concept prior to bringing a contract for design and environmental services to the Board of Supervisors. These items would come back to the Commission for a formal determination in the future.

1) Is the Agricultural Viability Study (*Exhibit A*) adequate to support the rezoning and change to land use designation? See *Exhibit B*: General Plan Policies 5.13.20 Conversion of Commercial Agricultural Lands and 5.13.21 Determining Agricultural Viability.

2) Is a reduced agricultural buffer setback acceptable? If yes, what are the likely requirements? See *Exhibit C*: Santa Cruz County Code (SCCC)16.50.095 Agricultural Buffer Setbacks.

Location: The County owned and operated Buena Vista Landfill (1231 Buena Vista Drive); Site Development area is located on the southeast side of the intersection of Buena Vista Drive and Harkins Slough Road, Watsonville, APN 052-021-33.

Permits Required: General Plan Amendment, Local Coastal Program Amendment, Rezoning, Agricultural Buffer Determination, amendment to SCCC 13.10.639 Sanitary landfill as interim use (*Exhibit D*), Coastal Development Permit, Building Permit.

Analysis and Discussion: The Buena Vista Landfill is located between Buena Vista Drive and Harkins Slough Road. It has been County owned and operated since the 1960's. The original parcel was approximately 39 acres and was expanded in the mid-1980's to its current configuration. Neighboring parcels include the County operated Rountree Medium Facility jail and migrant farmworker housing immediately to the south; the US Fish and Wildlife Ellicott Slough National Wildlife Refuge across Harkins Slough Road to the east; privately owned Commercial Agricultural parcel to the north; and to the west across Buena Vista Drive is a privately owned parcel zoned CA-O-AIA (Commercial Agriculture-Open Space Easement-Airport Influence Area) (*Exhibit E*). The most recent aerial survey of the Buena Vista Landfill conducted in the Fall of 2020, indicates eight to ten years of remaining capacity. It is vital to plan for the transition from a landfill to a transfer station to continue to provide a local option for Santa Cruz County residents to haul their solid waste and recycling. An extensive search in the County for an alternative location to locate a new transfer station or landfill was conducted approximately twelve years ago and was met with widespread community opposition. The current site of the Buena Vista Landfill continues to be the most feasible location for a transfer station, as there is adequate available space to construct a viable transfer station without the necessity of purchasing land or disrupting neighborhoods.

DPW has been working with a landfill engineering consultant to develop conceptual plans to size and situate the transfer station in a manner that works best operationally, allows for minimal disruption to existing landfill operations during transfer station construction, and minimizes environmental impacts.

The proposed site of the transfer station is the northeast corner of the parcel that has historically been used for equipment and vehicle storage. The proposed building is approximately 35,000 square feet and 35-feet tall with a partial depth tunnel to allow for transfer truck loading. DPW is currently working to bring a consultant contract to the Board of Supervisors on June 29, 2021 for full plans, specifications, and cost estimates for the transfer station design, as well as environmental review. The Environmental Impact Report will address the zoning and policy changes, as well as the proposed transfer station impacts.

Agricultural Viability: The current General Plan designation for the active landfill parcel (052-021-33) is AG (Agriculture) and P (Public/ Institutional Facilities) and the zoning designation for the parcel is split CA-AIA (Commercial Agriculture- Airport Influence Area) and PF- AIA (Public and Facilities- Airport Influence Area) (*Exhibit E*). SCCC 13.10.369 requires that the landfill site be restored to an agricultural use after the interim use as a sanitary landfill. This language in the code was added in 1985 as a mitigation measure when the landfill expanded onto the eastern portion of the parcel that was zoned CA-AIA. However, based upon information provided in the Agricultural Viability Study (*Exhibit A*), it is no longer deemed feasible to use the closed landfill for agricultural purposes, including grazing.

The Board of Supervisors directed DPW to work with the Planning Department on the General Plan designation and zoning district changes at the November 17, 2020 and February 23, 2021 meetings to align with the current use and accommodate the development of a future transfer

station. The zoning amendment and redesignation of the parcel will require a hearing and recommendation by your Commission, a public hearing with a recommendation by the Planning Commission, and a public hearing and final decision by the Board of Supervisors, as set forth in SCCC 15.50.050 (*Exhibit G*).

DPW, with the assistance of the Planning Department, retained the firm, Rush and Associates to perform an Agricultural Viability Study to determine the viability of agriculture on the parcel as outlined in General Plan policies 5.13.20 and 5.13.21, "Conversion of Commercial Agricultural Lands." The study supports the removal of the Type 3 Agricultural Resource designation (*Exhibit F*) by reviewing compliance with the findings required in SCCC 16.50.050(E) (*Exhibit G*) and with General Plan policies 5.13.20 and 5.13.21 and discusses the infeasibility of returning the landfill parcel to agriculture post closure. A summary of the study's findings are:

1) The parcel was never wholly suitable for commercial agriculture. USDA NRCS Soils Report reveals that prior to use as a landfill, soils on the southern portion of the site were either Class 2e or 3e and would have been considered prime farmland based on the Soil Survey information alone. However, the northern half of the parcel was comprised of various soils including Class 8e (Pits-dumps Complex), Class 4e, Grade 4- poor, Class 6e, Grade 4- poor, and Class 3e, Grade 5- very poor.

2) Post landfill conditions are not suitable for commercial agriculture for many reasons, including the substantial amount of debris waste; the removal and displacement of surface soils as part of the landfill use which exposed subsurface soils unsuited for agriculture; the impracticality of mechanical farming that requires tilling; the anerobic conditions of decomposing matter could create phytotoxic gases and compounds damaging crops; and irrigating crops as required in this region would cause erosion, leaching, and vertical and horizontal movement of toxic substances.

3) The northeast portion of the parcel where the transfer station is proposed is not part of the active landfill but is not suitable for commercial agriculture. The USDA NRCS Soils Report identified three soil types in this area, and none are considered prime farmland or soils of importance to the state. Soil types, along with no agricultural source of water, the limited size, variable topography, and the adjacency to the national wildlife refuge all indicate it is not conducive for agriculture.

4) It is not feasible to use the landfill once closed for grazing due to potential toxicity to grazing animals and the erosion damage potential caused by the grazing. The parcel does not meet traditional assessments of prime rangeland due to lack of open grasslands, the size, topography, vegetation, and adjacency to the national wildlife refuge.

Reduction of 200-foot Agricultural Buffer: The current plan (*Exhibit H*) is conceptual but for the transfer station to function at this site, a significant reduction to the 200-foot Agricultural Buffer to the adjacent parcel to the north (APN 052-011-11) will be required. The adjacent parcel is zoned CA-AIA (Commercial Agriculture- Airport Influence Area) with a Type 3 Agricultural Resource designation. The owners currently only use the greenhouses for production. The closest greenhouse is located approximately 20-25 feet to the north of the property line.

The proposed plan realigns Harkins Slough Road by moving the curve in the road further to the east than the current location. The road will continue to follow the existing offset from the property line for an additional +/-550-feet before curving to the south. The current plan allows for 16-feet of buffer between the property line and Harkins Slough Road and the 24-foot-wide road, totaling 40-feet of buffer between the property line and the transfer station facility.

A larger buffer is likely not feasible, due to the necessity of not impacting the landfill liner or reducing the fill capacity of the landfill, while meeting circulation needs and road design requirements. Providing a vegetative buffer between Harkins Slough Road and the APN 052-011-11 may be possible, but consideration of the existing PG&E power poles that run east-west along the northern property line and topography will need to be considered. There is a 20-foot topographic grade difference creating an upper and lower terrace on both parcels. The proposed road layout includes a retaining wall along the property line to maintain the grade on the adjacent parcel and allowing the transfer station to be sited on the lower elevation (*Exhibit I*).

Future action required by your Commission: The project will return to your Commission at least twice during the environmental review and permitting phases. The first will be during the EIR review process to make a recommendation on the rezoning and removal of Type 3 Agricultural resources. The second will be during the Development Permit stage to consider the formal approval of an Agricultural Buffer reduction.

Staff Recommendation:

1) Conduct a study session to discuss a future proposed project to build a transfer station at the Buena Vista Landfill and associated amendments to the Santa Cruz County General Plan Land and Local Coastal Program and Santa Cruz County Code (SCCC).

2) Provide feedback and recommendations to staff on the proposed amendments, removal of the type 3 agricultural resource designation, agricultural viability study, and agricultural buffer setback.

Exhibits:

A. Agricultural Viability Analysis, prepared by Rush and Associates, dated January 19, 2021
B. General Plan "Conversion of Commercial Agricultural Lands"
C. SCCC 16.50.095 "Agricultural Buffer Setbacks"
D. SCCC 13.10.639 "Sanitary Landfill as Interim Use"
E. Parcel zoning map
F. Parcel Agricultural Resource Designation map
G. SCCC 16.50.050 "Amendment of Designations"
H. Project conceptual plans
I. Photos of Site

Parcel Information

Parcel Size:	68.69 acres
Existing Land Use - Parcel:	CA-AIA; PF-AIA
Existing Land Use - Surrounding:	CA-AIA, CA-O-AIA, PF-AIA,
Project Access:	Buena Vista Drive
Planning Area:	San Andreas (South County)
Land Use Designation:	AG (Agriculture) Special Designation: Type AG-3 Resource Type Land
Zone District:	Area of Transfer Station Development- CA-AIA (Commercial Agriculture-Airport Combining District)
Coastal Zone:	_x_ Inside __ Outside
Appealable to Calif. Coastal Comm.	_x_ Yes __ No

Services Information

Urban/Rural Services Line:	__ Inside _x_ Outside
Water Supply:	Well
Sewage Disposal:	Septic
Fire District:	Santa Cruz County Fire
Drainage District:	Located outside Drainage District

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

Report Prepared By: Nicole Steel
Santa Cruz County Department of Public Works
701 Ocean Street, 4th Floor
Santa Cruz CA 95060
Phone Number: (831) 454-5139
E-mail: Nicole.Steel@santacruzcounty.us

Sheila McDaniel
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz CA 95060
Phone Number: (831) 454-2255
E-mail: sheila.mcdaniel@co.santa-cruz.ca.us

Report Reviewed By: Jocelyn Drake, Principal Planner

Dale W. Rush, Ph.D.
Gary W. Osteen, CPAg
Albert Stoddard, III PhD
Steven L. Morrison, PhD

RUSH and ASSOCIATES

AN ASSOCIATION OF INDEPENDENT AGRICULTURAL CONSULTANTS

23951 Falcon Ridge Road
Salinas, California 93908
Office: (831) 484-4834
Fax: (831) 484-4837

January 19, 2021

File No. 202098.07

Nicole Steel
Project Manager, Capital Projects
County of Santa Cruz • Department of Public Works
701 Ocean Street, Room 410 • Santa Cruz, CA 95060

Re: Review of the agricultural potential of land within APN 052-021-33, currently identified as the Buena Vista Landfill, Watsonville CA.

At the request of Ms. Steel, and in accordance of requirements of the Santa Cruz County administrative codes, an agriculture-based evaluation of the condition, and status of the eastern portion of land within APN 052-021-33 was undertaken. The subject eastern portion area is apparently designated as "Commercial Agriculture (CA)" although the subject parcel is within land owned by the county and used for decades as a regional landfill, aka Buena Vista Landfill, generally located between Buena Vista Drive, and Harkins Slough Road (1231 Buena Vista Drive), west of the city of Watsonville, CA (Exhibit 1). The subject CA zoned parcel is approaching capacity as a landfill, and could not now be used for commercial agriculture regardless of zoning status (see below). This report will review the soils, historic topography, current status, and appropriateness of the subject APN, including the landfill portion zoned CA and remaining northeast corner of the parcel, in general and specifically, for "Commercial Agriculture" use. According to information provided by Department of Public Works personnel, the Buena Vista landfill occupies approximately 69 acres as described above, of which approximately 35 acres within the eastern portion are currently zoned CA (Exhibit 2).

Qualifications

I am an agricultural consultant and have resided in Monterey County since 1994. As a part of my normal work, I evaluate agriculture-related issues including losses or damage to crops, land and/or related property. In addition, I have evaluated properties in the region including Santa Cruz, Monterey and San Benito Counties with respect to agricultural land suitability studies and comparative land uses, where agricultural, commercial, residential and other alternate uses were considered under requests to local planning commissions, departments and review boards, and submitted analyses on behalf of my clients. I also provide expert witness services in hearings and litigation. I have a Bachelor's degree in Environmental Biology, a Master's degree in Soil Science, a Doctorate degree in Soil Science, from the University of California, and more than 40 years of international, national, regional, and local professional, applicable field expertise. I am a nationally and regionally Certified Professional Agronomist, Soil Scientist and Crop Advisor (CPAg/SSc, CCA, ARCPACS #04904), and California licensed pest control advisor, and qualified applicator.

Background

The issue as reported, pertains to the eventual proposed use as a transfer station of a 2.6-acre area that lies within the northeast corner of a larger parcel, of which approximately 35 acres was originally designated as CA. Regardless of designated CA status, the county has used and is using approximately 69 acres that includes the eastern 35-acre portion, as a primary regional landfill. Review of Google Earth imagery back to 1993 revealed there has been no conventional commercial agricultural activities within the designated parcel, nor have there been conventional farming activities on adjacent and contiguous otherwise open, variably undulating woodlands. There have been various agricultural activities within the general vicinity, on variably level land, mostly toward the north and west. Immediately north of the northeast corner of the parcel there are approximately five acres of greenhouses on level land that have been in place since at least 1993, which have reportedly been used probably sporadically, for typical production to include various agricultural and horticultural species.

EXHIBIT A

Limited review of historical use of the subject parcel revealed that while it was not farmed, the northeastern corner was in nearly continuous use as a storage area for equipment, stockpiles of various materials and waste containers (Exhibit 3). While the total area of the northeast corner is approximately 2.6 acres, only a portion could be used for essentially any purpose due to the lay of the land which amounts to two (more or less) leveled areas (0.56 and 1.42 acres) bifurcated in the middle by a 0.61-acre steep slope area, that could not be used for any purpose such as storage or agriculture due to the slope of the land (Exhibit 4). The variable topography of the northeast corner is similar to the "before condition" of at least the eastern portion of the landfill, based upon review of the USDA NRCS Soil survey for the 35-acre CA designated portion of the landfill (see below). Therefore, the now and historically potentially usable area of the remaining open northeast corner is less than two acres in two separated blocks. The potentially historically useable area is further reduced by approximately half an acre occupied by various sizes of coast live oak (Quercus agrifolia) trees (Exhibit 5).

Soils and Farmability (APN northeast corner)
Observations and review of historical imagery revealed there has been no conventional farming, based in part upon the lack of evidence of cultivation, crops, or residues on the subject parcel, or adjacent and contiguous lands. Part of the reason is that much of the subject and surrounding land is/was made up of variably steep, wooded slopes that cannot be used for agricultural purposes. Further, the area does not qualify as prime rangelands due to relative lack of open grasslands that define prime rangeland, as well as parcel size, location, topography, vegetation, and surrounding land uses including riparian estuary habitat. The use as grazing land would be highly restricted or de-facto prohibited due to the immediate border with a designated national wildlife refuge and riparian estuary (Exhibit 6).

However, perhaps the best evidence for the lack of farming history for the northeast corner of the parcel and surrounding lands is revealed within the USDA NRCS Soils Report (Exhibit 7). This report includes land to the east down to the riparian estuary and south parallel to the southern border of the landfill, as well as the northeast corner which is part of the focus of this evaluation.

The report revealed there were three soil series identified within the corner area of the subject APN:
Tierra-Watsonville Complex 15 to 30 percent slopes (174), land capability Class 4e, Grade 4 – poor.
Tierra-Watsonville Complex 30 to 50 percent slopes (175), land capability Class 6e, Grade 4 – poor.
Watsonville loam, 2 to 15 percent slopes (177), land capability Class 3e, Grade 5 – very poor.

None of the soils within the northeast corner area are classified or considered either prime farmland or soils of importance to the state. The combination of variably poor soil qualities, high erosion potential, and a claypan subsurface that limits vertical drainage, and promotes horizonal subsurface drainage toward the riparian estuary, are significant negative issues, and also explain and confirm the non-farmability of the northeast corner of the parcel. There is no agricultural source of water, such as a well or surface conveyance located within the non-landfill portion of the parcel.

Soils and Farmability (eastern 35-acre portion of the landfill)
Review of the USDA NRCS Soils Report for the 35-acre eastern portion of the landfill revealed a mix of native soils and conditions prior to the loading from the landfill to be variable from Class 2e or 3e (irrigated/non irrigated) to Class 8 (pits-dump Complex) (Exhibit 8). Prior to utilization as a landfill, the southern portion (approximately half) was Elkhorn sandy loam 2 to 9 percent slopes (133), land capability either Class 2e or 3e, would have been considered prime farmland of the state based solely upon the Soil Survey information.

The remainder is comprised of various soils to include:
Pits-dumps Complex (164), land capability Class 8e, not otherwise graded regarding land capability
Tierra-Watsonville Complex 15 to 30 percent slopes (174), land capability Class 4e, Grade 4 – poor.
Tierra-Watsonville Complex 30 to 50 percent slopes (175), land capability Class 6e, Grade 4 – poor.
Watsonville loam, 2 to 15 percent slopes (177), land capability Class 3e, Grade 5 – very poor.

There were also very small areas of other low-grade, poor capability soils that are too small for overall consideration as farmable soils. However, the soils report lists the "before" condition, and has essentially no relevance regarding the potential use following loading of very substantial amounts of waste debris.

Regardless of pre-landfill conditions, post-landfill use does not include potential for commercial agriculture for numerous reasons. From a mechanical farming approach, land must be both deep and shallow tilled to be properly prepared for cropping either annual or permanent crops. Such tillage would be prohibited or certainly ill advised. The chemically reduced (anerobic) conditions and decomposing of organic matter create phytotoxic gases and compounds that damage crops and create odor problems. The disturbance and moving to the surface of previously buried refuse by tillage also contaminates surface soils and causes mechanical hazards to crops, equipment, and farm personnel.

Essentially all crops grown within the region require irrigation. Irrigation would cause numerous substantial problems to include erosion, leaching, and vertical and lateral movement of toxic substances, yet leaching is an absolute requirement to manage salt build up and mineral imbalances in the rootzone of essentially any crop. For theses and other reasons, post-landfill use of the subject property for commercial agricultural purposes is not recommended or considered feasible. Seasonal dry land grazing of native vegetation might be feasible, but potential toxicity to grazing animals and erosion-damage potential are serious inhibitions.

Comments
There is no evidence noted that the eastern 35-acre parcel including the northeast corner of the subject property has ever been or might be farmed as either a stand-alone parcel, or as part of the larger landfill APN. There are numerous, very substantial impediments as to whether the remainder of the subject APN could now or in the future be used for commercial agriculture as reported above.

The soils of the northeast corner area in their native state are not farmable due to inherent soil qualities (mostly Class 4 or worse with severe erosion potential) and impeded vertical water penetration potential. At the time of inspection and probably previously, there have been efforts to clear and scrape to provide semi-level areas for equipment and material storage, which removed and displaced surface soils, and exposed even less fertile subsoils, that based upon recent review, are not conducive to the growth of native or seeded grass and broadleaf species (Exhibit 9).

Another significant impediment to essentially any conventional agricultural use is the immediate proximity to both the federal wildlife refuge and the nearby downslope riparian estuary along the eastern border of the subject APN. The contiguous wildlife refuge is problematic for several reasons. First, it is a protected haven for various animals to include rodents (mice, rats, squirrels, gophers, moles, etc.), skunks, racoons, deer, coyotes, etc., all of which damage, destroy or contaminate growing crops, whether out in the open or in growing shelters such as greenhouses. In addition to animals, the refuge is also prime habitat for insects and fungal disease organisms that also damage nearby crops. Although there are very limited (or no allowed) methods to manage invasion, prevention or protection (especially under organic certification), there is an endless potential for intrusion and invasion of various species from the refuge that are known physical and biological hazards to essentially any growing crops.

Alternately, the use of pesticides, either conventional or organically acceptable, is highly regulated and limited near sensitive sites including refuges and riparian areas, where substantial buffer zones are usually required if such materials are allowed at all. Further, essentially all pesticide use includes non-treated buffer zones that would in some instances, severely inhibit adequate pest control over parts of the subject APN to include the whole of the relatively small areas of the upper terrace of the northeast corner.

The proximity to the downslope riparian estuary is also a serious impediment to any agricultural use of the eastern portion of the APN and certainly the upper corner. There are substantial restrictions and prohibitions on the use of pesticides and fertilizers that may migrate to sensitive areas to include both the riparian and refuge areas, which are down slope from the refuse-laden terraces. The claypan subsoils as reported in the USDA NRCS Soils Report would also promote lateral down slope of movement of moisture with contained contaminants and applied pesticides and fertilizers toward both the refuge and estuary.

General Plan Policy 5.13.20 & 5.13.21, and related to 16.50.040 and .050 Types 1-3 Agricultural lands
The Santa Cruz County General Plan addresses the issues of ag land conversions and general agricultural viability. Under 5.13.20, there are three criteria to consider.

(a) Addresses the viability of use for agriculture purposes, and it is opined based on both the above listed disqualifying criteria and substantial professional experience that much of the APN and certainly the corner of the parcel was never viable agricultural land, and existing and planned modifications will further degrade soil conditions for agricultural use.
(b) Addresses any new information that might affect commercial agricultural use, and I refer to the removal and displacement of surface soils to expose subsurface parent material that is not suitable for agricultural use, regardless of non-viability of the native soils after landfill use, and either before or after surface grading.
(c) Addresses the effects of conversion of land regarding conflicts with other commercial agriculture in the area. To the contrary, attempts to use the subject landfill and/or remaining corner of the parcel for agriculture would potentially harm the nearby, adjacent wildlife refuge and estuary, but would have no effect on the adjacent (north) greenhouse property.

Under 5.13.21, there are also three criteria to consider.

(a) Addresses gross revenue from the agricultural products generated prior to conversion of the subject property. Regarding the subject APN parcel, there has been no agricultural production or revenue generation within the past five years, or since owned by the county. The observed and reported use has been refuse accumulation, except within the remaining corner, where storage of refuse containers and raw construction materials such as gravel have occurred, all for internal use by county entities. With respect to revenue generated, the only close entity is the intermittently used greenhouse structures and revenue generated is private and proprietary. There has been no expansion of those facilities since at least 1993, regardless of open land in the immediate vicinity of those structures.
(b) Addresses operational costs and production expenses for previous years for crops grown in the area. Review of aerial imagery revealed that there has been no agricultural production within the immediate area, other than intermittent operation of the greenhouse facilities to the north of the APN. Such operational expenses are proprietary and not disclosed or available. What is notable is that there is substantial open land in the immediate vicinity of the greenhouses that has not been farmed or used to install additional greenhouse structures, suggesting there is no demand for additional growing facilities within the region.
(c) Addresses the geographic area in the vicinity of the subject APN. The land to the east is wooded, steep sloped, brushy wildlands within the national wildlife refuge and riparian estuary, and has no agricultural value. The areas to the west and south are either landfill or building facilities to support other county

agencies and also have no agricultural value. The lands to the north are either occupied by a greenhouse facility, or otherwise idle with no observable history of farming activity. Further north and northwest, there is farmland of mixed use planted to various crops. However, those farmed areas are generally level, larger, open tracks of farmable soils, away from the wildlife refuge and riparian estuary, are not comparable, and cannot be compared agriculturally with the subject APN.

There appears to be substantial overlap of the above code sections regarding the various criteria and issues addressing preservation and use of various agriculture land designations as referenced above within both sections. Regardless of current code sections, the current and future condition and (lack of) commercial agricultural potential uses of the landfill site and perimeter areas has been determined by prior use and proximity.

There is also a question regarding the criteria for prime rangeland. In my professional experience, prime rangeland is mostly oak savanna, consisting of substantial contiguous acreage of relatively open, hilly grasslands with enough annual rainfall to sustain the growth of annual and perennial forage species, occasional pockets of drought-tolerant broadleafs and trees, but not enough moisture to support forests. The criteria also include accessible topography, and (relatively large) parcel size to allow economical use as grazing land. The subject APN does not appear to meet traditional assessments for prime rangeland either in the pre- or post-landfill use conditions, and is not considered prime rangeland.

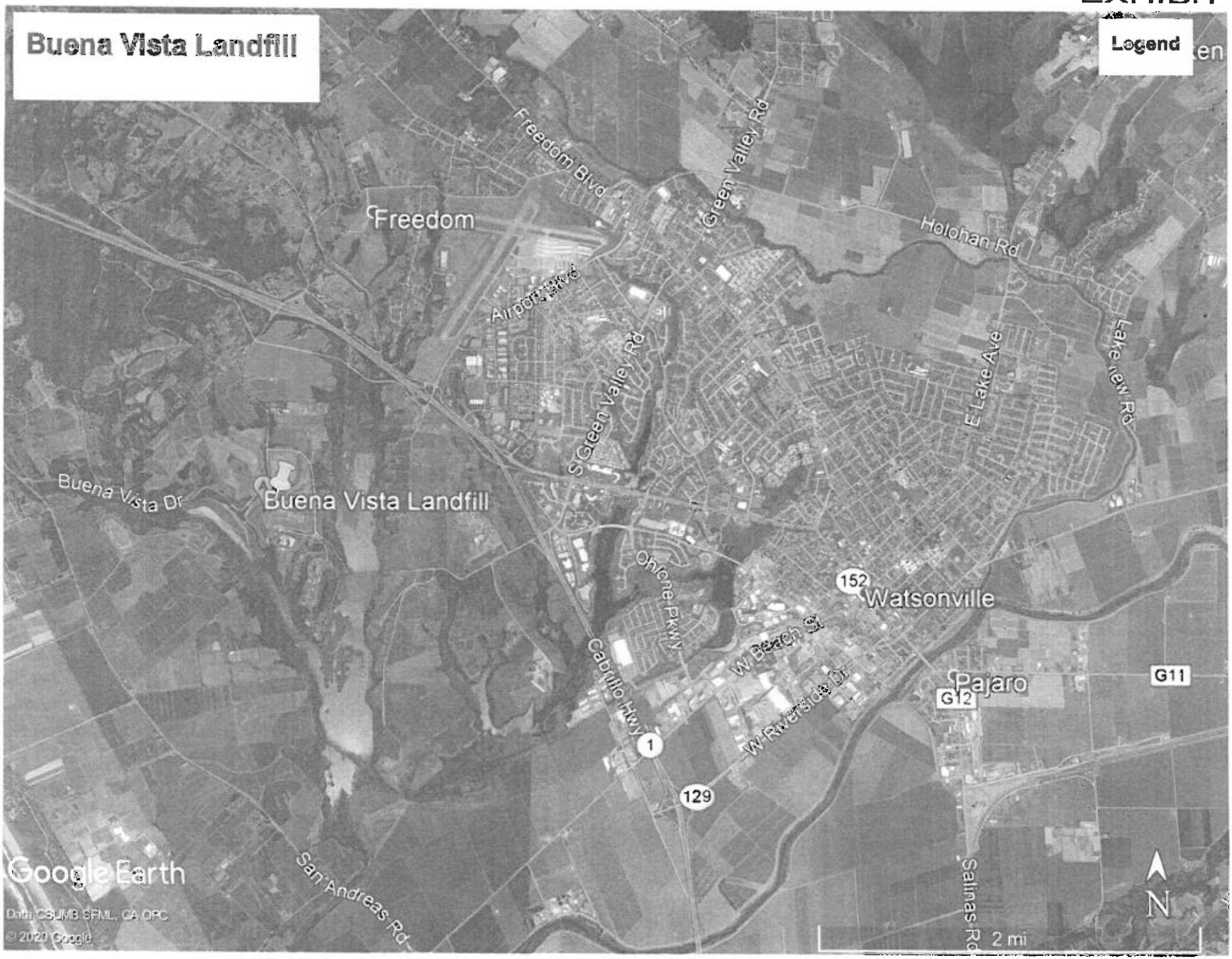
Summary

The subject APN including the corner of the parcel, was never wholly appropriate for use as designated "Commercial Agriculture". The poor and highly variable soil quality, native vegetation, and topography were not and are not suitable for farming, including the remaining small area that could be manipulated to create semi level land, which is only suitable for equipment or properly engineered structures. It is opined that regardless of the historic designation of the subject APN as "Commercial Agriculture", much of the subject land was never suitable for commercial agriculture prior to use as a landfill, and certainly is not now suitable for such use. Inclusion of the northeast corner and along the estuary was initially inappropriate, since those areas were never viable agricultural land.

Dale W Rush

Dale W. Rush, PhD, CPAg/SSc, PCA, CCA, QAL

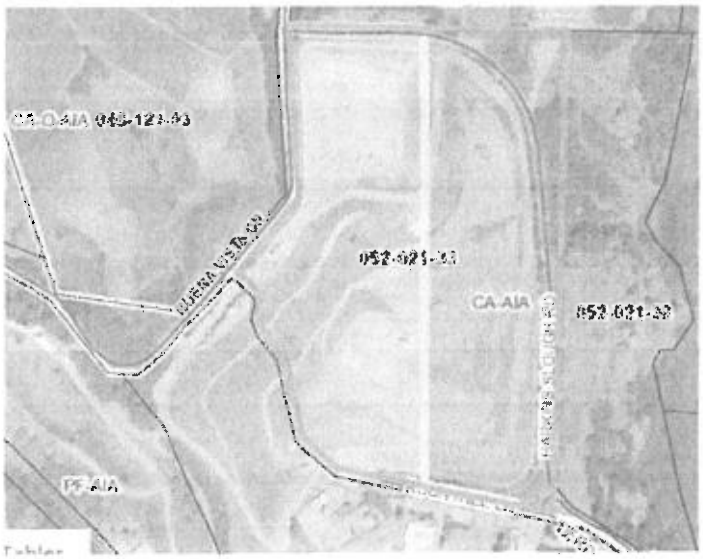
EXHIBIT 1


Buena Vista Landfill
Legend
Freedom Blvd
Green Valley Rd
Freedom
Holohan Rd
Airport Blvd
S Green Valley Rd
E Lake Ave
Lake Ave Rd
Buena Vista Dr
Buena Vista Landfill
Ohlone Pkwy
152
Watsonville
W Beach St
Pajaro
G11
G12
Castroville Hwy
1
W Riverside Dr
129
San Andreas Rd
Salinas Rd
N
2 mi
Google Earth
Data CSUMB SFML, CA OPC
© 2020 Google

Scope for Agricultural Viability Study for the Buena Vista Landfill Site (APN 052-021-33)

Current and proposed use of site

The Buena Vista Landfill (APN 052-021-33), located at the intersection of Harkins Slough Road and Buena Vista Drive in Santa Cruz, has been in operation at this site for several decades. The eastern half of the landfill parcel is zoned Commercial Agriculture (CA).



The landfill is expected to reach capacity in the next 8-10 years. The County is proposing to transition the site to a transfer station, will allow for small commercial haulers and the community within the County to continue bringing recyclable materials and solid waste to a County site. The solid waste would be loaded into transfer trucks and transported to the Monterey Peninsula Landfill in Marina or another location. The area in the north east portion of the parcel, on Commercial Agricultural land, offers the best opportunity to accommodate the size and layout of an efficient transfer station. This portion of the site has been used by landfill for storage of roll off boxes, etc.

The County is proposing to hydroseed the remainder of the parcel after the landfill use ceases, but does not anticipate that it would be feasible to use the remainder of the site for agriculture. The County is considering rezoning the entire site to Public Facility (PF) to support the transfer station use, considering the public health and safety need for a transfer station to accommodate waste disposal needs, and considering the history of the site for use as a transfer station.

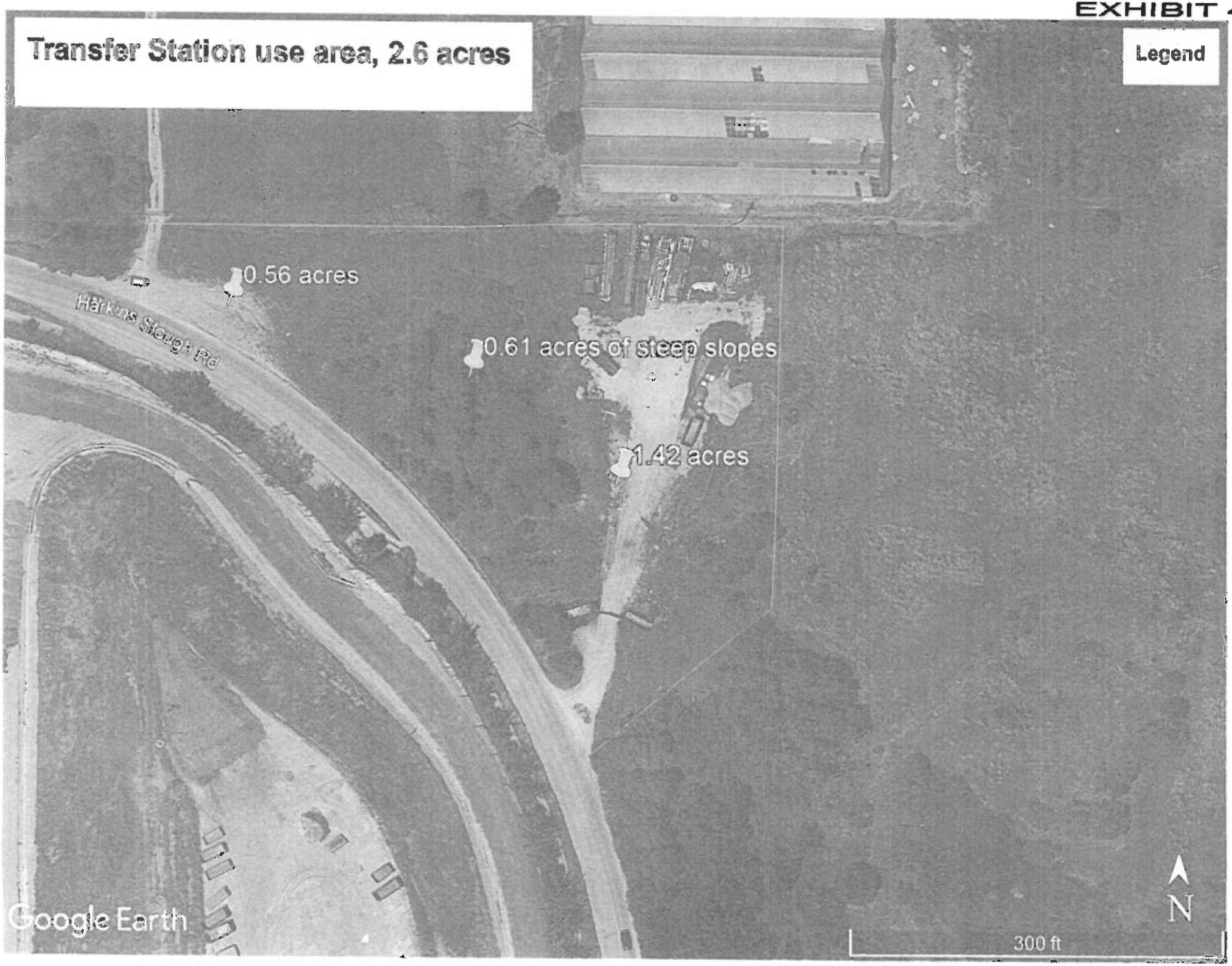
12/1/2020

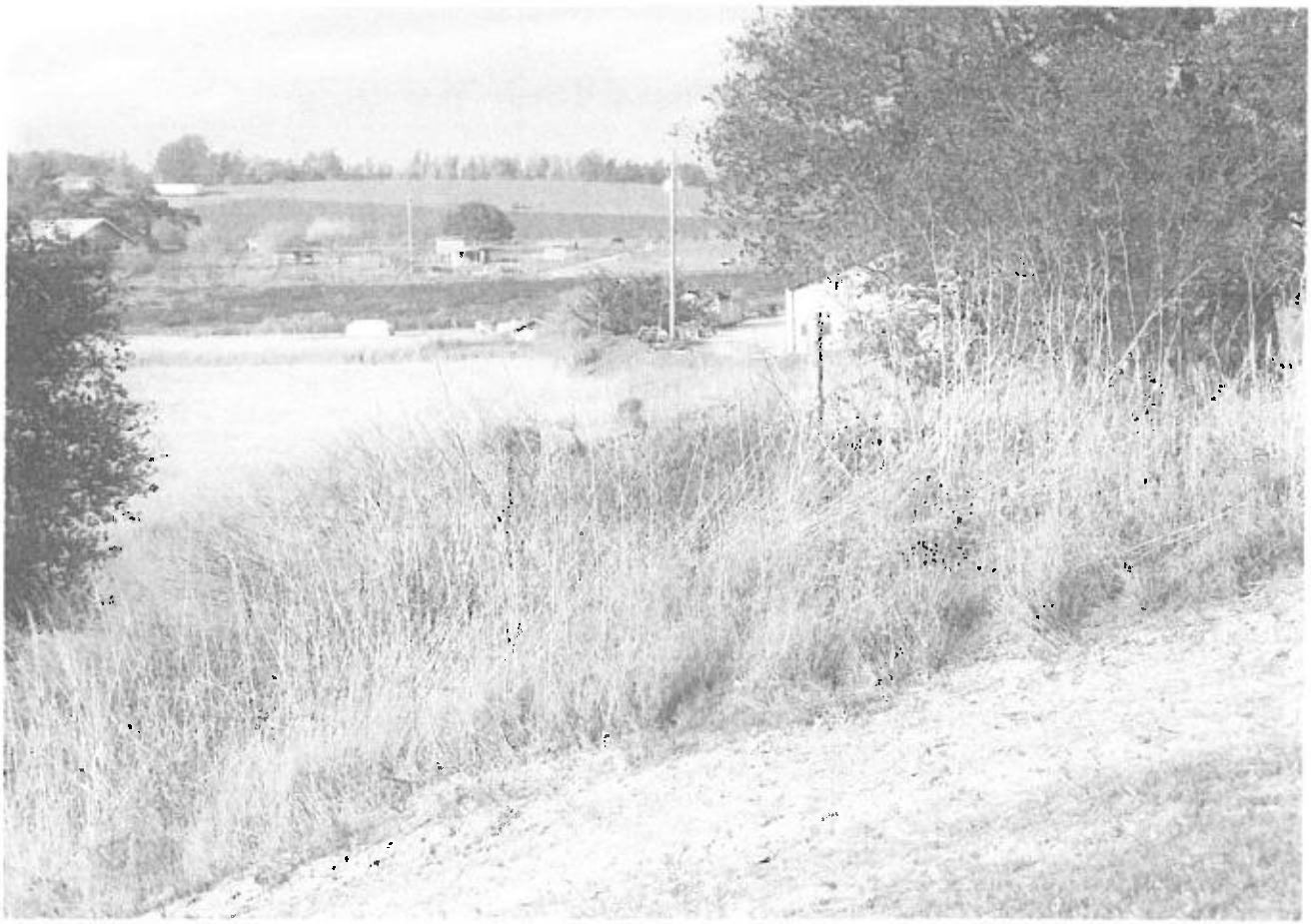
EXHIBIT 3


Buena Vista Landfill, 2018
Legend
Walnut Slough Rd
Google Earth
N
200 ft


Buena Vista Landfill, 2009
Legend
Hellyers Slough Rd
Google Earth
200 ft
N


Buena Vista Landfill, 2003
Legend
Harkins Slough Rd
Google Earth
Image © 2020 Maxar Technologies
N
200 ft


Transfer Station use area, 2.6 acres
Legend
0.56 acres
Harkins Slough Rd
0.61 acres of steep slopes
1.42 acres
Google Earth
N
300 ft



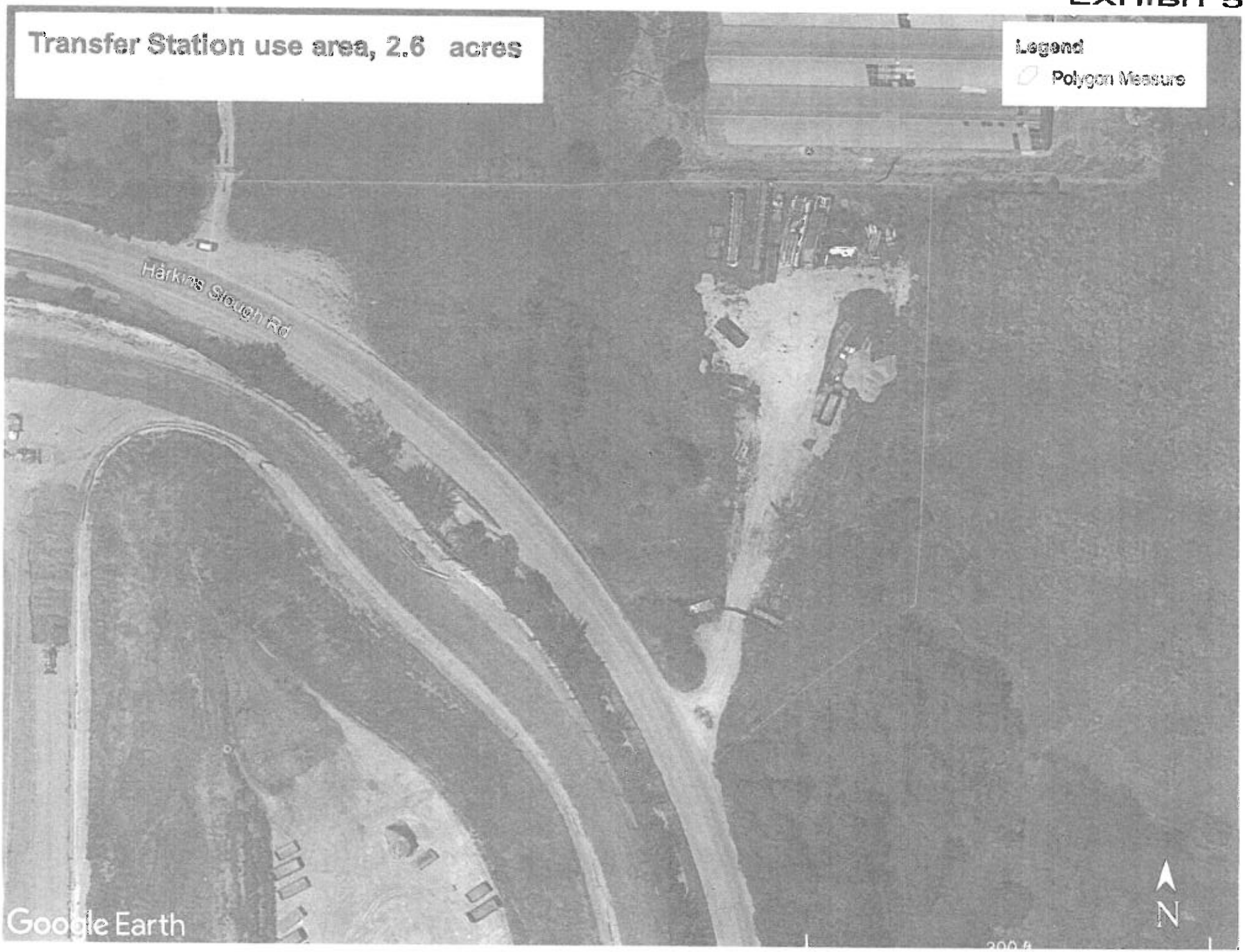
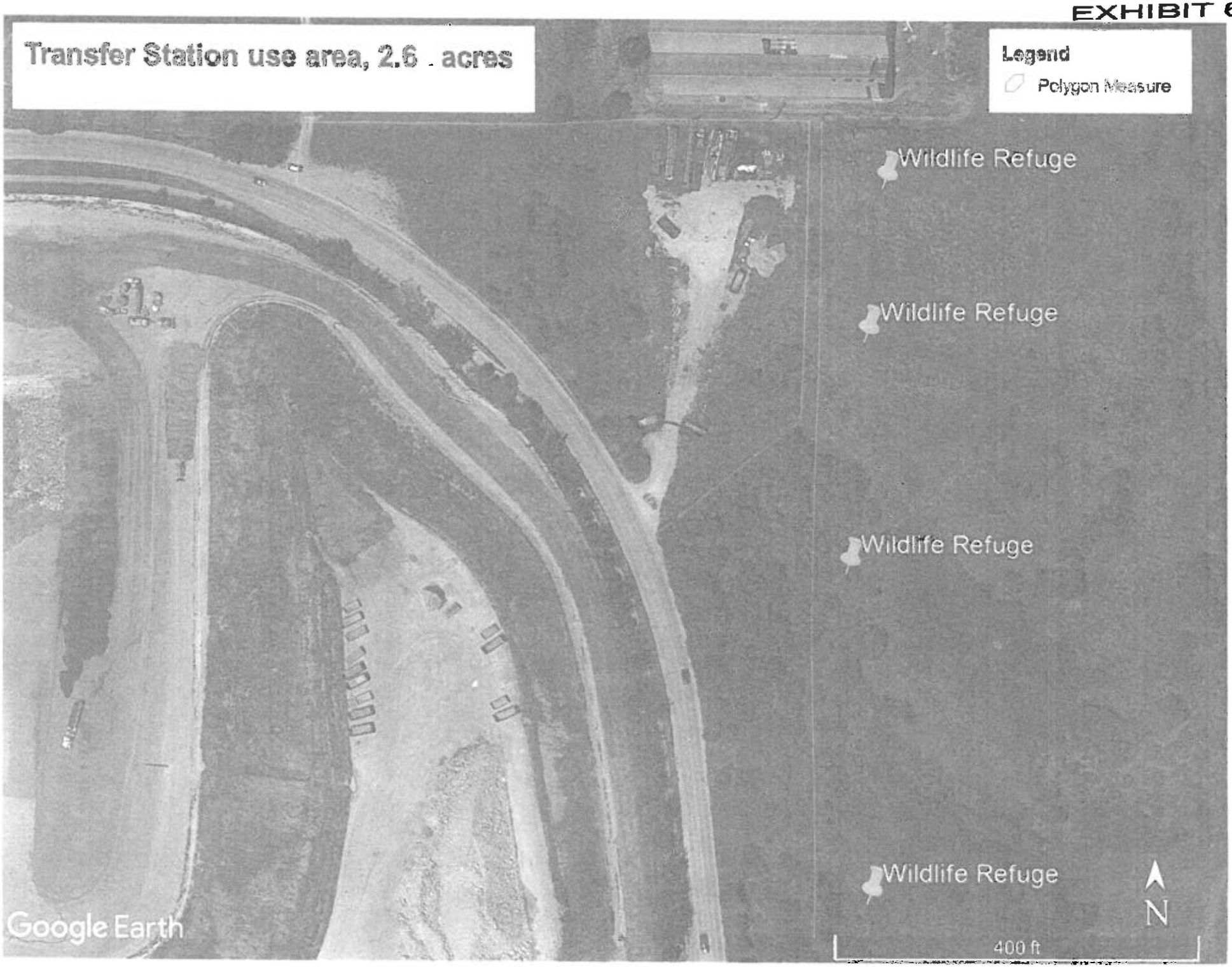
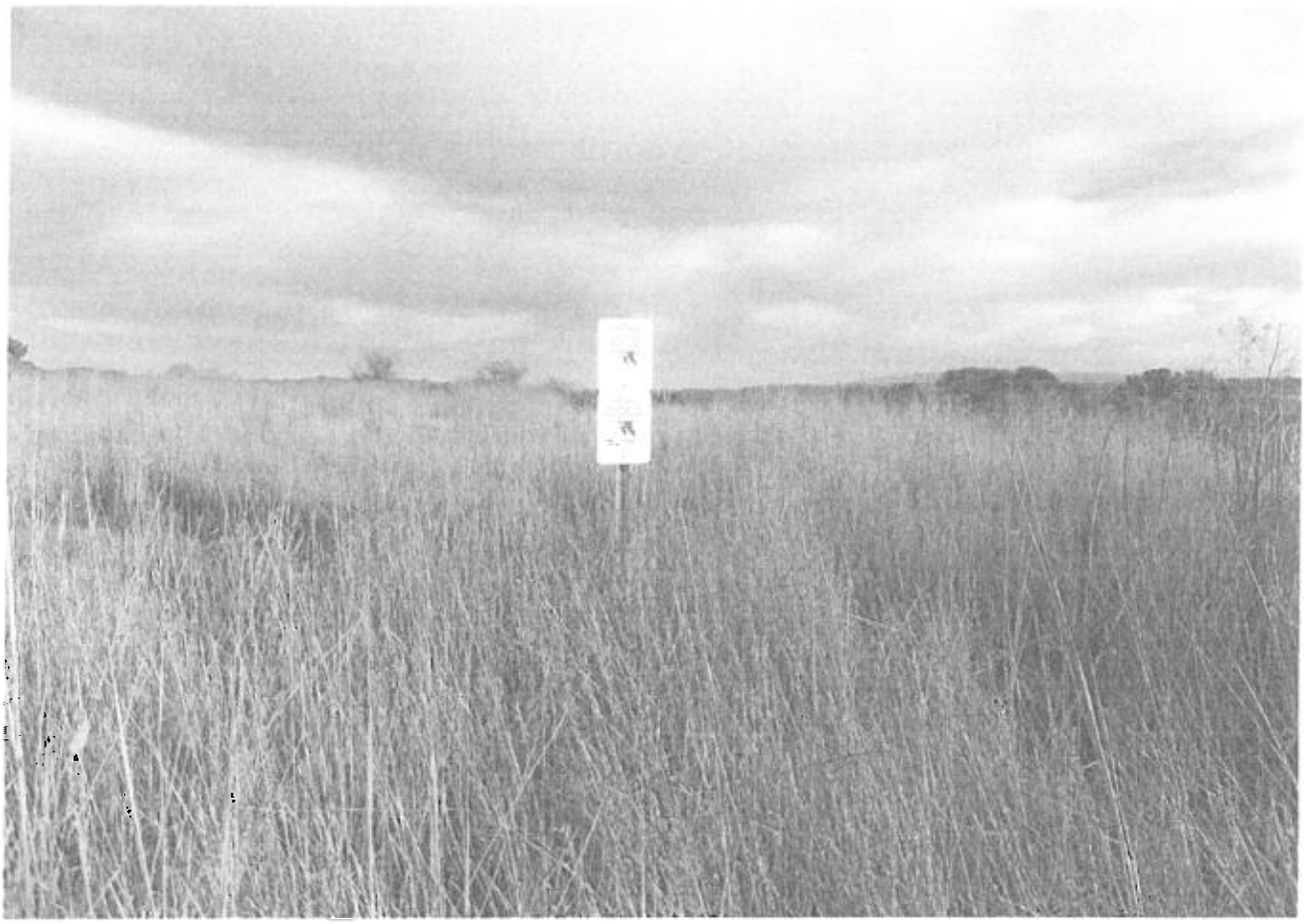
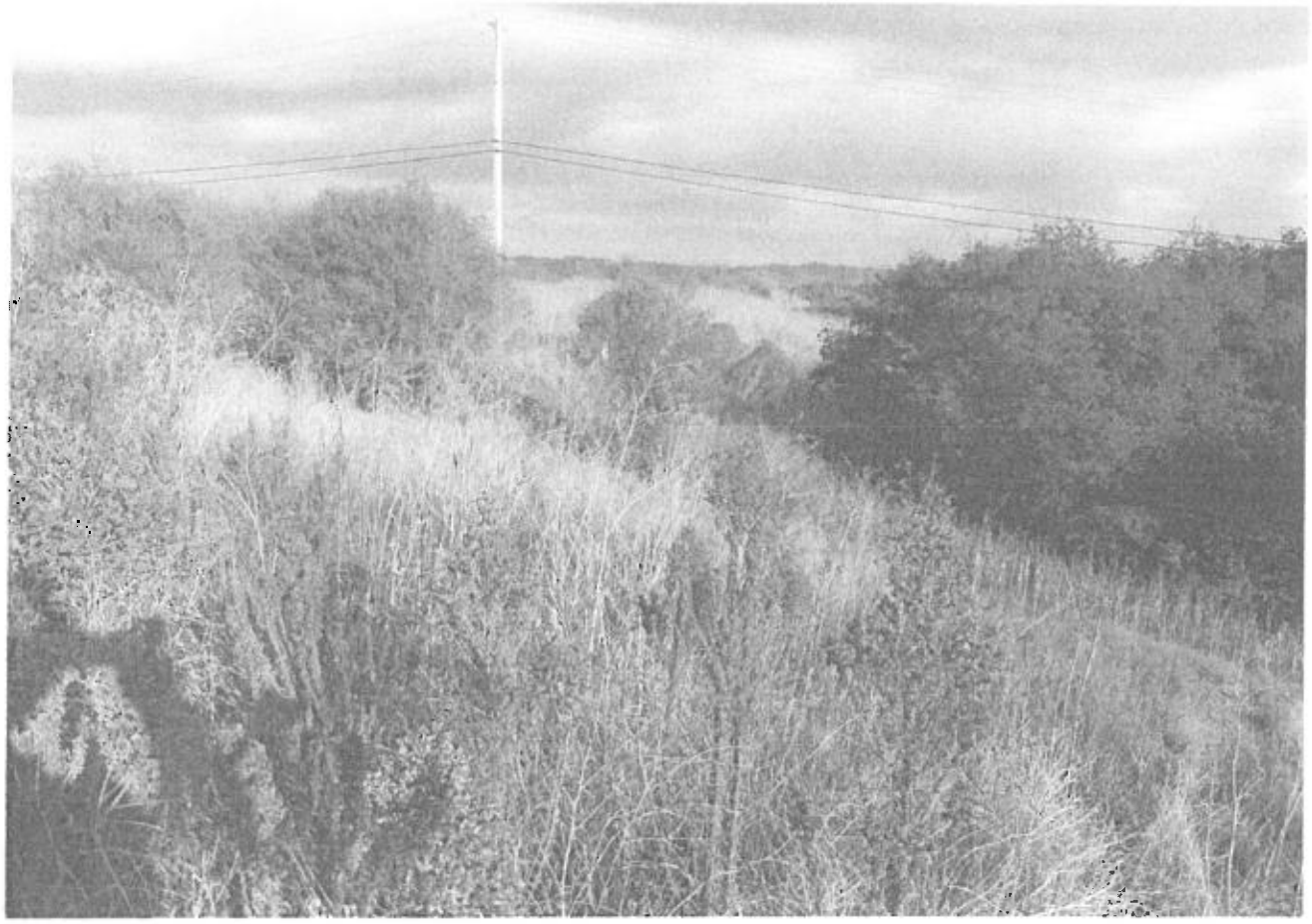

Transfer Station use area, 2.6 acres
Legend
Polygon Measure
Harkins Slough Rd
Google Earth
N

EXHIBIT 6


Transfer Station use area, 2.6 . acres
Legend
Polygon Measure
Wildlife Refuge
Wildlife Refuge
Wildlife Refuge
Wildlife Refuge
Google Earth
N
400 ft


NATIONAL
WILDLIFE
REFUGE
UNAUTHORIZED ENTRY
PROHIBITED
¡PROHIBIDA
LA ENTRADA!
Zona Biologicamente
Delicada
Obtenga Permiso
de Entrada





United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Santa Cruz County, California

January 4, 2021

Preface

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

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

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

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

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

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

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

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

MAP LEGEND

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

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

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

Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

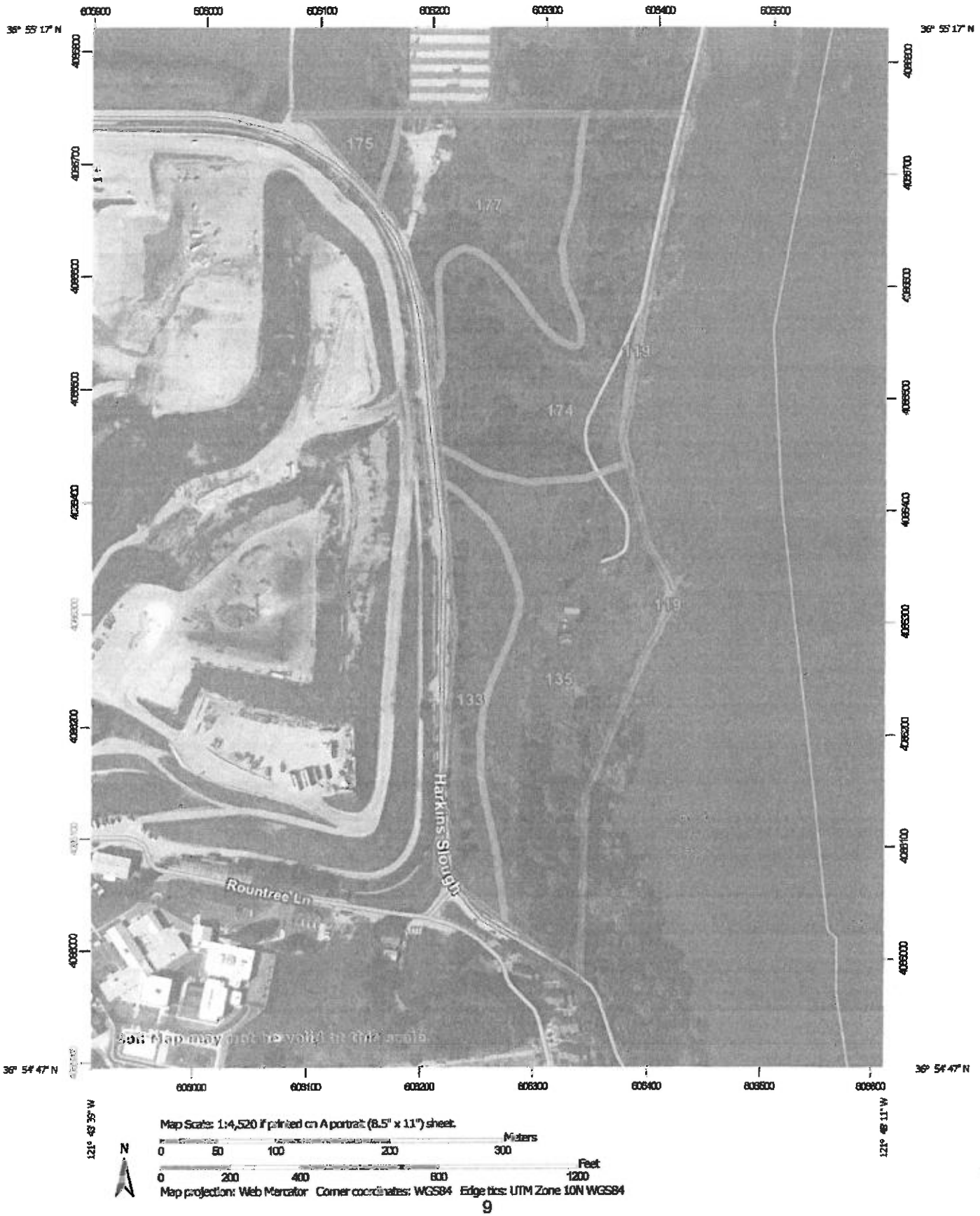
Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Mar 16, 2019—Apr 7, 2019

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

Custom Soil Resource Report
Soil Map (SC County Transfer Station site)



Map Unit Legend (SC County Transfer Station site)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
119	Clear Lake clay, drained, 0 to 1 percent slopes, MLRA 14	0.1	0.4%
133	Elkhorn sandy loam, 2 to 9 percent slopes	3.9	11.8%
135	Elkhorn sandy loam, 15 to 30 percent slopes	11.7	35.5%
174	Tierra-Watsonville complex, 15 to 30 percent slopes	10.1	30.7%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	0.9	2.6%
177	Watsonville loam, 2 to 15 percent slopes	6.2	18.9%
Totals for Area of Interest		32.9	100.0%

Map Unit Descriptions (SC County Transfer Station site)

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a

given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Santa Cruz County, California

119—Clear Lake clay, drained, 0 to 1 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2vbtb
Elevation: 0 to 250 feet
Mean annual precipitation: 19 to 29 inches
Mean annual air temperature: 55 to 58 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

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

Description of Clear Lake, Drained

Setting

Landform: Basin floors
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Basin alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Apg - 0 to 7 inches: clay
Bssg1 - 7 to 21 inches: clay
Bssg2 - 21 to 35 inches: clay
Bssg3 - 35 to 44 inches: clay
Bssg4 - 44 to 62 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.5 to 3.0 mmhos/cm)
Sodium adsorption ratio, maximum: 7.0
Available water capacity: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Conejo, loam

Percent of map unit: 8 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 7 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

133—Elkhorn sandy loam, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: h9dr
Elevation: 50 to 5,000 feet
Mean annual precipitation: 14 to 22 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Elkhorn and similar soils: 85 percent
Minor components: 11 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elkhorn

Setting

Landform: Alluvial fans, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 21 inches: sandy loam
H2 - 21 to 61 inches: sandy clay loam, clay loam
H2 - 21 to 61 inches:

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very high (about 15.8 inches)

Interpretive groups
Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R014XD034CA - FINE LOAMY
Hydric soil rating: No

Minor Components

Elder, sandy loam
Percent of map unit: 5 percent
Hydric soil rating: No

Baywood, loamy sand
Percent of map unit: 2 percent
Hydric soil rating: No

Elkhorn
Percent of map unit: 1 percent
Hydric soil rating: No

Pinto, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Soquel, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Watsonville
Percent of map unit: 1 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

135—Elkhorn sandy loam, 15 to 30 percent slopes

Map Unit Setting
National map unit symbol: h9dt
Elevation: 50 to 5,000 feet
Mean annual precipitation: 14 to 22 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Elkhorn and similar soils: 85 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elkhorn

Setting

Landform: Alluvial fans, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 21 inches: sandy loam
H2 - 21 to 61 inches: sandy clay loam, clay loam
H2 - 21 to 61 inches:

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very high (about 15.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Baywood, loamy sand

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

Tierra, sandy loam

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

Pfeiffer, sandy loam

Percent of map unit: 2 percent
Hydric soil rating: No

Watsonville

Percent of map unit: 1 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread

Hydric soil rating: Yes

174—Tierra-Watsonville complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: h9g2
Elevation: 20 to 1,200 feet
Mean annual precipitation: 14 to 28 inches
Mean annual air temperature: 57 to 59 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Tierra and similar soils: 55 percent
Watsonville and similar soils: 30 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tierra

Setting

Landform: Marine terraces, fan terraces
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 14 inches: sandy loam
H2 - 14 to 66 inches: clay, clay loam, sandy clay
H2 - 14 to 66 inches:
H2 - 14 to 66 inches:

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XD115CA - CLAYPAN
Hydric soil rating: No

Description of Watsonville

Setting

Landform: Marine terraces, fan terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R014XD089CA - CLAYPAN
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam

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

Pfeiffer, gravelly sandy loam

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

Los osos, loam

Percent of map unit: 2 percent
Hydric soil rating: No

Tierra

Percent of map unit: 1 percent
Hydric soil rating: No

175—Tierra-Watsonville complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: h9g3
Elevation: 20 to 1,200 feet
Mean annual precipitation: 14 to 28 inches
Mean annual air temperature: 57 to 59 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Tierra and similar soils: 50 percent
Watsonville and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tierra

Setting

Landform: Fan terraces, marine terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 14 inches: sandy loam
H2 - 14 to 66 inches: clay, clay loam, sandy clay
H2 - 14 to 66 inches:
H2 - 14 to 66 inches:

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XD115CA - CLAYPAN
Hydric soil rating: No

Description of Watsonville

Setting

Landform: Fan terraces, marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R014XD089CA - CLAYPAN
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam

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

Los osos, loam

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

Diablo, clay

Percent of map unit: 2 percent
Hydric soil rating: No

Baywood

Percent of map unit: 2 percent
Hydric soil rating: No

Pfeiffer, gravelly sandy loam

Percent of map unit: 1 percent
Hydric soil rating: No

Tierra

Percent of map unit: 1 percent
Hydric soil rating: No

177—Watsonville loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: h9g5
Elevation: 20 to 1,200 feet
Mean annual precipitation: 28 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Watsonville

Setting

Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R014XD089CA - CLAYPAN
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam

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

Pinto, loam

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

Watsonville, thick surface

Percent of map unit: 3 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

Danville

Percent of map unit: 1 percent
Hydric soil rating: No

Elder

Percent of map unit: 1 percent
Hydric soil rating: No

Cropley, silty clay

Percent of map unit: 1 percent
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

California Revised Storie Index (CA) (SC County Transfer Station site)

The Revised Storie Index is a rating system based on soil properties that govern the potential for soil map unit components to be used for irrigated agriculture in California.

The Revised Storie Index assesses the productivity of a soil from the following four characteristics:

- Factor A: degree of soil profile development

- Factor B: texture of the surface layer

- Factor C: steepness of slope

- Factor X: drainage class, landform, erosion class, flooding and ponding frequency and duration, soil pH, soluble salt content as measured by electrical conductivity, and sodium adsorption ratio

Revised Storie Index numerical ratings have been combined into six classes as follows:

- Grade 1: Excellent (81 to 100)

- Grade 2: Good (61 to 80)

- Grade 3: Fair (41 to 60)

- Grade 4: Poor (21 to 40)

- Grade 5: Very poor (11 to 20)

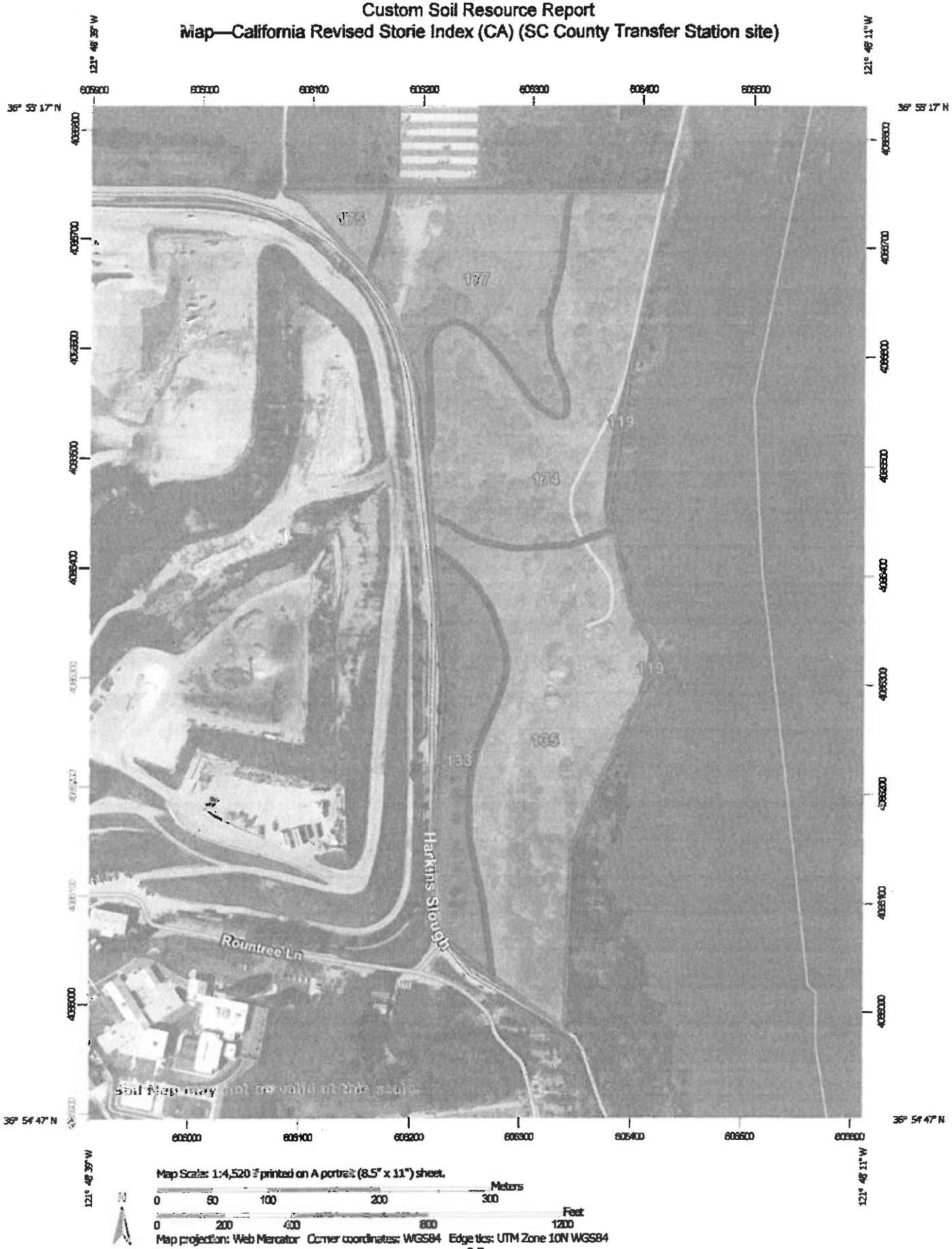
- Grade 6: Nonagricultural (10 or less)

The components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as the one shown for the map unit. The percent composition of each component in a particular map unit is given to help the user better understand the extent to which the rating applies to the map unit.

Other components with different ratings may occur in each map unit. The ratings for all components, regardless the aggregated rating of the map unit, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report

Map—California Revised Storie Index (CA) (SC County Transfer Station site)



MAP LEGEND

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

Soils

Soil Rating Polygons
- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Soil Rating Lines
- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Soil Rating Points
- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Mar 16, 2019—Apr 7, 2019

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

Table—California Revised Storie Index (CA) (SC County Transfer Station site)

Map unit symbol	Map unit name	Rating	Component name (percent)	Acres in AOI	Percent of AOI
119	Clear Lake clay, drained, 0 to 1 percent slopes, MLRA 14	Grade 4 - Poor	Clear Lake, drained (85%)	0.1	0.4%
133	Elkhorn sandy loam, 2 to 9 percent slopes	Grade 1 - Excellent	Elkhorn (85%)	3.9	11.8%
135	Elkhorn sandy loam, 15 to 30 percent slopes	Grade 2 - Good	Elkhorn (85%)	11.7	35.5%
174	Tierra-Watsonville complex, 15 to 30 percent slopes	Grade 4 - Poor	Tierra (55%)	10.1	30.7%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	Grade 4 - Poor	Tierra (50%)	0.9	2.6%
177	Watsonville loam, 2 to 15 percent slopes	Grade 5 - Very Poor	Watsonville (85%)	6.2	18.9%
Totals for Area of Interest				32.9	100.0%

Rating Options—California Revised Storie Index (CA) (SC County Transfer Station site)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Nonirrigated Capability Subclass (SC County Transfer Station site)

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

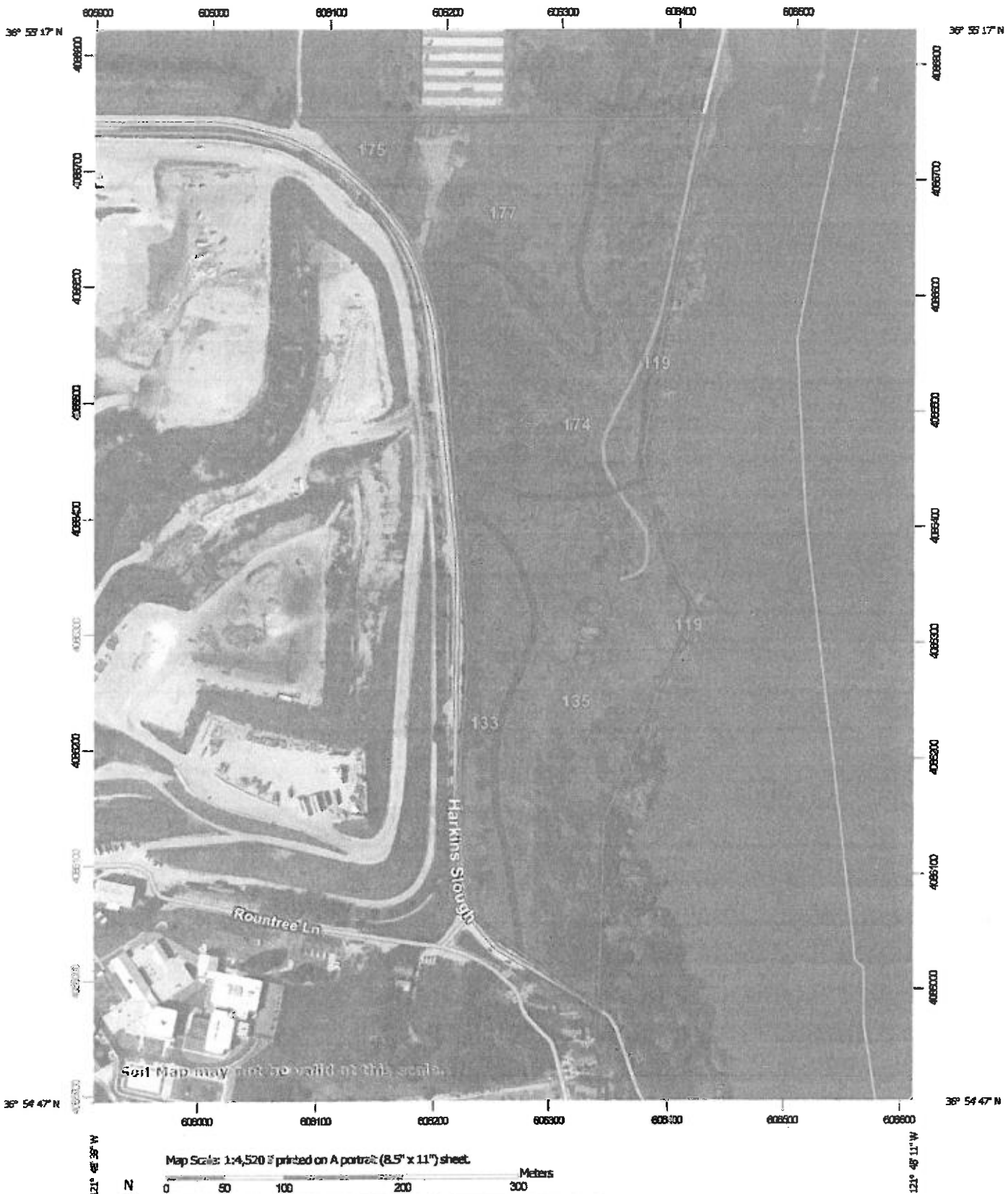
In the capability system, soils are generally grouped at three levels-capability class, subclass, and unit. Only class and subclass are included in this data set.

Capability subclasses are soil groups within one capability class. They are designated by adding a small letter, "e," "w," "s," or "c," to the class numeral, for example, 2e. The letter "e" shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; "w" shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); "s" shows that the soil is limited mainly because it is shallow, droughty, or stony; and "c," used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by "w," "s," or "c" because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, or wildlife habitat.

Custom Soil Resource Report

Map—Nonirrigated Capability Subclass (SC County Transfer Station site)



MAP LEGEND

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

Soils

Soil Rating Polygons
- Erosion
- Soil limitation within the rooting zone
- Excess water
- Climate condition
- Not rated or not available

Soil Rating Lines
- Erosion
- Soil limitation within the rooting zone
- Excess water
- Climate condition
- Not rated or not available

Soil Rating Points
- Erosion
- Soil limitation within the rooting zone
- Excess water
- Climate condition
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Mar 16, 2019—Apr 7, 2019

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

Table—Nonirrigated Capability Subclass (SC County Transfer Station site)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
119	Clear Lake clay, drained, 0 to 1 percent slopes, MLRA 14	w	0.1	0.4%
133	Elkhorn sandy loam, 2 to 9 percent slopes	e	3.9	11.8%
135	Elkhorn sandy loam, 15 to 30 percent slopes	e	11.7	35.5%
174	Tierra-Watsonville complex, 15 to 30 percent slopes	e	10.1	30.7%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	e	0.9	2.6%
177	Watsonville loam, 2 to 15 percent slopes	e	6.2	18.9%
Totals for Area of Interest			32.9	100.0%

Rating Options—Nonirrigated Capability Subclass (SC County Transfer Station site)

Aggregation Method: Dominant Condition

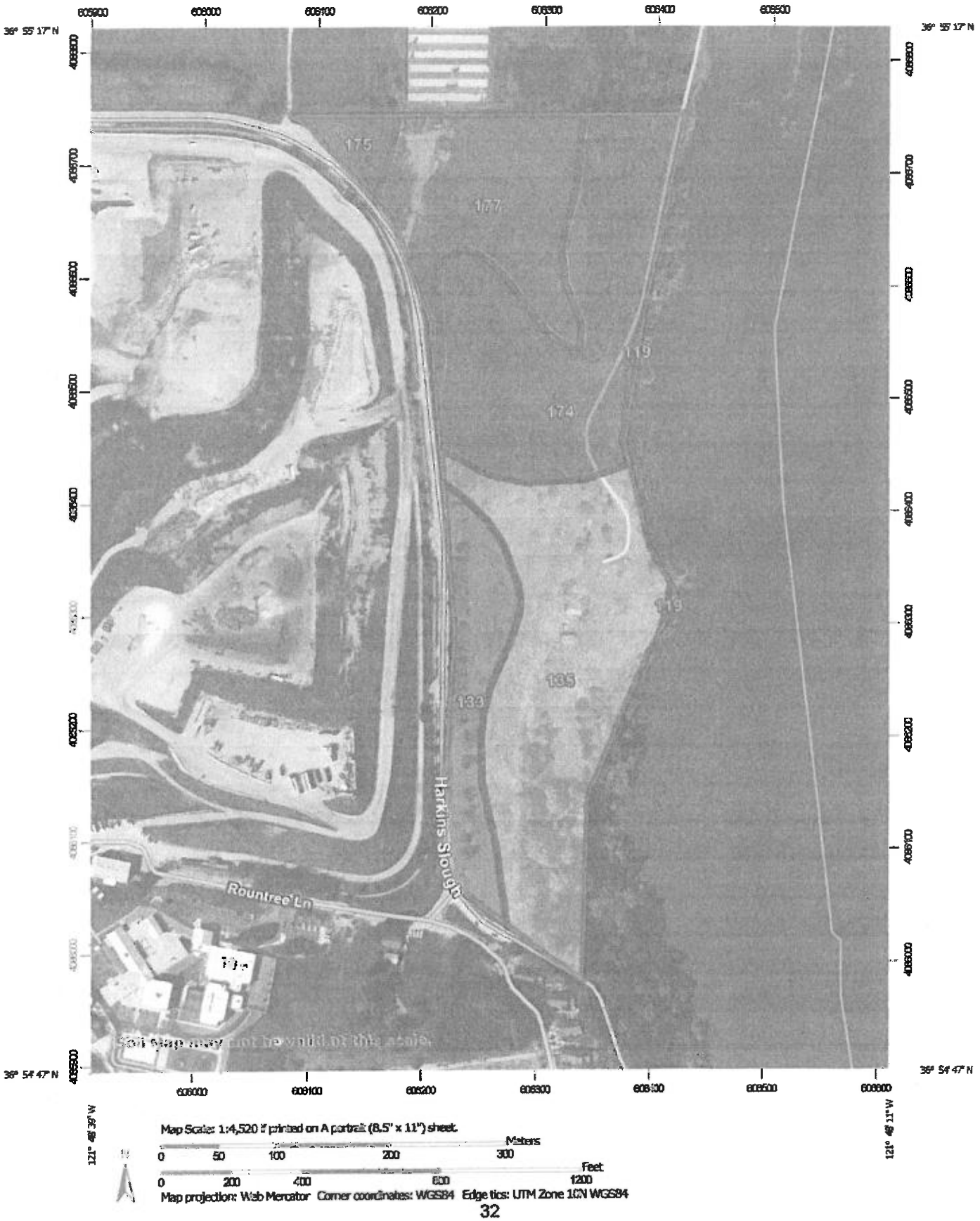
Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Ecological Classification Name: NRCS Rangeland Site (SC County Transfer Station site)

Ecological classifications consist of a series of vegetative classification systems developed by various partners in the National Cooperative Soil Survey. The classifications include, but are not limited to, systematic vegetative groupings. Examples include NRCS ecological sites, United States Forest Service plant associations, and forage suitability groups. The classifications systems are identified by the Ecological Classification Type Name field, which is in the Component Ecological Classification table.

Map—Ecological Classification Name: NRCS Rangeland Site (SC County Transfer Station ...



MAP LEGEND

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

Soils

Soil Rating Polygons
- CLAYPAN
- FINE LOAMY
- Not rated or not available

Soil Rating Lines
- CLAYPAN
- FINE LOAMY
- Not rated or not available

Soil Rating Points
- CLAYPAN
- FINE LOAMY
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Mar 16, 2019—Apr 7, 2019

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

Table—Ecological Classification Name: NRCS Rangeland Site (SC County Transfer Station site)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
119	Clear Lake clay, drained, 0 to 1 percent slopes, MLRA 14		0.1	0.4%
133	Elkhorn sandy loam, 2 to 9 percent slopes	FINE LOAMY	3.9	11.8%
135	Elkhorn sandy loam, 15 to 30 percent slopes		11.7	35.5%
174	Tierra-Watsonville complex, 15 to 30 percent slopes	CLAYPAN	10.1	30.7%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	CLAYPAN	0.9	2.6%
177	Watsonville loam, 2 to 15 percent slopes	CLAYPAN	6.2	18.9%
Totals for Area of Interest			32.9	100.0%

Rating Options—Ecological Classification Name: NRCS Rangeland Site (SC County Transfer Station site)

Class: NRCS Rangeland Site

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

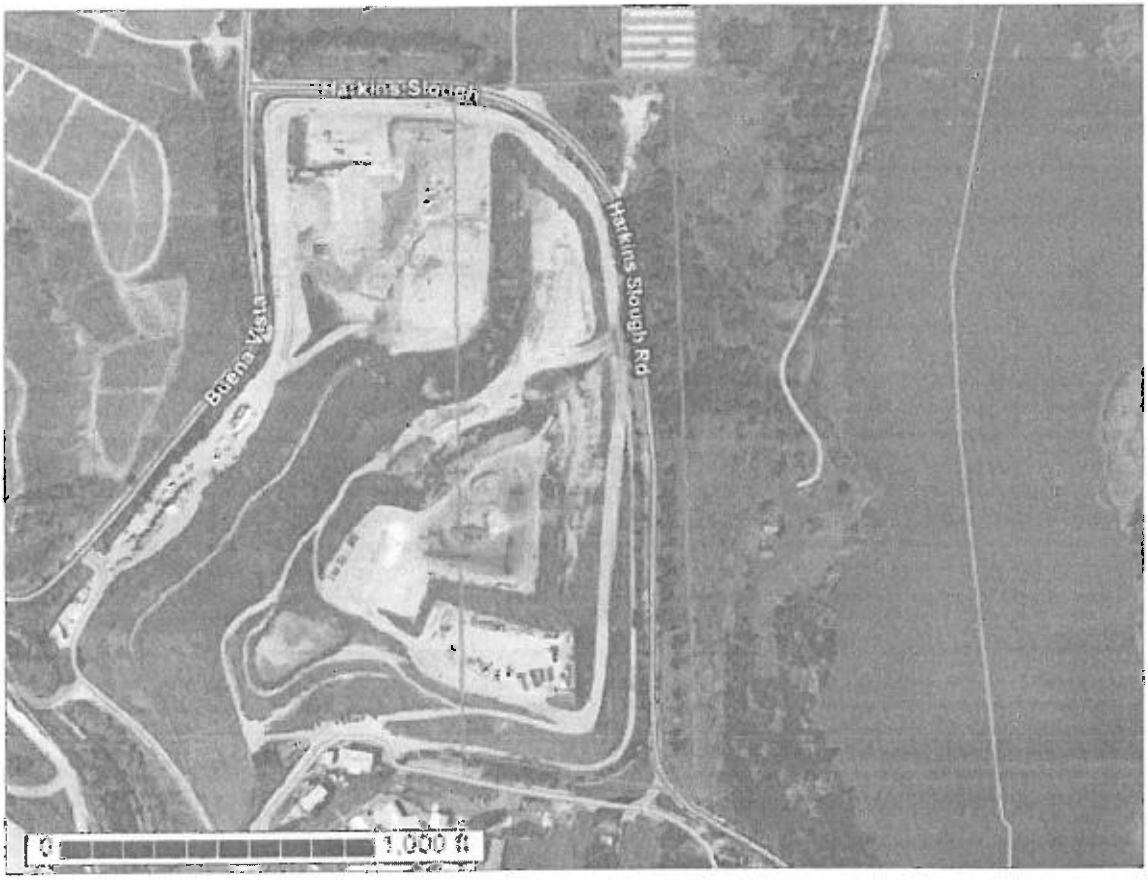
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Santa Cruz County, California



January 14, 2021

Contents

Soil Map

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

MAP LEGEND

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

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

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

Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

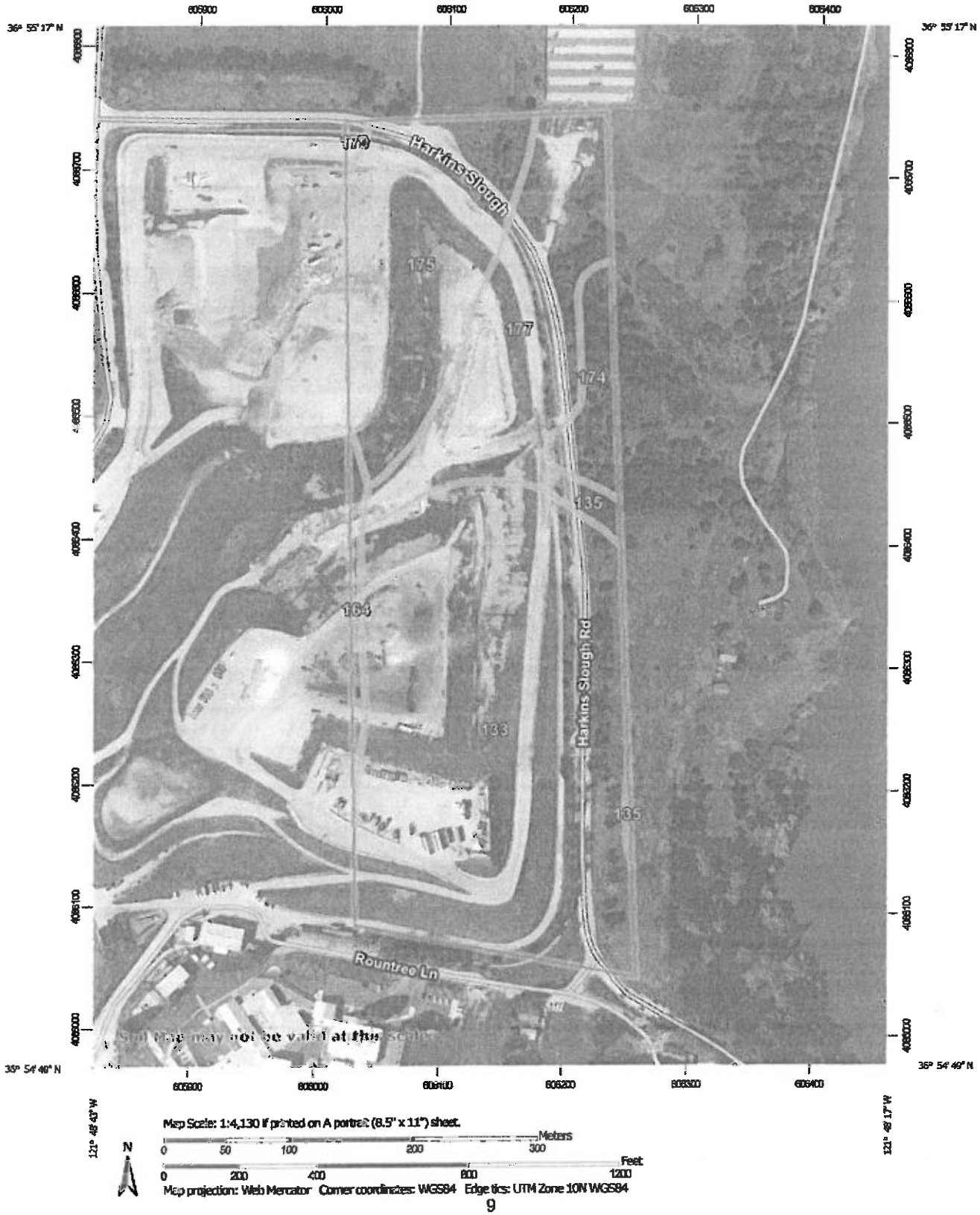
Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Apr 13, 2020—Jun 3, 2020

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

Custom Soil Resource Report
Soil Map (Buena Vista Landfill)



9

given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Santa Cruz County, California

133—Elkhorn sandy loam, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: h9dr
Elevation: 50 to 5,000 feet
Mean annual precipitation: 14 to 22 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Elkhorn and similar soils: 85 percent
Minor components: 11 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elkhorn

Setting

Landform: Alluvial fans, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 21 inches: sandy loam
H2 - 21 to 61 inches: sandy clay loam, clay loam
H2 - 21 to 61 inches:

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very high (about 15.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R014XD034CA - FINE LOAMY
Hydric soil rating: No

Minor Components

Elder, sandy loam

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

Baywood, loamy sand
Percent of map unit: 2 percent
Hydric soil rating: No

Elkhorn
Percent of map unit: 1 percent
Hydric soil rating: No

Pinto, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Soquel, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Watsonville
Percent of map unit: 1 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

135--Elkhorn sandy loam, 15 to 30 percent slopes

Map Unit Setting
National map unit symbol: h9dt
Elevation: 50 to 5,000 feet
Mean annual precipitation: 14 to 22 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition
Elkhorn and similar soils: 85 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elkhorn

Setting
Landform: Alluvial fans, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile
H1 - 0 to 21 inches: sandy loam
H2 - 21 to 61 inches: sandy clay loam, clay loam

H2 - 21 to 61 inches:

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very high (about 15.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Baywood, loamy sand

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

Tierra, sandy loam

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

Pfeiffer, sandy loam

Percent of map unit: 2 percent
Hydric soil rating: No

Watsonville

Percent of map unit: 1 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

164—Pits-Dumps complex

Map Unit Setting

National map unit symbol: h9fr
Frost-free period: 245 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Pits: 50 percent
Dumps: 45 percent
Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e
Hydric soil rating: No

Description of Dumps

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e
Hydric soil rating: No

Minor Components

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

174—Tierra-Watsonville complex, 15 to 30 percent slopes

Map Unit Setting
National map unit symbol: h9g2
Elevation: 20 to 1,200 feet
Mean annual precipitation: 14 to 28 inches
Mean annual air temperature: 57 to 59 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition
Tierra and similar soils: 55 percent
Watsonville and similar soils: 30 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tierra

Setting
Landform: Marine terraces, fan terraces
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile
H1 - 0 to 14 inches: sandy loam

H2 - 14 to 66 inches: clay, clay loam, sandy clay
H2 - 14 to 66 inches:
H2 - 14 to 66 inches:

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XD115CA - CLAYPAN
Hydric soil rating: No

Description of Watsonville

Setting

Landform: Marine terraces, fan terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R014XD089CA - CLAYPAN
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam
Percent of map unit: 5 percent
Hydric soil rating: No

Pfeiffer, gravelly sandy loam
Percent of map unit: 4 percent
Hydric soil rating: No

Los osos, loam
Percent of map unit: 2 percent
Hydric soil rating: No

Tierra
Percent of map unit: 1 percent
Hydric soil rating: No

175—Tierra-Watsonville complex, 30 to 50 percent slopes

Map Unit Setting
National map unit symbol: h9g3
Elevation: 20 to 1,200 feet
Mean annual precipitation: 14 to 28 inches
Mean annual air temperature: 57 to 59 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition
Tierra and similar soils: 50 percent
Watsonville and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tierra

Setting
Landform: Fan terraces, marine terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile
H1 - 0 to 14 inches: sandy loam
H2 - 14 to 66 inches: clay, clay loam, sandy clay
H2 - 14 to 66 inches:
H2 - 14 to 66 inches:

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XD115CA - CLAYPAN
Hydric soil rating: No

Description of Watsonville

Setting

Landform: Fan terraces, marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R014XD089CA - CLAYPAN
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam
Percent of map unit: 5 percent
Hydric soil rating: No

Los osos, loam
Percent of map unit: 4 percent
Hydric soil rating: No

Diablo, clay
Percent of map unit: 2 percent
Hydric soil rating: No

Baywood
Percent of map unit: 2 percent
Hydric soil rating: No

Pfeiffer, gravelly sandy loam
Percent of map unit: 1 percent
Hydric soil rating: No

Tierra
Percent of map unit: 1 percent
Hydric soil rating: No

177—Watsonville loam, 2 to 15 percent slopes

Map Unit Setting
National map unit symbol: h9g5
Elevation: 20 to 1,200 feet
Mean annual precipitation: 28 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Farmland of statewide importance

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

Description of Watsonville

Setting
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R014XD089CA - CLAYPAN
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam

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

Pinto, loam

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

Watsonville, thick surface

Percent of map unit: 3 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

Danville

Percent of map unit: 1 percent
Hydric soil rating: No

Elder

Percent of map unit: 1 percent
Hydric soil rating: No

Cropley, silty clay

Percent of map unit: 1 percent
Hydric soil rating: No

179—Watsonville loam, thick surface, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: h9g7
Elevation: 20 to 1,200 feet
Mean annual precipitation: 28 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Watsonville and similar soils: 85 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Watsonville

Setting

Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay, clay loam
H2 - 18 to 39 inches: sandy clay loam, clay loam
H3 - 39 to 63 inches:
H3 - 39 to 63 inches:

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Danville, loam
Percent of map unit: 5 percent
Hydric soil rating: No

Elder, sandy loam
Percent of map unit: 4 percent
Hydric soil rating: No

Elkhorn, sandy loam
Percent of map unit: 2 percent
Hydric soil rating: No

Pinto, loam
Percent of map unit: 2 percent
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification (Buena Vista Landfill)

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Map Unit Legend (Buena Vista Landfill)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
133	Elkhorn sandy loam, 2 to 9 percent slopes	19.7	53.4%
135	Elkhorn sandy loam, 15 to 30 percent slopes	0.4	1.2%
164	Pits-Dumps complex	0.6	1.7%
174	Tierra-Watsonville complex, 15 to 30 percent slopes	1.5	4.1%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	7.4	19.9%
177	Watsonville loam, 2 to 15 percent slopes	7.2	19.4%
179	Watsonville loam, thick surface, 2 to 15 percent slopes	0.1	0.4%
Totals for Area of Interest		37.0	100.0%

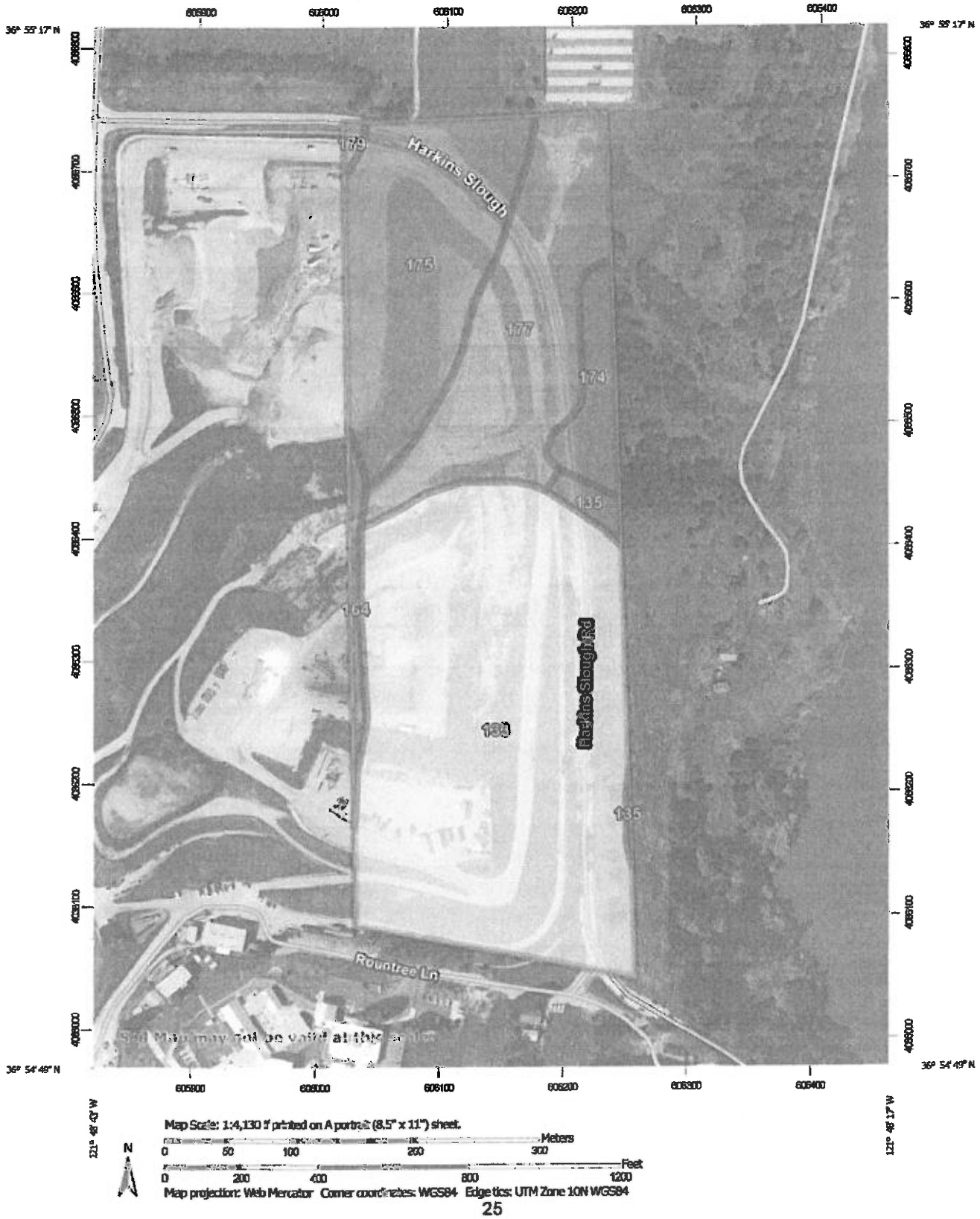
Map Unit Descriptions (Buena Vista Landfill)

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a

Custom Soil Resource Report
Map—Farmland Classification (Buena Vista Landfill)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

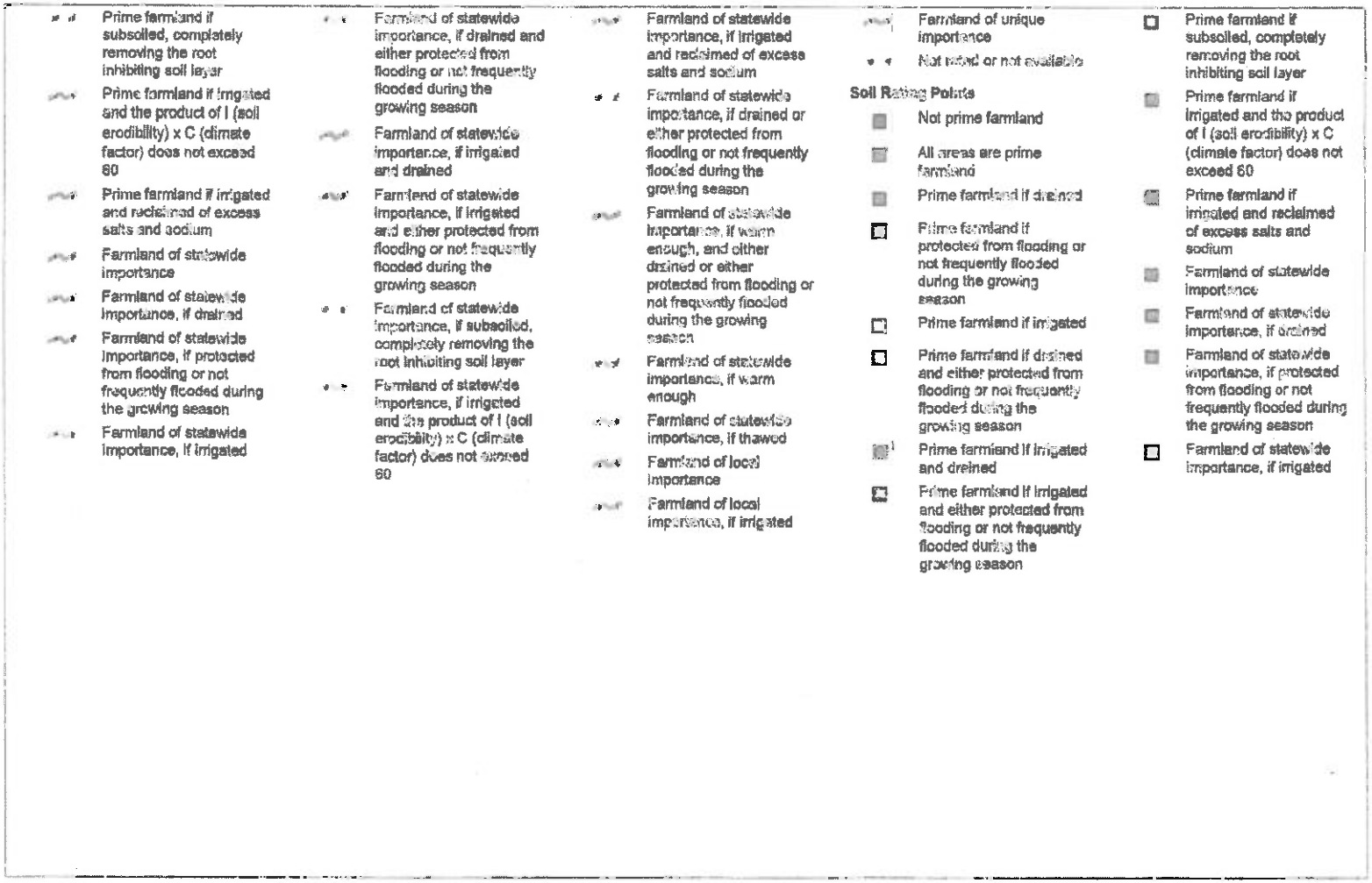
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season



- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Apr 13, 2020—Jun 3, 2020

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

Table—Farmland Classification (Buena Vista Landfill)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
133	Elkhorn sandy loam, 2 to 9 percent slopes	Prime farmland if irrigated	19.7	53.4%
135	Elkhorn sandy loam, 15 to 30 percent slopes	Not prime farmland	0.4	1.2%
164	Pits-Dumps complex	Not prime farmland	0.6	1.7%
174	Tierra-Watsonville complex, 15 to 30 percent slopes	Not prime farmland	1.5	4.1%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	Not prime farmland	7.4	19.9%
177	Watsonville loam, 2 to 15 percent slopes	Farmland of statewide importance	7.2	19.4%
179	Watsonville loam, thick surface, 2 to 15 percent slopes	Farmland of statewide importance	0.1	0.4%
Totals for Area of Interest			37.0	100.0%

Rating Options—Farmland Classification (Buena Vista Landfill)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

California Revised Storie Index (CA) (Buena Vista Landfill)

The Revised Storie Index is a rating system based on soil properties that govern the potential for soil map unit components to be used for irrigated agriculture in California.

The Revised Storie Index assesses the productivity of a soil from the following four characteristics:

- Factor A: degree of soil profile development

- Factor B: texture of the surface layer

- Factor C: steepness of slope

- Factor X: drainage class, landform, erosion class, flooding and ponding frequency and duration, soil pH, soluble salt content as measured by electrical conductivity, and sodium adsorption ratio

Revised Storie Index numerical ratings have been combined into six classes as follows:

- Grade 1: Excellent (81 to 100)

- Grade 2: Good (61 to 80)

- Grade 3: Fair (41 to 60)

- Grade 4: Poor (21 to 40)

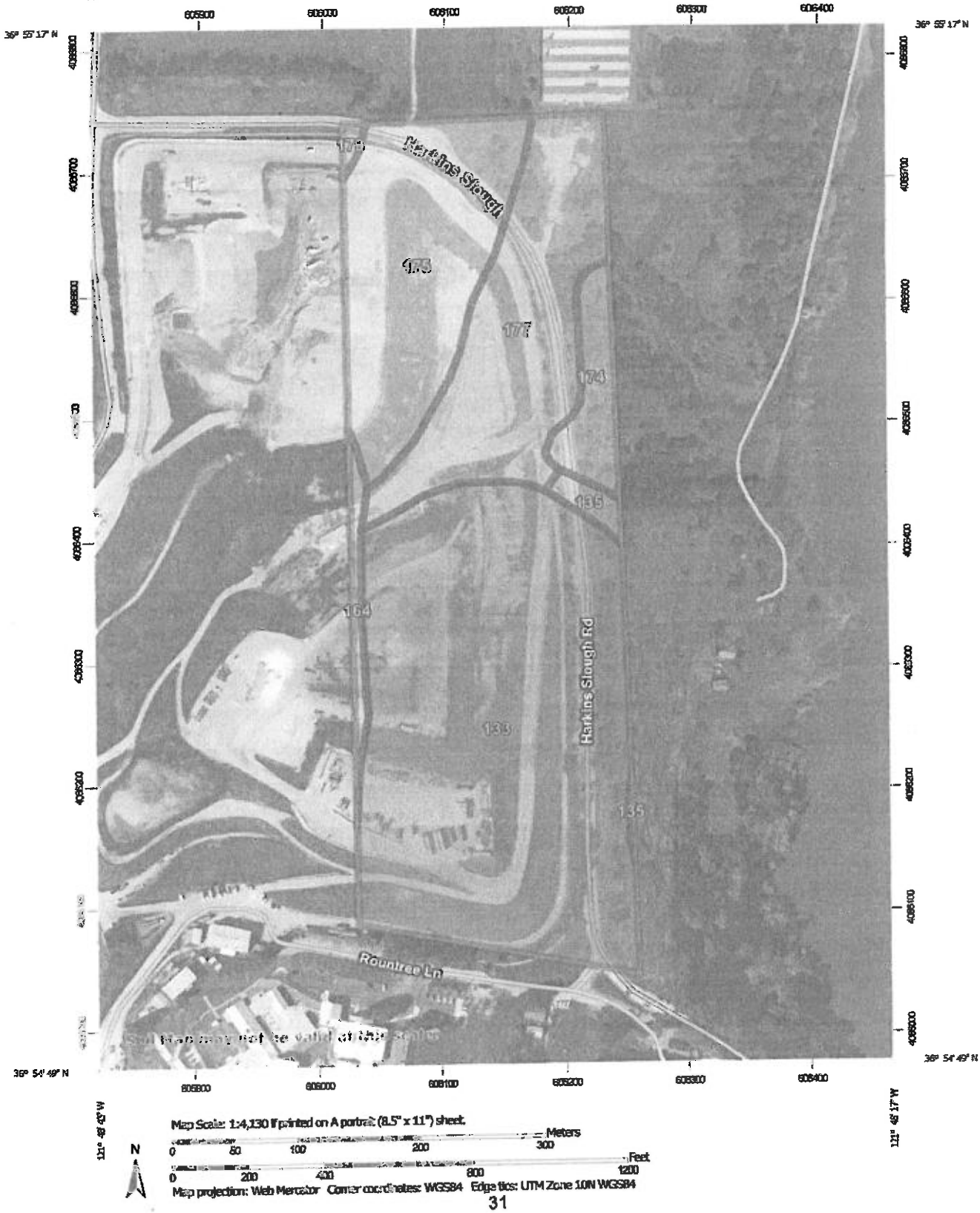
- Grade 5: Very poor (11 to 20)

- Grade 6: Nonagricultural (10 or less)

The components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as the one shown for the map unit. The percent composition of each component in a particular map unit is given to help the user better understand the extent to which the rating applies to the map unit.

Other components with different ratings may occur in each map unit. The ratings for all components, regardless the aggregated rating of the map unit, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—California Revised Storie Index (CA) (Buena Vista Landfill)



31

MAP LEGEND

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

Soils

Soil Rating Polygons
- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Soil Rating Lines
- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Soil Rating Points
- Grade 1 - Excellent
- Grade 2 - Good
- Grade 3 - Fair
- Grade 4 - Poor
- Grade 5 - Very Poor
- Grade 6 - Nonagricultural
- Not rated
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Apr 13, 2020—Jun 3, 2020

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

Table—California Revised Storie Index (CA) (Buena Vista Landfill)

Map unit symbol	Map unit name	Rating	Component name (percent)	Acres in AOI	Percent of AOI
133	Elkhorn sandy loam, 2 to 9 percent slopes	Grade 1 - Excellent	Elkhorn (85%)	19.7	53.4%
135	Elkhorn sandy loam, 15 to 30 percent slopes	Grade 2 - Good	Elkhorn (85%)	0.4	1.2%
164	Pits-Dumps complex	Not Applicable for Storie Index	Pits (50%)	0.6	1.7%
			Dumps (45%)		
			Rock outcrop (5%)		
174	Tierra-Watsonville complex, 15 to 30 percent slopes	Grade 4 - Poor	Tierra (55%)	1.5	4.1%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	Grade 4 - Poor	Tierra (50%)	7.4	19.9%
177	Watsonville loam, 2 to 15 percent slopes	Grade 5 - Very Poor	Watsonville (85%)	7.2	19.4%
179	Watsonville loam, thick surface, 2 to 15 percent slopes	Grade 5 - Very Poor	Watsonville (85%)	0.1	0.4%
Totals for Area of Interest				37.0	100.0%

Rating Options—California Revised Storie Index (CA) (Buena Vista Landfill)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Nonirrigated Capability Class (Buena Vista Landfill)

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels-capability class, subclass, and unit. Only class and subclass are included in this data set.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

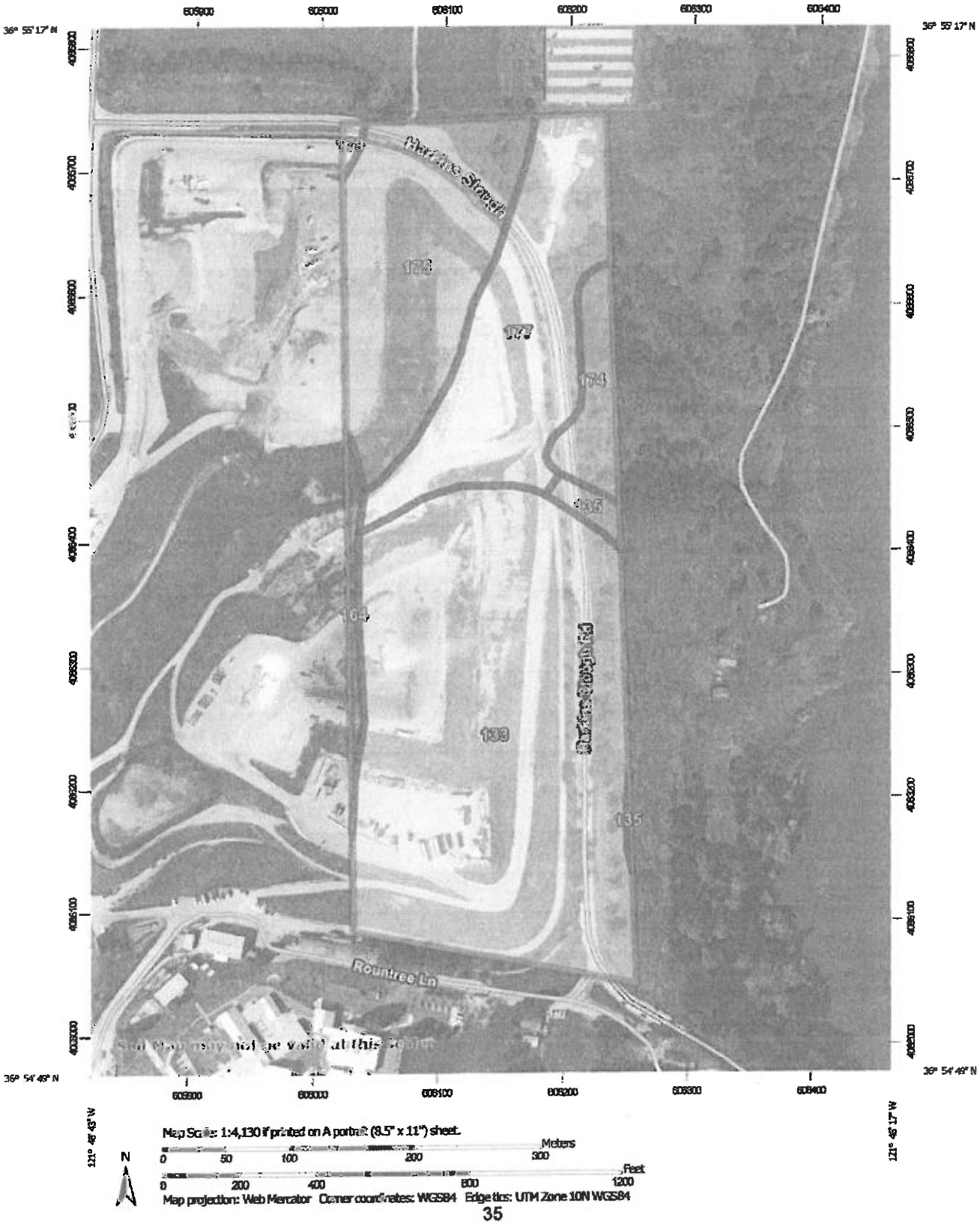
Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Custom Soil Resource Report
Map—Nonirrigated Capability Class (Buena Vista Landfill)



35

MAP LEGEND

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

Soils

Soil Rating Polygons
- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Soil Rating Lines
- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Soil Rating Points
- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Apr 13, 2020—Jun 3, 2020

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

Table—Nonirrigated Capability Class (Buena Vista Landfill)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
133	Elkhorn sandy loam, 2 to 9 percent slopes	3	19.7	53.4%
135	Elkhorn sandy loam, 15 to 30 percent slopes	4	0.4	1.2%
164	Pits-Dumps complex	8	0.6	1.7%
174	Tierra-Watsonville complex, 15 to 30 percent slopes	4	1.5	4.1%
175	Tierra-Watsonville complex, 30 to 50 percent slopes	6	7.4	19.9%
177	Watsonville loam, 2 to 15 percent slopes	3	7.2	19.4%
179	Watsonville loam, thick surface, 2 to 15 percent slopes	3	0.1	0.4%
Totals for Area of Interest			37.0	100.0%

Rating Options—Nonirrigated Capability Class (Buena Vista Landfill)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

CONVERSION OF COMMERCIAL AGRICULTURAL LANDS

5.13.20 Conversion of Commercial Agricultural Lands

(LCP) Consider development of commercial agricultural lands to non-agricultural uses only under the following circumstances:

(a) It is determined that the land is not viable for agriculture and that it is not likely to become viable in the near future (See policy 5.13.21);

(b) Findings are made that new information has been presented to demonstrate that the conditions on the land in question do not meet the criteria for commercial agricultural land; and

(c) The conversion of such land will not impair the viability of, or create potential conflicts with, other commercial agricultural lands in thc area.

5.13.21 Determining Agricultural Viability

(LCP) Require a viability study conducted in response to an application which proposes to convert agricultural land to non-agricultural land to include, but not limited to, an economic feasibility evaluation which contains at least:

(a) An analysis of the gross revenue from the agricultural products grown in the area for the five years immediately preceding the date of filing the application.

(b) An analysis of the operational expenses, excluding the cost of land, associated with the production of the agricultural products grown in the area for the five years immediately preceding the date of filing the application.

(c) An identification of the geographic area used in the analyses. The area shall be of sufficient size to provide an accurate evaluation of the economic feasibility of agricultural uses for the land stated in the application.

Recommendations regarding viability shall be made by the Agricultural Policy Advisory Commission based on evaluation of the viability study and the following criteria: parcel size, sizes of adjacent parcels, degree of non-agricultural development in the area, inclusion of the parcel in utility assessment districts, soil capabilities and topography, water availability and quality, and proximity to other agricultural use.

5.13.22 Conversion to Non-Agricultural Uses Near Urban Areas

(LCP) Prohibit the conversion of agricultural lands (changing the land use designation from Agriculture to non-agriculture uses) around the periphery of urban areas except where it can be demonstrated that the viability of existing agricultural use is already severely limited by conflicts with the urban uses, where the conversion of land would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development and where the conversion of such land would not impair the viability of other agricultural lands in the area. Within the Sphere of Influence of the City of Watsonville, no conversion of agricultural land is allowed which would adversely affect the city's General Plan affordable housing goals, unless determined to be of an overriding public benefit. (See policy 2.1.5.)

EXHIBIT B

5.13.23 Agricultural Buffers Required

(LCP) Require a 200 foot buffer area between commercial agricultural and non-agricultural land uses to prevent or minimize potential land use conflicts, between either existing or future commercial agricultural and non-agricultural land uses.

5.13.24 Agricultural Buffer Findings Required for Reduced Setbacks

(LCP) A 200 foot buffer setback is required between habitable development and commercial agricultural land (habitable development includes residential land uses or commercial or industrial establishments on commercial agricultural land), unless a lesser distance is established as set forth in the Agricultural Land Preservation and Protection ordinance. Any amendments to the language of the agricultural buffer ordinance shall require a finding demonstrating that agricultural lands shall be afforded equal or greater protection with the amended language. *(Amended by Resolution 274-2019)*

5.13.25 Agricultural Policy Advisory Commission Review

(LCP) Require the following projects to be reviewed by the Agricultural Policy Advisory Commission for the purpose of recommending an appropriate setback and/or buffer area of non-developable land adjacent to commercial agriculture lands, consistent with the Agriculture Preservation and Protection ordinance:

(a) Habitable structures within 200 feet of commercial agricultural lands.

(b) Land divisions within 200 feet of commercial agricultural lands.

Density Credit shall be given for the buffer area.

16.50.095 Agricultural buffer setbacks. SHARE

(A) The purpose of the agricultural buffer setback requirements is to prevent or minimize potential conflicts between either existing or future commercial agricultural and habitable land uses (i.e., residential, recreational, institutional, commercial or industrial). This buffer is designed to provide a physical barrier to noise, dust, odor, and other effects which may be a result of normal commercial agricultural operations such as: plowing, discing, harvesting, spraying or the application of agricultural chemicals and animal rearing.

(B) All development for habitable uses within 200 feet of the property line of any parcel containing Type 1, Type 2, or Type 3 commercial agricultural land shall:

(1) Provide and maintain a 200-foot buffer setback between Type 1, Type 2 or Type 3 commercial agricultural land and nonagricultural uses involving habitable spaces, including dwellings, habitable accessory structures and additions thereto; and commercial, industrial, recreational, or institutional structures, and their outdoor areas designed for public parking and intensive human use, except that if an existing legal dwelling already encroaches within the 200-foot buffer setback, proposed additions thereto, habitable accessory structures or private recreational facilities, none exceeding 1,000 square feet in size, shall be exempt from this subsection so long as they encroach no further than the existing dwelling into the buffer setback and an appropriate vegetative and/or other physical barrier for all existing and proposed development, as determined necessary, either exists or is provided and maintained. For the purposes of this section, outdoor areas designed for intensive human use shall be defined as surfaced ground areas or uncovered structures designed for a level of human use similar to that of a habitable structure. Examples are dining patios adjacent to restaurant buildings and private swimming pools. The 200-foot agricultural buffer setback shall incorporate vegetative or other physical barriers as determined necessary to minimize potential land use conflicts.

(2) Provide and maintain a buffer setback distance of at least 200 feet where the subdivision of land results in residential development at net densities of one or more dwelling units per acre adjacent to Type 1, Type 2, Type 3 commercial agricultural land, with vegetative screening or other physical barriers as appropriate.

(3) Comply with SCCC 16.50.090(C) and/or 14.01.407.5 pertaining to recording deed notices of adjacent agricultural use. Such deed notice shall contain a statement acknowledging the required permanent provision and maintenance of the agricultural buffer setbacks and any required barriers (e.g., fencing or vegetative screening).

EXHIBIT C

(C) Outside of the Coastal Zone, notwithstanding the provisions of subsection (B) of this section, an agricultural buffer setback distance of less than 200 feet may be established for subdivision developments involving habitable uses on proposed parcels adjacent to lands designated as an agricultural resource by the County's General Plan maps; provided, that:

(1) The proposed land division site is:

(a) Located within the urban services line,

(b) Suitable for development at buildout level within the carrying capacity of the area; and

(2) The Agricultural Policy Advisory Commission (APAC) finds that one or more of the following special circumstances exist:

(a) Significant topographic differences exist between the agricultural and nonagricultural uses which minimize or eliminate the need for a 200-foot setback; or

(b) Permanent substantial vegetation (such as a riparian corridor or woodland permanently protected by the County's riparian corridor or sensitive habitat ordinances) or other physical barriers exist between the agricultural and nonagricultural uses which minimize or eliminate the need for a 200-foot setback; or

(c) The imposition of the 200-foot agricultural buffer setback would, in a definable manner, hinder: infill development or the development of a cohesive neighborhood, or otherwise create a project incompatible with the character and setting of the existing surrounding residential development; and

(3) APAC determines the need for agricultural buffering barriers based upon an analysis of the adequacy of the existing buffering barriers, the density of the proposed land division and the proposed setback reduction, in the event that APAC finds that one or more of the above special circumstances exist; and

(4) The approving body finds that the proposed reduction of the agricultural buffer setback(s) will not hinder or adversely affect the agricultural use of the commercial agricultural lands located within 200 feet of the proposed development.

(D) Notwithstanding the provisions of subsection (B) of this section an agricultural setback distance of less than 200 feet may be established for developments involving habitable uses on existing parcels of

EXHIBIT C

record when one of the following findings is made in addition to the required finding in subsection (E) of this section:

(1) Significant topographic differences exist between the agricultural and nonagricultural uses which eliminates or minimizes the need for a 200-foot agricultural buffer setback; or

(2) Permanent substantial vegetation (such as a riparian corridor or woodland protected by the county's riparian corridor or sensitive habitat ordinances) or other physical barriers exist between the agricultural and nonagricultural uses which eliminate or minimize the need for a 200-foot agricultural buffer setback; or

(3) A lesser setback distance is found to be adequate to prevent conflicts between the nonagricultural development and the adjacent agricultural development and the adjacent agricultural land, based on the establishment of a physical barrier (unless it is determined that the installation of a barrier will hinder the affected agricultural use more than it would help it, or would create a serious traffic hazard on a public or private right-of-way) or the existence of some other factor which effectively supplants the need for a 200-foot agricultural buffer setback.

(4) The imposition of a 200-foot agricultural buffer setback would preclude building on a parcel of record as of the effective date of the ordinance codified in this chapter, in which case a lesser buffer setback distance may be permitted; provided, that the maximum possible setback distance is required, coupled with a requirement for a physical barrier (e.g., solid fencing and/or vegetative screening) to provide the maximum buffering possible, consistent with the objective of permitting building on a parcel of record.

(E) In the event that an agricultural buffer setback reduction is proposed and the proposed nonagricultural development is located on Type 1, Type 2 or Type 3 commercial agricultural land, the nonagricultural development shall be sited so as to minimize possible conflicts between the agricultural land use located on the subject parcel; and the nonagricultural development shall be located so as to remove as little land as possible from production or potential production.

(F) Farm worker housing, as an agricultural use, is not subject to this section, but is subject to the buffering provisions in SCCC 13.10.631. The presence of farmworker housing, which is an agricultural use, on an agricultural parcel does not exempt any proposed habitable development on any adjacent parcels from the requirement to provide an agricultural buffer along the edge of the development nearest the farmworker housing, pursuant to this section.

EXHIBIT C

(G) Proposals to reduce the required 200-foot agricultural buffer setback for additions to existing residential construction (dwellings, habitable accessory structures and private recreational facilities not otherwise exempted by subsection (B)(1) or (F) of this section) on agricultural parcels shall be processed as a Level 4 application by Planning Department staff as specified in Chapter 18.10 SCCC with the exception that:

(1) A notice that an application to reduce the buffer setback has been made shall be given to all members of the Agricultural Policy Advisory Commission at least 10 calendar days prior to the issuance of a pending action on an agricultural buffer determination; and

(2) Where a reduction in the buffer setback is proposed pursuant to this chapter, the required notice of pending action shall be provided to the applicant, to all members of the Agricultural Policy Advisory Commission, to owners of commercial agricultural land within 300 feet of the project location, and to members of the Board of Supervisors, not less than 10 days prior to the issuance of the permit. There shall not be a minimum number of property owners required to be noticed; and

(3) Buffer determinations made by Planning Department staff pursuant to this chapter are appealable by any party directly to the Agricultural Policy Advisory Commission. Such appeals shall include a letter from the appellant explaining the reason for the appeal and the current administrative appeal processing fee.

(H) All other proposals to reduce the agricultural buffer setback shall be processed as a Level 5 application as specified in Chapter 18.10 SCCC with the exception that:

(1) The required notice that an application has been made to reduce the agricultural buffer setback shall be provided only to owners of commercial agricultural land within 300 feet of the proposed project, not less than 10 days prior to the public hearing scheduled to consider the project. There shall not be a minimum number of property owners required to be noticed; and

(2) All determinations shall be made by the Agricultural Policy Advisory Commission at a scheduled public hearing.

(I) An agricultural buffer setback shall not be required for repair or reconstruction of a structure damaged or destroyed as the result of a natural disaster for which a local emergency has been declared by the Board of Supervisors, when:

(1) The structure, after repair or reconstruction, will not exceed the floor area, height or bulk of the damaged or destroyed structure by 10 percent; and

(2) The new structure will be located in substantially the same location, but no closer to the agricultural land than was the original structure. [Ord. 5321 § 7, 2019; Ord. 4921 §§ 26, 27, 2008; Ord. 4753 § 3, 2003; Ord. 4496-C § 96, 1998; Ord. 4311 § 1, 1994; Ord. 4284 § 1, 1993; Ord. 4037 § 3, 1989; Ord. 4030 § 5, 1989; Ord. 3447 § 1, 1983; Ord. 3336 § 1, 1982].

16.50.100 Appeals. SHARE

(A) Any property owner or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Agricultural Policy Advisory Commission under the provisions of this chapter, may appeal the act or determination to the Board of Supervisors in accordance with Chapter 18.10 SCCC. For this purpose the procedure therein set forth is incorporated herein and made a part of this chapter.

(B) If any act or determination of the Agricultural Policy Advisory Commission in question is incorporated as part of the terms or conditions of a discretionary permit or other discretionary approval for which another appeal is provided, then such act or determination of the Agricultural Policy Advisory Commission shall be considered as part of the appeal on the discretionary permit or other discretionary approval. Within the Coastal Zone, such appeals shall also be subject to the provisions of Chapter 13.20 SCCC pertaining to coastal development permit procedures. [Ord. 5182 § 15, 2014; Ord. 4753 § 3, 2003; Ord. 3447 § 1, 1983; Ord. 3336 § 1, 1982].

16.50.110 Agricultural Policy Advisory Commission hearing notices. SHARE

Notice of hearings held by the Agricultural Policy Advisory Commission pursuant to SCCC 16.50.050 shall be given in accordance with Chapter 18.10 SCCC, Level IV. [Ord. 4753 § 3, 2003; Ord. 3447 § 1, 1983; Ord. 3336 § 1, 1982].

16.50.115 Violations. SHARE

It shall be unlawful for any person whether as owner, principal, agent or employee or otherwise to perform an action or allow a situation to continue that violates the provisions of this chapter or violates any conditions of agricultural buffer setback determinations required pursuant to this chapter. [Ord. 4753 § 3, 2003; Ord. 4392A § 27, 1996; Ord. 3750 § 2, 1986; Ord. 3447 § 1, 1983; Ord. 3336 § 1, 1982].

Home <

EXHIBIT C

13.10.639 Sanitary landfill as interim use. SHARE

A publicly owned and operated sanitary landfill either by contract or by public forces, as an interim use, on land zoned for agriculture shall be subject to the following regulations:

(A) Land taken out of agricultural production shall, upon cessation of landfill activities, be rehabilitated and made available for subsequent agricultural uses. Rehabilitation actions shall include, but not be limited to, stockpiling of existing topsoils for replacement to the area taken out of production as a topsoil layer over the final cover of the landfill. Where stockpiling is not feasible, topsoil may be imported or produced, for example, through the use of compost made from plant waste entering the landfill; provided, that in any case if the land is Type 3 commercial agricultural land, the finished topsoil layer shall have physical-chemical parameters which give the soil a capability rating (as defined by the Santa Cruz County Local Coastal Program Land Use Plan) of prime agricultural land.

(B) Existing water quality and quantity available to agricultural land used on an interim basis for a sanitary landfill and to other agricultural land in the vicinity of the landfill shall not be diminished by the landfill use, either during its operation or after closure.

(C) No conflicts with adjacent commercial agricultural activities shall result from the landfill use, either during its operation or after closure.

(D) The maximum amount of agricultural land shall be maintained in production through the following measures, as feasible:

(1) Phasing the nonagricultural use.

(2) Utilizing any nonagricultural areas available first.

(3) Utilizing lower quality soils (e.g., Class III) instead of or before higher quality soils (e.g., Class I or II).

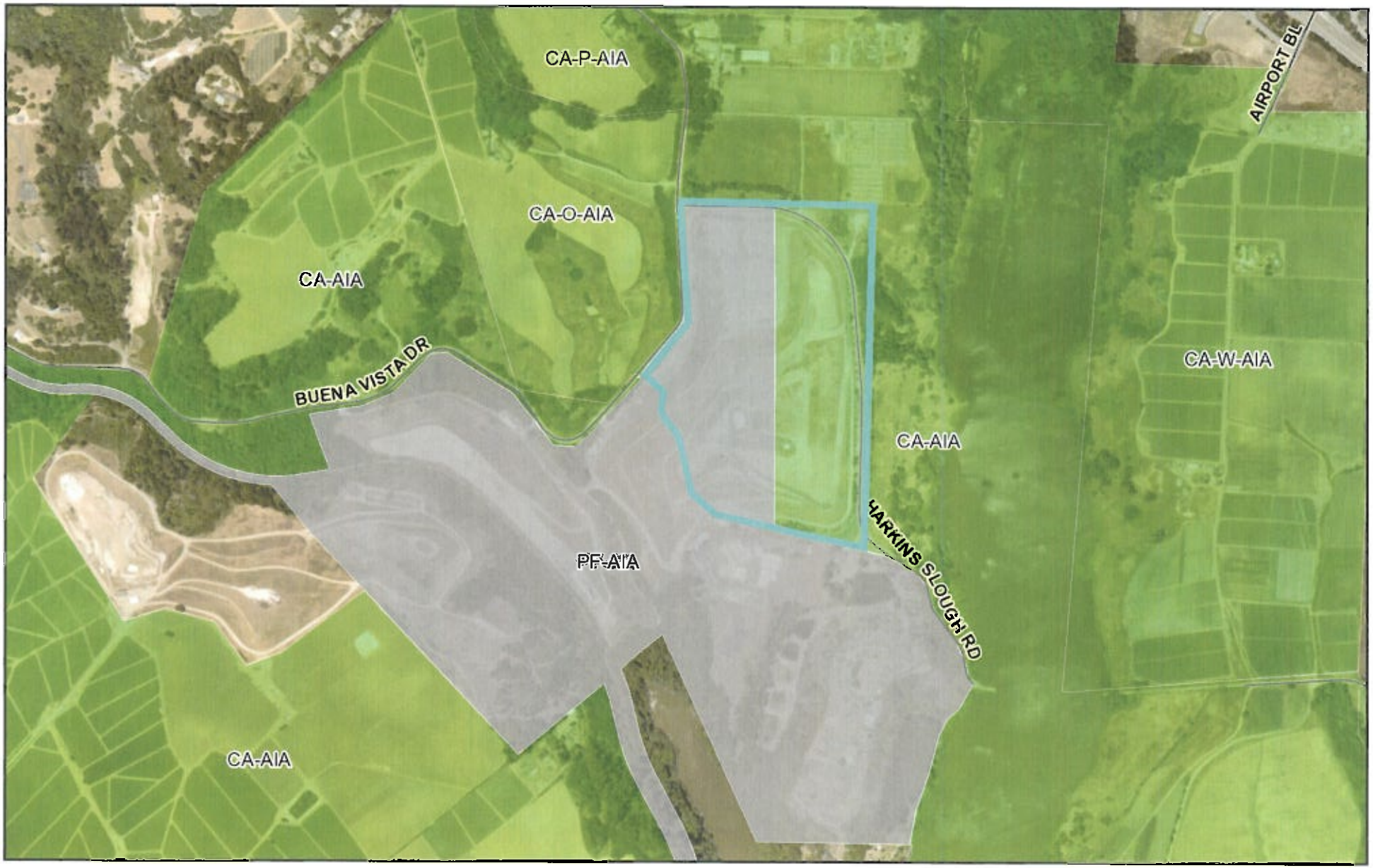
(4) Employing means of reducing the area necessary for the interim public use, such as resource recovery.

(5) Rehabilitating other areas, such as former landfill sites, for agricultural use.

(E) The above provisions shall also apply to permitted septic sludge disposal sites within the Coastal Zone. [Ord. 3894 §§ 1, 2, 1988; Ord. 3845 § 2, 1987; Ord. 3646 § 3, 1985].

EXHIBIT D

APAC- Zoning exhibit



April 1, 2021

Major Roads — Major Roads

Commercial Agriculture (CA) — Commercial Agriculture (CA)

Public & Community Facilities (PF) — Public & Community Facilities (PF)

1:11,415

0 500 1,000 2,000 ft

0 160 320 640 m

County of Santa Cruz

EXHIBIT E

APAC- Ag Resource Area exhibit

April 1, 2021

Major Roads

Major Roads

Ag Resource Area

AG-1A
AG-1B
AG-2A
AG-2B
AG-2C
AG-2D
AG-3
AG-PRES

1:11,415

0 500 1,000 2,000 ft

0 160 320 640 m

County of Santa Cruz

EXHIBIT E

16.50.050 Amendment of designations. SHARE

(A) Amendments to the designations of agricultural land types may be initiated by an applicant, the Board of Supervisors, the Planning Commission or the Planning Department. Consideration of such proposals for the addition, removal or change of agricultural land type designations shall be limited to instances where new information has become available regarding the appropriateness of specific designations based on the criteria set forth under SCCC 16.50.040.

(B) Applications for approvals granted pursuant to this chapter shall be made in accordance with the requirements of Chapter 18.10 SCCC, Level VII.

(C) Applications to amend the designations of agricultural land types shall be reviewed on an annual basis timed to coincide with the Land Conservation Act/Agricultural Preserve application review process. All proposed amendments shall be subject to a report and environmental review by the Environmental Coordinator, a hearing and recommendation by the Agricultural Policy Advisory Commission, and pursuant to Chapter 18.10 SCCC, Level VII, a public hearing and recommendation by the Planning Commission and a public hearing and final decision by the Board of Supervisors.

(D) The Board of Supervisors, after a public hearing, may approve a proposed amendment, consisting of either the removal or change of a Type 1 or Type 2 designation if it makes the following findings:

(1) That there has been new information presented, which was not available or otherwise considered in the original decision to apply a particular designation, to justify the amendment. Such new information may include, but not be limited to, detailed soils analysis, well output records, water quality analysis, or documented history of conflicts from surrounding urban land uses.

(2) That the evidence presented has demonstrated that conditions on the parcel(s) in question do not meet the criteria, as set forth in SCCC 16.50.040, for the existing agricultural land type designation for said parcel(s).

(3) That the proposed amendment will meet the intent and purposes of the agricultural land preservation and protection ordinance and the commercial agriculture zone district ordinance.

(E) The Board of Supervisors may, after a public hearing, approve amendments to remove a Type 3 designation and the subsequent conversion (changing the land use designation from agriculture to nonagriculture uses) of agricultural lands, only if it makes the following findings:

(1) That there has been new information presented, which was not available or otherwise considered in the original decisions to apply a particular designation, to justify the amendment. Such new information may include, but not be limited to, detailed soils analysis, well output records, water quality analysis, or documented history of conflicts from surrounding urban land uses; and

(2) That the evidence presented has demonstrated that conditions on the parcel(s) in question do not meet the criteria, as set forth in SCCC 16.50.040, for the existing agricultural land type designation for said parcel(s); and

(3) That the proposed amendment will meet the intent and purposes of the agricultural land preservation and protection ordinance and the commercial agriculture zone district ordinance; and

(4) That the viability of existing or potential agricultural use is already severely limited by conflicts with the urban uses; the evaluation of agricultural viability shall include, but not be limited to, an economic feasibility evaluation which contains at least:

(a) An analysis of the gross revenue from the agricultural products grown in the area for the five years immediately preceding the date of filing the application.

(b) Analysis of the operational expenses, excluding the cost of land, associated with the production of the agricultural products grown in the area for the five years immediately preceding the date of filing application.

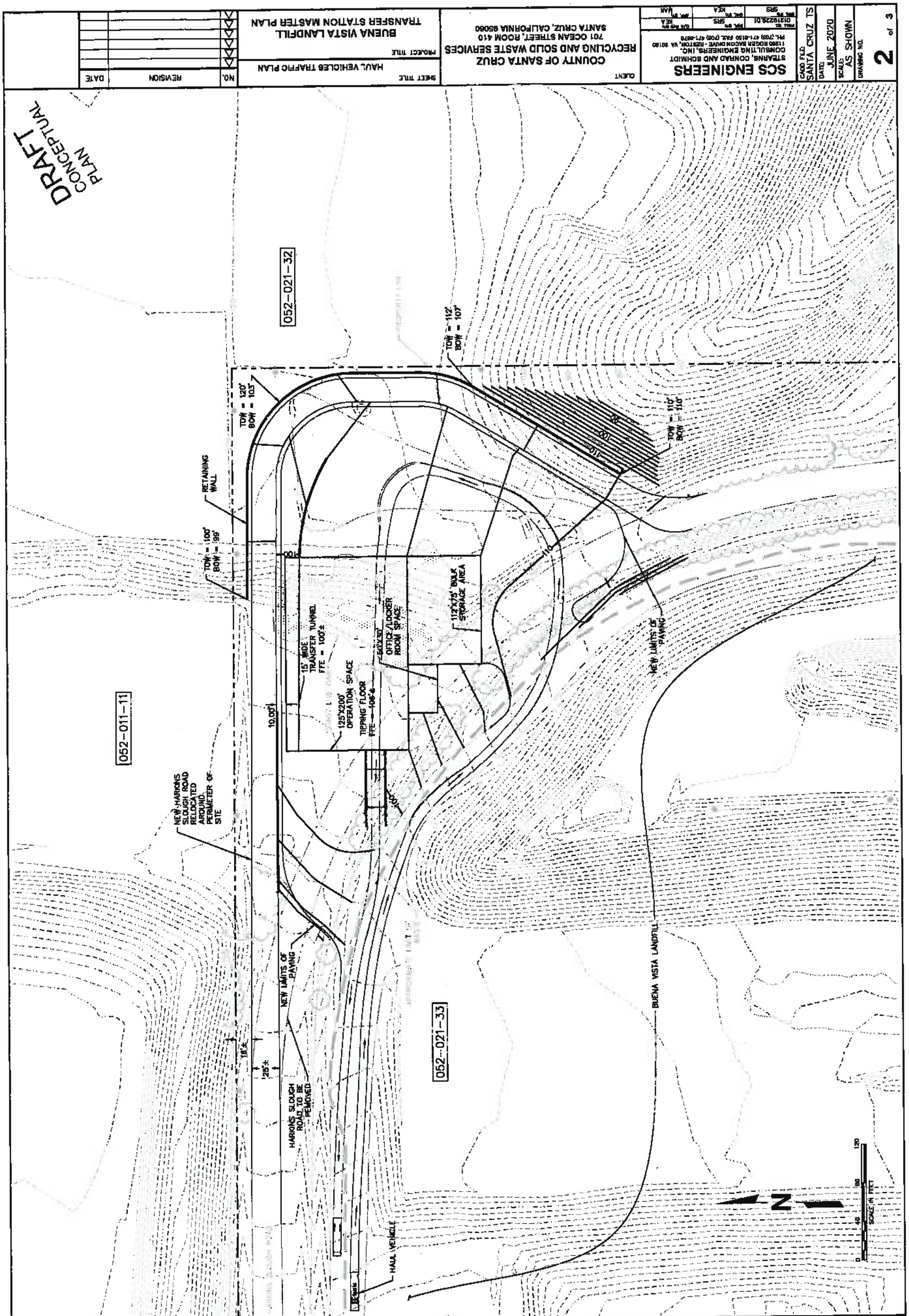
(5) That the conversion of such land around the periphery of the urban areas (as defined by the urban services line or rural services line) would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development; and

(6) That the conversion of such land would not impair the viability of other agricultural lands in the area.

(F) Any amendment to eliminate or add a Type 1, Type 2 or Type 3 agricultural land designation constitutes a change in the County General Plan and must be processed concurrent with a General Plan amendment. Any amendment of a Type 3 designation also constitutes a change in the Local Coastal Program Land Use Plan which must be processed concurrently with a land use plan amendment subject to approval by the State Coastal Commission. [Ord. 4753 § 3, 2003; Ord. 4416 § 24, 1996; Ord. 4406 § 24, 1996; Ord. 3685 § 1, 1985; Ord. 3447 § 1, 1983; Ord. 3336 § 1, 1982].

DRAFT
CONCEPTUAL PLAN
SCS ENGINEERS
COUNTY OF SANTA CRUZ
RECYCLING AND SOLID WASTE SERVICES
701 OCEAN STREET, ROOM 410
SANTA CRUZ, CALIFORNIA 95060
BUENA VISTA LANDFILL
TRANSFER STATION MASTER PLAN
SITE PLAN
CAD FILE: SANTA CRUZ TS
DATE: JUNE 2020
SCALE: AS SHOWN
DRAWING NO. 1 of 3
NOTES:
1. GRADING SHOWN IS CONCEPTUAL. GRADES MAY VARY AS THE DESIGN PROGRESSES.
052-021-32
052-011-11
052-021-33
TOW = 120'
BOW = 103'
TOW = 112'
BOW = 107'
TOW = 110'
BOW = 105'
TOW = 100'
BOW = 99'
RETAINING WALL
15' WIDE TRANSFER TUNNEL FFE = 100'±
125'X200' OPERATION SPACE TIPPING FLOOR FFE = 100'±
50'X30' OFFICE/LOCKER ROOM SPACE
110'X75' BULK STORAGE AREA
NEW LIMITS OF PAVING
NEW HARKINS SLOUGH ROAD ALIGNMENT AROUND PERIMETER OF SITE
HARKINS SLOUGH ROAD TO BE REMOVED
BUENA VISTA LANDFILL
10.00'
16'±
25'±
N
SCALE IN FEET
0
60
120

EXHIBIT H



SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
CLIENT
COUNTY OF SANTA CRUZ
RECYCLING AND SOLID WASTE SERVICES
701 OCEAN STREET, ROOM 410
SANTA CRUZ, CALIFORNIA 95060
PROJECT TITLE
BUENA VISTA LANDFILL
TRANSFER STATION MASTER PLAN
SHEET TITLE
HAUL VEHICLES TRAFFIC PLAN
NO.
REVISION
DATE
CADD FILE: SANTA CRUZ TS
DATE: JUNE 2020
SCALE: AS SHOWN
DRAWING NO. 2 of 3
DRAFT CONCEPTUAL PLAN
052-021-32
052-011-11
052-021-33
TOW = 120' BOW = 103'
TOW = 112' BOW = 107'
TOW = 110' BOW = 110'
TOW = 100' BOW = 99'
RETAINING WALL
15' WIDE TRANSFER TUNNEL FFE = 100'±
125'X200' OPERATION SPACE
TIPPING FLOOR FFE = 106'±
50'X30' OFFICE/LOCKER ROOM SPACE
112'X75' BULK STORAGE AREA
NEW LIMITS OF PAVING
NEW HARKINS SLOUGH ROAD RELOCATED AROUND PERIMETER OF SITE
HARKINS SLOUGH ROAD TO BE REMOVED
BUENA VISTA LANDFILL
HAUL VEHICLE
N
SCALE IN FEET

EXHIBIT H

DRAFT
CONCEPTUAL PLAN
SCS ENGINEERS
COUNTY OF SANTA CRUZ
RECYCLING AND SOLID WASTE SERVICES
701 OCEAN STREET, ROOM 410
SANTA CRUZ, CALIFORNIA 95060
BUENA VISTA LANDFILL
TRANSFER STATION MASTER PLAN
TRANSFER TRAILER TRAFFIC PLAN
JUNE 2020
AS SHOWN
3
052-011-11
052-021-32
052-021-33
NEW HARKINS SLOUGH ROAD RELOCATED AROUND PERIMETER OF SITE
HARKINS SLOUGH ROAD TO BE REMOVED
NEW LIMITS OF PAVING
RETAINING WALL
TOW = 120'
BOW = 103'
TOW = 112'
BOW = 107'
TOW = 110'
BOW = 110'
TOW = 100'
BOW = 100'
125'X200' OPERATION SPACE
TIPPING FLOOR
FFE = 100±
15' WIDE TRANSFER TUNNEL
FFE = 100±
50'X35' OFFICE/LOCKER ROOM SPACE
112'X75' BULK STORAGE AREA
NEW LIMITS OF PAVING
BUENA VISTA LANDFILL
TRANSFER TRAILER
10.00'
16'±
25'±
N
SCALE, IN FEET
0
60
120

EXHIBIT H

Photos of Site

Looking north at APN 052-011-11 from Harkins Slough Road

Looking NE at APN 052-011-11 and APN 052-021-33

Looking east, power pole on property line

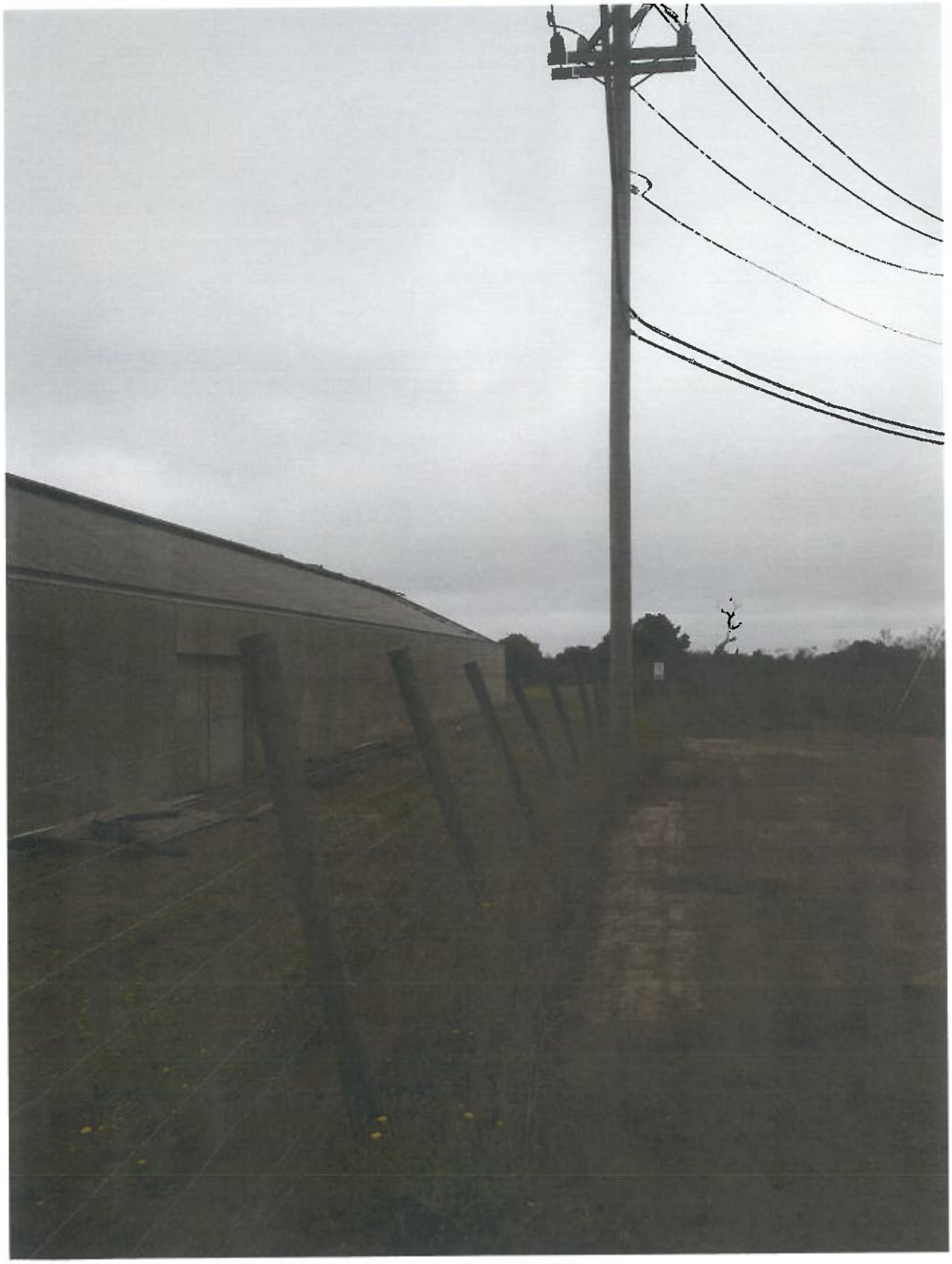


EXHIBIT I

Looking south west toward existing landfill from NE corner of parcel

EXHIBIT I