ATTACHMENT G

YOCHA DEHE
CULTURAL RESOURCES

March 18, 2021

County of Yolo – Department of Community Services
Attn: Tracy Gonzalez, Junior Planner
292 West Beamer St.
Woodland, CA 95695

RE: Gibson Solar Project Hwy 16 Madison YD-03162021-01

Dear Ms. Gonzalez:

Thank you for your project notification letter regarding cultural information on or near the proposed Gibson Solar Project Hwy 16 Madison, Yolo County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe is not aware of any known cultural resources near this project site and a cultural monitor is not needed. However, we recommend cultural sensitivity training for any pre-project personnel. We also request that you incorporate Yocha Dehe Wintun Nation's Treatment Protocol into the mitigation measures for this project. Please submit the updated mitigation measures to the Cultural Resources Department once completed. Additionally, please send us the cultural resource study and detailed project information, including any plans for ground disturbance for this project.

Please contact the individual listed below to schedule the cultural sensitivity training, prior to the start of the project.

Laverne Bill, Cultural Resources Manager
Yocha Dehe Wintun Nation
Office: (530) 723-3891
Email: lbill@yochadehe-nsn.gov

Please refer to identification number YD – 03162021-01 in correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

DocuSigned by:
5C39F9463F58429...

Tribal Historic Preservation Officer

YOCHA DEHE
CULTURAL RESOURCES

Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation

The purpose of this Protocol is to formalize procedures for the treatment of Native American human remains, grave goods, ceremonial items, and items of cultural patrimony, in the event that any are found in conjunction with development, including archaeological studies, excavation, geotechnical investigations, grading, and any ground disturbing activity. This Protocol also formalizes procedures for Tribal monitoring during archaeological studies, grading, and ground-disturbing activities.

I. Cultural Affiliation

The Yocha Dehe Wintun Nation ("Tribe") traditionally occupied lands in Yolo, Solano, Lake, Colusa and Napa Counties. The Tribe has designated its Cultural Resources Committee ("Committee") to act on the Tribe's behalf with respect to the provisions of this Protocol. Any human remains which are found in conjunction with Projects on lands culturally-affiliated with the Tribe shall be treated in accordance with Section III of this Protocol. Any other cultural resources shall be treated in accordance with Section IV of this Protocol.

II. Inadvertent Discovery of Native American Human Remains

Whenever Native American human remains are found during the course of a Project, the determination of Most Likely Descendant ("MLD") under California Public Resources Code Section 5097.98 will be made by the Native American Heritage Commission ("NAHC") upon notification to the NAHC of the discovery of said remains at a Project site. If the location of the site and the history and prehistory of the area is culturally-affiliated with the Tribe, the NAHC contacts the Tribe; a Tribal member will be designated by the Tribe to consult with the landowner and/or project proponents.

Should the NAHC determine that a member of an Indian tribe other than Yocha Dehe Wintun Nation is the MLD, and the Tribe is in agreement with this determination, the terms of this Protocol relating to the treatment of such Native American human remains shall not be applicable; however, that situation is very unlikely.

III. Treatment of Native American Remains

In the event that Native American human remains are found during development of a Project and the Tribe or a member of the Tribe is determined to be MLD pursuant to Section II of this Protocol, the following provisions shall apply. The Medical Examiner shall immediately be notified, ground disturbing activities in that location shall cease and the Tribe shall be allowed, pursuant to California Public Resources Code Section 5097.98(a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods should be treated and disposed of with appropriate dignity.

The Tribe shall complete its inspection and make its MLD recommendation within forty-eight (48) hours of getting access to the site. The Tribe shall have the final determination as to the disposition and treatment of human remains and grave goods. Said determination may include avoidance of the human remains, reburial on-site, or reburial on tribal or other lands that will not be disturbed in the future.

The Tribe may wish to rebury said human remains and grave goods or ceremonial and cultural items on or near the site of their discovery, in an area which will not be subject to future disturbances over a prolonged period of time. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code Sections 5097.98(a) and (b).

The term "human remains" encompasses more than human bones because the Tribe's traditions call for the burial of associated cultural items with the deceased (funerary objects), and/or the ceremonial burning of Native American human remains, funerary objects, grave goods and animals. Ashes, soils and other remnants of these burning ceremonies, as well as associated funerary objects and unassociated funerary objects buried with or found near the Native American remains are to be treated in the same manner as bones or bone fragments that remain intact.

IV. Non-Disclosure of Location of Reburials

Unless otherwise required by law, the site of any reburial of Native American human remains shall not be disclosed and will not be governed by public disclosure requirements of the California Public Records Act, Cal. Govt. Code § 6250 et seq. The Medical Examiner shall withhold public disclosure of information related to such reburial pursuant to the specific exemption set forth in California Government Code Section 6254(r). The Tribe will require that the location for reburial is recorded with the California Historic Resources Inventory System ("CHRIS") on a form that is acceptable to the CHRIS center. The Tribe may also suggest that the landowner enter into an agreement regarding the confidentiality of site information that will run with title on the property.

V. Treatment of Cultural Resources

Treatment of all cultural items, including ceremonial items and archeological items will reflect the religious beliefs, customs, and practices of the Tribe. All cultural items, including ceremonial items and archeological items, which may be found at a Project site should be turned over to the Tribe for appropriate treatment, unless otherwise ordered by a court or agency of competent jurisdiction. The Project Proponent should waive any and all claims to ownership of Tribal ceremonial and cultural items, including archeological items, which may be found on a Project site in favor of the Tribe. If any intermediary, (for example, an archaeologist retained by the Project Proponent) is necessary, said entity or individual shall not possess those items for longer than is reasonably necessary, as determined solely by the Tribe.

VI. Inadvertent Discoveries

If additional significant sites or sites not identified as significant in a Project environmental review process, but later determined to be significant, are located within a Project impact area, such sites will be subjected to further archeological and cultural significance evaluation by the Project Proponent, the Lead Agency, and the Tribe to determine if additional mitigation measures are necessary to treat sites in a culturally appropriate manner consistent with CEQA requirements for mitigation of impacts to cultural resources. If there are human remains present that have been identified as Native American, all work will cease for a period of up to 30 days in accordance with Federal Law.

VIII. Work Statement for Tribal Monitors

The description of work for Tribal monitors of the grading and ground disturbing operations at the development site is attached hereto as Addendum I and incorporated herein by reference.

YOCHA DEHE
CULTURAL RESOURCES

ADDENDUM I

Yocha Dehe Wintun Nation
Tribal Monitors
Description of Work and Treatment Protocol

I. Preferred Treatment

The preferred protocol upon the discovery of Native American human remains is to (1) secure the area, (2) cover any exposed human remains or other cultural items, and (3) avoid further disturbances in the area.

II. Comportment

All parties to the action are strongly advised to treat the remains with appropriate dignity, as provided in Public Resource Code Section 5097.98. We further recommend that all parties to the action treat tribal representatives and the event itself with appropriate respect. For example, jokes and antics pertaining to the remains or other inappropriate behavior are ill advised.

III. Excavation Methods

If, after the Yocha Dehe Tribal representative has been granted access to the site and it is determined that avoidance is not feasible, an examination of the human remains will be conducted to confirm they are human and to determine the position, posture, and orientation of the remains. At this point, we recommend the following procedures:

(A) Tools. All excavation in the vicinity of the human remains will be conducted using fine hand tools and fine brushes to sweep loose dirt free from the exposure.

(B) Extent of Exposure. In order to determine the nature and extent of the grave and its contents, controlled excavation should extend to a full buffer zone around the perimeter of the remains.

(C) Perimeter Balk. To initiate the exposure, a perimeter balk (especially, a shallow trench) should be excavated, representing a reasonable buffer a minimum of 10 cm around the maximum extent of the known skeletal remains, with attention to counter-intuitive discoveries or unanticipated finds relating to this or other remains. The dirt from the perimeter balk should be bucketed, distinctly labeled, and screened for cultural materials.

(D) Exposure Methods. Excavation should then proceed inward from the walls of the balk as well as downward from the surface of the exposure. Loose dirt should be scooped out and brushed off into a dustpan or other collective device. Considerable care should be given to ensure that human remains are not further impacted by the process of excavation.

(E) Provenience. Buckets, collection bags, notes, and tags should be fully labeled per provenience, and a distinction should be made between samples collected from: (1) **Perimeter Balk** (described above), (2) **Exposure** (dirt removed in exposing the exterior/burial plan and associations, and (3) **Matrix** (dirt from the interstices between bones or associations). Thus, each burial may have three bags, "Burial 1 Perimeter Balk," "Burial 1 Exposure Balk," "Burial 1 Matrix."

Please note the provisions below with respect to handling and conveyance of records and samples.

(F) Records. The following records should be compiled in the field: (1) a detailed scale drawing of the burial, including the provenience of and full for all human remains, associated artifacts, and the configuration of all associated phenomena such as burial pits, evidence for preinterment grave pit burning, soil variability, and intrusive disturbance, (2) complete a formal burial record using the consultants proprietary form or other standard form providing information on site #, unit or other proveniences, level depth, depth and location of the burial from a fixed datum, workers, date(s), artifact list, skeletal inventory, and other pertinent observations, (3) crew chief and worker field notes that may supplement or supercede information contained in the burial recording form, and (4) photographs, including either or standard photography or high-quality (400-500 DPI or 10 MP recommended) digital imaging.

(G) Stipulations for Acquisition and Use of Imagery. Photographs and images may be used only for showing location or configuration of questionable formation or for the position of the skeleton. They are not to be duplicated for publication unless a written release is obtained from the Tribe.

(H) Association. Association between the remains and other cultural materials should be determined in the field in consultation with an authorized Tribal representative, and may be amended per laboratory findings. Records of provenience and sample labels should be adequate to determine association or degree of likelihood of association of human remains and other cultural materials.

(I) Samples. For each burial, all **Perimeter Balk** soil is to be 1/8"-screened. All **Exposure** soil is to be 1/8"-screened, and a minimum of one 5-gallon bucket of excavated but unscreened Exposure soil is to be collected, placed in a plastic garbage bag in the bucket. All **Matrix** soil is to be carefully excavated, screened as appropriate, and then collected in plastic bags placed in 5-gallon buckets.

(J) Human remains are not to be cleaned in the field.

(K) Blessings. Prior to any physical action related to human remains, a designated tribal representative will conduct prayers and blessings over the remains. The archaeological consultant will be responsible for insuring that individuals and tools involved in the action are available for traditional blessings and prayers, as necessary.

IV. Lab Procedures

No laboratory studies are permitted without consultation with the tribe. Lab methods are determined on a project-specific basis in consultation with Yocha Dehe Wintun Nation representatives. The following procedures are recommended:

(A) Responsibility. The primary archaeological consultant will be responsible for insuring that all lab procedures follow stipulations made by the Tribe.

(B) Blessings. Prior to any laboratory activities related to the remains, a designated tribal representative will conduct prayers and blessings over the remains. The archaeological consultant will be responsible for insuring that individuals and tools involved in the action are available for traditional blessings and prayers, as necessary.

(C) Physical Proximity of Associations. To the extent possible, all remains, associations, samples, and original records are to be kept together throughout the laboratory process. In particular, **Matrix** dirt is to be kept in buckets and will accompany the remains to the lab. The primary archaeological consultant will be responsible for copying all field records and images, and insuring that the original notes and records accompany the remains throughout the process.

(*E) Additional Lab Finds*. Laboratory study should be done making every effort to identify unanticipated finds or materials missed in the field, such as objects encased in dirt or human remains misidentified as faunal remains in the field. In the event of discovery of additional remains, materials, and other associations the tribal representatives are to be contacted immediately.

V. Re-internment without Further Disturbance

No laboratory studies are permitted on human remains and funerary objects. The preferred treatment preference for exhumed Native American human remains is reburial in an area not subject to further disturbance. Any objects associated with remains will be reinterred with the remains.

YOCHA DEHE
CULTURAL RESOURCES

VI. Curation of Recovered Materials

Should all, or a sample, of any archaeological materials collected during the data recovery activities – with the exception of Human Remains – need to be curated, an inventory and location information of the curation facility shall be given to tribe for our records.

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

6111 Bollinger Canyon Road 3370A
San Ramon, CA 94583

April 8, 2021

Tracy Gonzalez
County of Yolo
292 W Beamer St
Woodland, CA 95695

Re: Gibson Solar Farm ZF2020-0043

Dear Tracy Gonzalez,

Thank you for providing PG&E the opportunity to review your proposed plans for the Gibson Solar Farm dated 3/16/2021. Our review indicates your proposed improvements do not appear to directly interfere with existing PG&E facilities or impact our easement rights.

Please note this is our preliminary review and PG&E reserves the right for additional future review as needed. This letter shall not in any way alter, modify, or terminate any provision of any existing easement rights. If there are subsequent modifications made to your design, we ask that you resubmit the plans to the email address listed below.

If you require PG&E gas or electrical service in the future, please continue to work with PG&E's Service Planning department: https://www.pge.com/cco/.

As a reminder, before any digging or excavation occurs, please contact Underground Service Alert (USA) by dialing 811 a minimum of 2 working days prior to commencing any work. This free and independent service will ensure that all existing underground utilities are identified and marked on-site.

If you have any questions regarding our response, please contact the PG&E Plan Review Team at (877) 259-8314 or pgeplanreview@pge.com.

Sincerely,

PG&E Plan Review Team
Land Management

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

April 22, 2021 File No.: 20-1934

Tracy Gonzalez, Junior Planner
Yolo County
Planning & Public Works Department
292 West Beamer Street
Woodland, CA 95695

re: ZF #2020-0043 / Gibson Solar Farm / APN: 049-100-035

Dear Tracy Gonzalez,

Records at this office were reviewed to determine if this project could adversely affect cultural resources. **Please note that use of the term cultural resources includes both archaeological sites and historical buildings and/or structures. The review for possible historic-era building/structures, however, was limited to references currently in our office and should not be considered comprehensive.**

Project Description: The applicant is seeking a Major Use Permit under the County's Large and Very Large Solar Energy System Ordinance (Section 8-2.1105 of the Yolo County Code) to construct the Gibson Solar project, a proposed photovoltaic ("PV") solar energy-based electricity generating and energy storage facility that would occupy more than 120 acres of prime farmland with the capacity to generate up to 20 MWac of renewable electrical energy. The project would tie into the Madison PG&E substation located south of the community of Madison on County Road 89.

Previous Studies:

XX This office has no record of any previous cultural resource studies for the proposed project area *(see recommendation below)*.

Archaeological and Native American Resources Recommendations:

XX The proposed project area has the possibility of containing unrecorded archaeological site(s). A study by a qualified professional archaeologist is recommended prior to commencement of project activities.

XX We recommend that the lead agency contact the local Native American tribe(s) regarding traditional, cultural, and religious heritage values. For a complete listing of tribes in the vicinity of the project, please contact the Native American Heritage Commission at (916) 373-3710.

____ The proposed project area has a low possibility of containing unrecorded archaeological site(s). Therefore, no further study for archaeological resources is recommended.

Built Environment Recommendations:

XX Since the Office of Historic Preservation has determined that any building or structure 45 years or older may be of historical value, if the project area contains such properties, it is recommended that prior to commencement of project activities, a qualified professional familiar with the architecture and history of Yolo County conduct a formal CEQA evaluation.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

For your reference, a list of qualified professionals in California that meet the Secretary of the Interior's Standards can be found at http://www.chrisinfo.org. If archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist has evaluated the situation. If you have any questions please give us a call (707) 588-8455.

Sincerely,

Bryan Much
Coordinator

Tracy Gonzalez

From: David Guerrero
Sent: Wednesday, March 31, 2021 9:31 AM
To: Tracy Gonzalez
Subject: FW: Request for Comments ZF2020-0043
Attachments: NRCS Soil Report.pdf

Hi Tracy,

Just wanted to forward comments from the Ag Department on the proposed project.

Thanks!

Dave Guerrero
Chief Deputy Ag Commissioner
Ext. 8274

From: David Guerrero
Sent: Tuesday, March 23, 2021 1:59 PM
To: Humberto Izquierdo <Humberto.Izquierdo@yolocounty.org>
Subject: RE: Request for Comments ZF2020-0043

Humberto,

This is what I have for our comments. Please add/edit/change where you want

Dave G.

Hello Tracy,

Please see comments below from Yolo County Department of Agriculture in reference to:

File Number: ZF #2020-0043
Parcel Number: 049-100-035
Applicant: Gibson Renewables, LLC

The Yolo County Department of Agriculture is opposed to this project for the following reasons:

1) Loss of 147 acres of Prime Farmland consisting of Class I and Class II soils. (Please see attached soil analysis from Natural Resources Conservation Service)
2) Loss of Ag land currently protected by the active Williamson Act contract. Are there mitigation factors that make up for this loss of Williamson Act land?
3) Installing solar panels adjacent to orchards could present a risk of pesticide drift onto the solar panels. There are orchards located directly to the South and West of the project site. Typically, pesticide applications in orchards are done with an orchard blast sprayer that may increase the risk of drift. Also, the proposal is stating that the project is a “multi-use” project to “support pollinator habitat development.” Having this as part of the project could inhibit the orchard farmers from spraying pesticides in a timely manner to protect their

trees. Also, current Yolo Count permit conditions require any applicator within 1 mile of a honeybee site, who is intending to spray a pesticide harmful to honeybees, to notify the beekeeper so that he/she has time to move his/her bees. This will have an impact on any grower within a 1-mile radius to notify the beekeeper at this project site.

4) How is the applicant proposing to conduct weed control under the solar panels?
5) If the project is allowed to move forward what is the applicant proposing for Agricultural land mitigation as required by Section 8-2.1105 (f) of the Yolo County Ordinance?
6) The project calls for no sanitation facilities. What are the employees using for restroom needs when working at the panels?

I've added a couple extra links for consideration:

https://qz.com/1913868/why-agricultural-land-is-better-than-rooftops-for-solar-panels/

https://www.nytimes.com/2020/03/18/nyregion/solar-energy-farms-ny.html

Thanks for considering these comments

From: Tracy Gonzalez <Tracy.Gonzalez@yolocounty.org>
Sent: Tuesday, March 16, 2021 3:16 PM
To: David Guerrero <David.Guerrero@yolocounty.org>; George Galang <George.Galang@yolocounty.org>; Marie Herrera <Marie.Herrera@yolocounty.org>; Sheryl Hardy-Salgado <Sheryl.Hardy-Salgado@yolocounty.org>; Tom Davis <Tom.Davis@yolocounty.org>; Scott Doolittle <Scott.Doolittle@yolocounty.org>; Nicholas Burton <Nicholas.Burton@yolocounty.org>; Todd Riddiough <Todd.Riddiough@yolocounty.org>; Eric May <Eric.May@yolocounty.org>; Matt Davis <Matt.Davis@yolocounty.org>; curtis@espartofire.org; 'pgeplanreview@pge.com' <pgeplanreview@pge.com>; 'jreed@ycfcwcd.org' <jreed@ycfcwcd.org>; IBojorquez@yochadehe-nsn.gov; OCarrillo@yochadehe-nsn.gov; GTotton@yochadehe-nsn.gov; phensleigh@ysaqmd.org; Angel Barajas <Angel.Barajas@yolocounty.org>; Monica Rivera <Monica.Rivera@yolocounty.org>; D3PlanningSouth@dot.ca.gov; andrea.buckley@water.ca.gov; 'centralvalleysacramento@waterboards.ca.gov' <centralvalleysacramento@waterboards.ca.gov>; LCA@conservation.ca.gov; R2CEQA@wildlife.ca.gov; spk-pao@usace.army.mil
Subject: Request for Comments ZF2020-0043

ATTENTION: REVIEWING AGENCIES

The attached proposal for a Major Use Permit has been filed with the Department of Community Services. Your agency is invited to comment because the proposal or project impacts may affect your property or services/district or jurisdiction. Please send comments to the project planner via mail, email, or phone. You may attach additional pages as necessary.

Please provide comments by **April 6, 2021** to aid in staff's review of the application to determine completeness. However, comments will be taken up to the time of the project decision. Please refer to this project by the Applicant's name, File Number and the Assessor Parcel Number.

Thank you,

Tracy Gonzalez
Junior Planner

Department of Community Services
292 West Beamer Street
Woodland, CA 95695
Phone: (530)666-8803
Email: tracy.gonzalez@yolocounty.org

Public Counter Hours: Mon - Fri 8AM-12PM / Afternoons by Appointment ONLY

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 Yolo County, California

APN 049-100-002

March 9, 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.

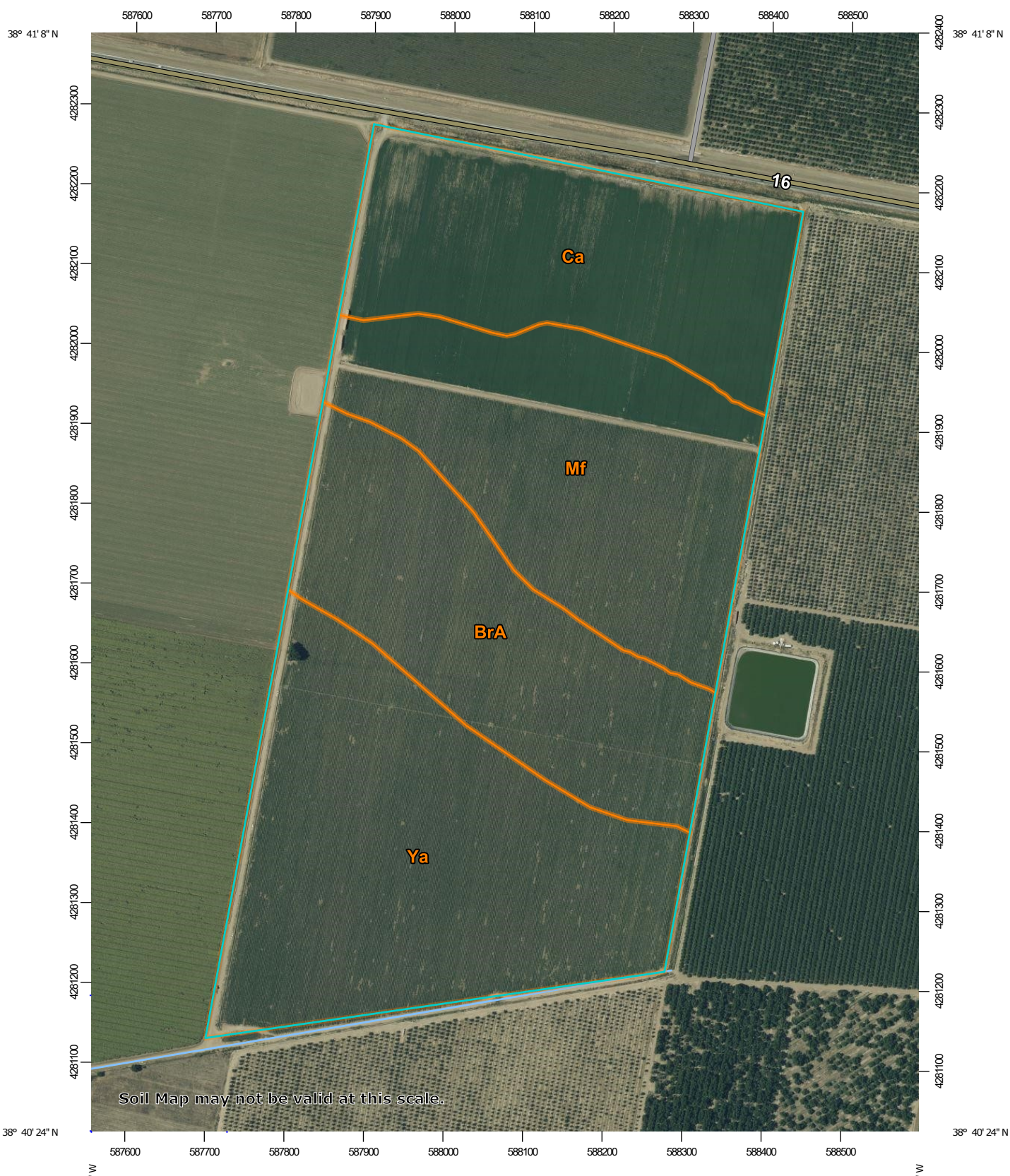
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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.

Custom Soil Resource Report
Soil Map (APN 049-100-002)



Map Scale: 1:6,710 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Yolo County, California
Survey Area Data: Version 16, Jun 1, 2020

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

Date(s) aerial images were photographed: Jul 2, 2019—Jul 5, 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.

Map Unit Legend (APN 049-100-002)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrA	Brentwood silty clay loam, 0 to 2 percent slopes	30.3	20.8%
Ca	Capy silty clay, 0 percent slopes, MLRA 17	30.5	20.9%
Mf	Marvin silty clay loam	36.6	25.1%
Ya	Yolo silt loam, 0 to 2 percent slopes, MLRA 17	48.4	33.2%
Totals for Area of Interest		**145.8**	**100.0%**

Map Unit Descriptions (APN 049-100-002)

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.

Yolo County, California

BrA—Brentwood silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hdvb
Elevation: 50 to 400 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Brentwood

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 10 inches: silty clay loam
H2 - 10 to 35 inches: silty clay loam
H3 - 35 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 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: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Yolo

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

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

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

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

Ca—Capy silty clay, 0 percent slopes, MLRA 17

Map Unit Setting
National map unit symbol: 2xc8z
Elevation: 20 to 180 feet
Mean annual precipitation: 20 to 24 inches
Mean annual air temperature: 61 to 62 degrees F
Frost-free period: 317 to 326 days
Farmland classification: Prime farmland if irrigated

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

Description of Capay

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

Typical profile
Ap - 0 to 11 inches: silty clay
A - 11 to 18 inches: silty clay
Bss1 - 18 to 36 inches: silty clay
Bkss - 36 to 49 inches: silty clay
B'ss2 - 49 to 64 inches: silty clay

Properties and qualities
Slope: 0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.2 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Moderate (about 7.8 inches)

Interpretive groups
Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Willows
Percent of map unit: 4 percent
Landform: Basin floors
Hydric soil rating: Yes

Clear lake
Percent of map unit: 4 percent
Landform: Basin floors
Hydric soil rating: Yes

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

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

Mf—Marvin silty clay loam

Map Unit Setting
National map unit symbol: hdwb
Elevation: 20 to 100 feet
Mean annual precipitation: 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 280 days
Farmland classification: Prime farmland if irrigated

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

Description of Marvin

Setting

Landform: Rims on basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed silty and clayey alluvium

Typical profile

H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 41 inches: silty clay
H3 - 41 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water capacity: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Capay

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

Rincon

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

Pescadero

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

Unnamed

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

Ya—Yolo silt loam, 0 to 2 percent slopes, MLRA 17

Map Unit Setting

National map unit symbol: 2w89y
Elevation: 20 to 2,020 feet
Mean annual precipitation: 19 to 35 inches
Mean annual air temperature: 59 to 62 degrees F
Frost-free period: 250 to 270 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Yolo

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap1 - 0 to 2 inches: silt loam
Ap2 - 2 to 8 inches: silt loam
A1 - 8 to 19 inches: silt loam
A2 - 19 to 26 inches: silt loam
C1 - 26 to 33 inches: silt loam
C2 - 33 to 41 inches: silt loam
Ab - 41 to 58 inches: silty clay loam
C'3 - 58 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 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 to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.2 to 1.0 mmhos/cm)
Available water capacity: Very high (about 12.2 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Arbuckle

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

Zamora

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

Soboba

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

Reiff

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

Loamy alluvial land

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

Brentwood

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

Sycamore

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

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.

Irrigated Capability Class (APN 049-100-002)

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—Irrigated Capability Class (APN 049-100-002)

Map Scale: 1:6,710 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil 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 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Yolo County, California
Survey Area Data: Version 16, Jun 1, 2020

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

Date(s) aerial images were photographed: Jul 2, 2019—Jul 5, 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—Irrigated Capability Class (APN 049-100-002)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BrA	Brentwood silty clay loam, 0 to 2 percent slopes	1	30.3	20.8%
Ca	Capy silty clay, 0 percent slopes, MLRA 17	2	30.5	20.9%
Mf	Marvin silty clay loam	2	36.6	25.1%
Ya	Yolo silt loam, 0 to 2 percent slopes, MLRA 17	1	48.4	33.2%
Totals for Area of Interest			**145.8**	**100.0%**

Rating Options—Irrigated Capability Class (APN 049-100-002)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. 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) (APN 049-100-002)

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)

Reference:

O'Geen, A.T., Southard, S.B., Southard, R.J. 2008. A Revised Storie Index for Use with Digital Soils Information. University of California Division of Agriculture and Natural Resources. Publication 8355. http://anrcatalog.ucanr.edu/pdf/8335.pdf

Report—California Revised Storie Index (CA) (APN 049-100-002)

California Revised Storie Index (CA)–Yolo County, California			
Map symbol and soil name	**Pct. of map unit**	**California Revised Storie Index (CA)**	
		Rating class	**Value**
BrA—Brentwood silty clay loam, 0 to 2 percent slopes			
Brentwood	85	Grade 1 - Excellent	90
Ca—Capy silty clay, 0 percent slopes, MLRA 17			
Capay	85	Grade 3 - Fair	42
Mf—Marvin silty clay loam			
Marvin	85	Grade 2 - Good	62
Ya—Yolo silt loam, 0 to 2 percent slopes, MLRA 17			
Yolo	85	Grade 1 - Excellent	85

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

Tracy Gonzalez

From: Hernandez, Nick@DOT <Nick.Hernandez@dot.ca.gov>
Sent: Tuesday, March 23, 2021 2:48 PM
To: Tracy Gonzalez
Subject: ZF2020-0043 Gibson Solar Farm MUP

Hello Tracy,

Thank you for the opportunity to review "Gibson Solar Farm."
Caltrans does not have any comments at this time.

Please let us know if anything changes.

Thank you,
Nick Hernandez
Associate Transportation Planner, Transportation Planning – South
Division of Planning, Local Assistance, and Sustainability
California Department of Transportation, District 3
703 B Street | Marysville, CA 95901
Office: (530) 634-7618
Email: nick.hernandez@dot.ca.gov
www.dot.ca.gov/d3/
For real-time highway conditions: http://quickmap.dot.ca.gov/

File Number: ZF2020-0043 Gibson Solar Farm (Major Use Permit) [FA0020052]

APN: 049-100-035 (previously 049-100-002)

Site: Hwy 16, Madison

Applicant: Cindy Larson O'Neil, Project Manager, Gibson Renewables, LLC

March 30th, 2021

Yolo County Environmental Health (YCEH) Division has reviewed zone file ZF2020-0043, a major use permit for a proposed 120-acre solar farm on parcel 049-100-035 (Hwy 16, Madison).

During the parcel and project review, the following was determined:

- According to the application, the proposed operations will include some hazardous material storage and transport as well as some hazardous waste generation.
- According to the application, the proposed facility will have three or five on-call operations and maintenance employees. It is expected that these employees would visit the site twice per year for routine maintenance. Additionally, there will be up to 140 employees on-site during construction and decommissioning activities.
- According to the application, there are no wells on the parcel. There is a pump on the Yolo County Flood Control & Water Conservation District canal bordering the parcel.
    - An expired irrigation well installation permit #18-105W is on file for this parcel. According to our records, this well was not installed.
    - There is an existing irrigation well on the parcel that was identified during our review of permit #18-105W.

YCEH approves the major use permit with the following conditions:

Hazardous materials and hazardous waste

Based upon the proposed operations, it is expected that the facility will be required to submit a Hazardous Materials Business Plan through the California Environmental Reporting System (CERS) website (http://cers.calepa.ca.gov/). Contact YCEH and ask to speak to a Hazmat Specialist (ph. 530-666-8646) for assistance with this requirement.

Employee restrooms

Based on the limited number of employees and the limited amount of time spent on-site, installation of an on-site wastewater treatment system (OWTS) is not required for this proposed facility.

Portable toilets meeting OSHA requirements must be provided to employees during construction and decommissioning activities. Portable toilets must be located at least 50’ from any water well, at least 25’ from any unlined canal and at least 15’ from any lined canal. The construction permit site plan should include the proposed location of the portable toilets and demonstrate that applicable setbacks are met.

Water wells

According to our records, there is an existing irrigation well on the parcel. If the property owner is not using this well and has no intention to use this well in the future, the well must be destroyed by C-57 licensed well contractor under a YCEH abandonment permit.

YOLO COUNTY FARM BUREAU

Yolo County Farm Bureau

69 W Kentucky Avenue, Woodland CA 95695
P O Box 1556, Woodland CA 95776
530.662.6316 O * 530.662.8611 F
www.yolofarmbureau.org

October 9, 2021

Yolo County Planning Department
292 West Beamer Street
Woodland, CA 956895

RE: Gibson Solar Project Proposal

At the September 8, 2021 Executive Board meeting this proposal was revisited. After discussion board members voted to change their position from neutral to opposing the project. Chuck Dudley abstained from voting.

Please update the Farm Bureau position.

Thank you,

Denise Sagara

Encl.

PUBLIC WORKS DIVISION DRAFT CONDITIONS OF APPROVAL
ZF2020-0043, Gibson Solar Use Permit

1. The applicant shall provide a hydrology/hydraulic report, signed and sealed by a professional civil engineer licensed in the State of California that demonstrates onsite detention/retention of runoff exceeding the predevelopment condition utilizing a 100-year design storm event, complies with Section 9 Storm Drainage of the Yolo County Improvements Standards and uses methods outlined in the Yolo County City/County Drainage Manual. The report will be submitted for review and approval by the County Engineer prior to building permit issuance. Conclusions need to discuss the upstream and downstream impacts caused by the development of the project (planned, full build out) and how the improvements mitigate it in accordance with the standards.

2. Prior to grading or building permit issuance, applicant shall record any drainage easements and/or public utility easements necessary to protect drainage facilities and utilities from future development after completion of the project. Provide copies of documents recorded by the County Recorder to the Public Works Division for record information on the parcel.

3. Prior to grading/building permit issuance, an operations and maintenance plan (O&M plan) shall be submitted for Public Works review that ensures the onsite storm drainage facilities will receive appropriate annual and routine inspections, maintenance, and operation (including, but not limited to, basins, ditches, bioswales, pipelines, etc. (can be as brief as one page, but specific on how the owner is to maintain the storm water system going forward).

4. If the development disturbs one acre or more of land, the developer must obtain coverage under California's "National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (State General Permit)" for controlling construction activities that may adversely affect water quality. State General Permit coverage requires preparation of a Storm Water Pollution Prevention Plan (SWPPP). The developer shall provide Yolo County its State-issued Waste Discharge Identification Number (WDID #), and pay associated fees, prior to issuance of a County building or grading permit.

5. Driveway visibility shall be maintained per Yolo County Improvement Standards Drawing # 4-13 at a minimum. Landowners are responsible for tree maintenance along the property frontage to County roads.

6. Signs associated with the business are not permitted in county road right-of-way.

7. Provide ongoing maintenance of gravel parking areas and access roads, including but not limited to, stabilizing any areas that have eroded, preventing the downstream conveyance of sediment, and providing dust control.

8. County roads shall not be used for event/business/operations parking.

9. The applicant shall file a Record of Survey, prepared by a licensed surveyor in the State of California, whenever any of the following instances occur:
    a. A legal description has been prepared that is based upon a new field survey disclosing data that does not appear on any previously filed Subdivision Map, Parcel Map, Record of Survey, or other official map.
    b. Permanent monuments have been set marking any boundary.

Tracy Gonzalez

From: Alan Pryor <ozone21@att.net>
Sent: Friday, April 23, 2021 1:36 PM
To: Tracy Gonzalez
Subject: Re: Yolo County - Courtesy Notice for ZF#2020-0043

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Tracy - I am Alan Pryor, Chair of the Sierra Club Yolano Group.

I received the courtesy notice re the planned Gibson Renewables project and noticed that the parcel, "APN: 049-100-035, *a 147-acre Agricultural Intensive (A-N) zoned parcel that is enrolled in the Williamson Act (Land Use Agreement No. 71-206)"*.

I searched for "*Land Use Agreement No. 71-206*" in the county's website but got "*No Results*" with the notation that "*due to our recent website redesign, many of the web page addresses have changed. Therefore, search results may not be accurate for a time while Google re-indexes the new website*."

Can you direct me to provisions that specify acceptable land use restrictions for this property under the Williamson Act or is the applicant planning to rescind the agreement under appropriate provisions?

Thanks in advance

Alan

Alan Pryor
916-996-4811 (cell)

On 4/23/2021 1:05 PM, Tracy Gonzalez wrote:

> **ATTENTION: INTERESTED PARTIES**
>
> The attached proposal for a Major Use Permit has been filed with the Department of Community Services. You have been invited to comment because the proposal or project impacts may affect your property or services/district or jurisdiction. Please send comments to the project planner via mail, email, or phone.
>
> You are being provided this notice as a courtesy. Please be advised that you will be notified of any environmental assessment that is released for public review, as well as the time and date once the project is set for a public hearing with the Planning Commission and/or Board of Supervisors. Please refer to this project by the Applicant's name, File Number and the Assessor Parcel Number. If you have no comment, a reply is not necessary.
>
> Thank you,
>
> *Tracy Gonzalez*
> Junior Planner
> Department of Community Services
> 292 West Beamer Street

Woodland, CA 95695
Phone: (530)666-8803
Email: tracy.gonzalez@yolocounty.org

Public Counter Hours: Mon - Fri 8AM-12PM / Afternoons by Appointment ONLY

Tracy Gonzalez

From: denise@yolofarmbureau.org
Sent: Wednesday, May 12, 2021 5:16 PM
To: Stephanie Cormier
Subject: Gibson - Land Use (AWP)

Importance: High

Hi Stephanie,

YCFB Directors did not take a position on this application.

Denise Sagara
Yolo County Farm Bureau
P O Box 1556
Woodland, CA 95776
530.662.6316 O
530.662.8611 F
denise@yolofarmbureau.org

Tracy Gonzalez

From: Jeanette Wrysinski <wrysinski@yolorcd.org>
Sent: Friday, April 23, 2021 4:16 PM
To: Tracy Gonzalez
Cc: Phil Hogan (phil.hogan@usda.gov); Heather Nichols
Subject: RE: Yolo County - Courtesy Notice for ZF#2020-0043

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Tracy;
I would like to provide a comment on this proposed project, I would also like to request a copy of the proposed planting plan (It was described as a "multi-use" project with pollinators planted).
My comment is that I think this, and all solar facilities like , need to be constructed in a way that allows for management of the vegetation underneath the panels so that they do not become a solid mass of noxious, invasive weeds that are a weed seed source for adjacent agricultural fields or field edges. I have seen this occur with many, many solar facilities around the Sacramento Valley and elsewhere. The panel support structures are typically so short that no vegetation management equipment can get under or around them, and wires are exposed such that it is risky to put grazing animals under them.
As a county with such a strong agricultural economy, this makes sense to require. These are not difficult fixes.
Thank you for your consideration.

Jeanette Wrysinski
Deputy Director
Yolo County Resource Conservation District
221 West Court St., Suite 1
Woodland, CA 95695
530-681-3292 cell, while under COVID-19 sequestration

YOLO COUNTY RCD
Yolo County Resource Conservation District

Find us on:

From: Tracy Gonzalez <Tracy.Gonzalez@yolocounty.org>
Sent: Friday, April 23, 2021 1:06 PM
Subject: Yolo County - Courtesy Notice for ZF#2020-0043

ATTENTION: INTERESTED PARTIES

The attached proposal for a Major Use Permit has been filed with the Department of Community Services. You have been invited to comment because the proposal or project impacts may affect your property or services/district or jurisdiction. Please send comments to the project planner via mail, email, or phone.

You are being provided this notice as a courtesy. Please be advised that you will be notified of any environmental assessment that is released for public review, as well as the time and date once the project is

set for a public hearing with the Planning Commission and/or Board of Supervisors. Please refer to this project by the Applicant's name, File Number and the Assessor Parcel Number. If you have no comment, a reply is not necessary.

Thank you,

Tracy Gonzalez
Junior Planner
Department of Community Services
292 West Beamer Street
Woodland, CA 95695
Phone: (530)666-8803
Email: tracy.gonzalez@yolocounty.org

Public Counter Hours: Mon - Fri 8AM-12PM / Afternoons by Appointment ONLY