

***COLUSA  
LOCAL AGENCY FORMATION COMMISSION***

***DAVIS WATER DISTRICT,  
COLUSA COUNTY CALIFORNIA***

***MUNICIPAL SERVICE REVIEW  
AND  
SPHERE OF INFLUENCE  
REPORT***

***Adopted February 5, 2015***

***Resolution 2015-0001 Municipal Service Review***

***Resolution 2015-0002 Sphere of Influence***

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## **1 INTRODUCTION**

### **1.1 Role and Responsibility of LAFCO**

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, as amended (“CKH Act”) (California Government Code §§56000 et seq.), is LAFCO’s governing law and outlines the requirements for preparing Municipal Service Reviews (MSRs) for periodic Sphere of Influence (SOI) updates. MSRs and SOIs are tools created to empower LAFCO to satisfy its legislative charge of “discouraging urban sprawl, preserving open-space and prime agricultural lands, efficiently providing government services, and encouraging the orderly formation and development of local agencies based upon local conditions and circumstances (§56301).

CKH Act Section 56301 further establishes that

*“one of the objects of the commission is to make studies and to obtain and furnish information which will contribute to the logical and reasonable development of local agencies in each county and to shape the development of local agencies so as to advantageously provide for the present and future needs of each county and its communities.”*

Based on that legislative charge, LAFCO serves as an arm of the State; preparing and reviewing studies and analyzing independent data to make informed, quasi-legislative decisions that guide the physical and economic development of the state (including agricultural uses) and the efficient, cost-effective, and reliable delivery of services to residents, landowners, and businesses.

While SOIs are required to be updated every five years, they are not time-bound as planning tools by the statute, but are meant to address the “probable physical boundaries and service area of a local agency” (§56076). SOIs therefore guide both the near-term and long-term physical and economic development of local agencies their broader county area, and MSRs provide the near-term and long- term time-relevant data to inform LAFCO’s SOI determinations.

### **1.2 Purpose of a Municipal Service Review**

As described above, MSRs are designed to equip LAFCO with relevant information and data necessary for the Commission to make informed decisions on SOIs. The CKH Act, however, gives LAFCO broad discretion in deciding how to conduct MSRs, including geographic focus, scope of study, and the identification of alternatives for improving the efficiency, cost-effectiveness, accountability, and reliability of public services.

The purpose of a Municipal Services Review (MSR) in general is to provide a comprehensive inventory and analysis of the services provided by local municipalities, service areas, and special districts. A MSR evaluates the structure and operation of the local municipalities, service areas, and special districts and discusses possible areas for improvement and coordination. The MSR is intended to provide information and analysis to support a sphere of influence update.

A written statement of the study's determinations must be made in the following areas:

1. Growth and population projections for the affected area;
2. The location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence;
3. Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence;
4. Financial ability of agencies to provide services;
5. Status of, and opportunities for, shared facilities;
6. Accountability for community service needs, including governmental structure and operational efficiencies

The MSR is organized according to these determinations listed above. Information regarding each of the above issue areas is provided in this document.

### **1.3 Purpose of a Sphere Of Influence**

In 1972, LAFCOs were given the power to establish SOIs for all local agencies under their jurisdiction. As defined by the CKH Act, "sphere of influence" means a plan for the probable physical boundaries and service area of a local agency, as determined by the commission" (§56076). SOIs are designed to both proactively guide and respond to the need for the extension of infrastructure and delivery of municipal services to areas of emerging growth and development. Likewise, they are also designed to discourage urban sprawl and the premature conversion of agricultural and open space resources to urbanized uses.

The role of SOIs in guiding the State's growth and development was validated and strengthened in 2000 when the Legislature passed Assembly Bill ("AB") 2838 (Chapter 761, Statutes of 2000), which was the result of two years of labor by the Commission on Local Governance for the 21st Century, which traveled up and down the State taking testimony from a variety of local government stakeholders and assembled an extensive set of recommendations to the Legislature to strengthen the powers and tools of LAFCOs to promote logical and orderly growth and development, and the efficient, cost-effective, and reliable delivery of public services to California's residents, businesses, landowners, and visitors.

The requirement for LAFCOs to conduct MSRs was established by AB 2838 as an acknowledgment of the importance of SOIs and recognition that regular periodic updates of SOIs should be conducted on a five-year basis (§56425(g)) with the benefit of better information and data through MSRs (§56430(a)). A MSR is conducted prior to, or in conjunction with, the update of a SOI and provides the foundation for updating it.

LAFCO is required to make five written determinations when establishing, amending, or updating an SOI for any local agency that address the following (§56425(c)):

1. The present and planned land uses in the area, including agricultural and open-space lands.
2. The present and probable need for public facilities and services in the area.
3. The present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide.
4. The existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency.
5. For an update of an SOI of a city or special district that provides public facilities or services related to sewers, municipal and industrial water, or structural fire protection, the present and probable need for those public facilities and services of any disadvantaged unincorporated communities within the existing sphere of influence.

#### **1.4 Disadvantaged Unincorporated Communities**

SB 244 (Chapter 513, Statutes of 2011) made changes to the CKH Act related to “disadvantaged unincorporated communities,” including the addition of SOI determination #5 listed above. Disadvantaged unincorporated communities, or “DUCs,” are inhabited territories (containing 12 or more registered voters) where the annual median household income is less than 80 percent of the statewide annual median household income. On March 26, 2012,

LAFCO adopted a “Policy for the Definition of ‘Inhabited Territory’ for the Implementation of SB 244 Regarding Disadvantaged Unincorporated Communities”, which identified 21 inhabited unincorporated communities for purposes of implementing SB 244. CKH Act Section 56375(a)(8)(A) prohibits LAFCO from approving a city annexation of more than 10 acres if a DUC is contiguous to the annexation territory but not included in the proposal, unless an application to annex the DUC has been filed with LAFCO.

The legislative intent is to prohibit “cherry picking” by cities of tax-generating land uses while leaving out under-served, inhabited areas with infrastructure deficiencies and lack of access to reliable potable water and wastewater services. DUCs are recognized as social and economic communities of interest for purposes of recommending SOI determinations pursuant to Section 56425(c).

## 2 COLUSA COUNTY BACKGROUND

### 2.1 Colusa County History

Colusa County has a land mass of 1150 square miles, with only 6 square miles of surface water. Most of the valley is good crop land, while the foothills are largely used for grazing or recreation. The western portion of the county is defined by the Coastal Mountain Range.

Colusa County is one of the original counties of California, created in 1850 at the time of statehood. Parts of the county's territory were given to Tehama County in 1856 and to Glenn County in 1891.

The County was named after the 1844 Rancho Colus Mexican land grant to John Bidwell. The name of the County in the original state legislative act of 1850 was spelled *Colusi*, and often in newspapers was spelled *Coluse*. The word is derived from the name of a Native American tribe living on the west side of the Sacramento River.

### 2.2 Colusa County Communities and Population

There are two incorporated cities in Colusa County: Colusa and Williams. There are seven census-designated places within the County: Arbuckle, College City, Grimes, Lodoga, Maxwell, Princeton and Stonyford. As of the 2010 census, the Colusa County population was 21,419.

The following tables show the Colusa County population and income compared to the State of California.

#### COLUSA COUNTY POPULATION<sup>1</sup>

	Colusa County	State of California
Population, 2013 estimate	21,358	38,332,521
Population, 2010 (April 1) estimates base	21,419	37,253,959
Population, percent change, April 1, 2010 to July 1, 2013	-0.3%	2.9%

#### COLUSA COUNTY HOUSEHOLD INCOME AND POVERTY<sup>2</sup>

	Colusa County	State of California
Median household income, 2008-2012	\$52,165	\$61,400
Persons below poverty level, percent, 2008-2012	15.2%	15.3%

Eighty percent of the State Median Household Income of \$61,400 is \$49,120 so with a median income of \$52,165; Colusa County as a whole does not qualify as disadvantaged.

<sup>1</sup> US Census Bureau, <http://quickfacts.census.gov/qfd/states/06/06011.html>, August 12, 2014.

<sup>2</sup> US Census Bureau, <http://quickfacts.census.gov/qfd/states/06/06011.html>, August 12, 2014.

## 2.3 Colusa County Agriculture

According to the Colusa County Department of Agriculture 2013 Crop Report, agriculture is the major industry in Colusa County with a 2013 gross production of \$920,110,930. This represents an increase of \$208,342,830 or 29% when compared to the 2012 value of \$711,768,100.<sup>3</sup> The ten leading farm commodities for 2013 and 2012 are shown below:

<b>COLUSA COUNTY TEN LEADING FARM COMMODITIES 2013</b>			
<b>Crop</b>	<b>Amount</b>	<b>2013 Rank</b>	<b>2012 Rank</b>
Rice	\$285,461,000	1	1
Almonds-Meats	\$285,038,000	2	2
Bearing Walnuts-English	\$93,877,000	3	4
Tomatoes-Processing	\$50,112,000	4	3
Rice-Seed	\$21,857,000	5	5
Cattle and Calves	\$17,449,000	6	7
Hay-Alfalfa	\$16,096,000	7	6
Sunflower-Seed	\$13,198,000	8	10
Wine Grapes	\$13,032,000	9	8
Wheat	\$13,012,000	10	12

The Crop Report notes that Colusa County exported 44 different commodities to 69 different countries in 2013.

## 2.4 Tehama-Colusa Canal

The Tehama-Colusa Canal is part of the Central Valley Project (CVP). The Tehama-Colusa Canal was built by the US Bureau of Reclamation and is now operated by the Tehama-Colusa Canal Authority which describes itself as follows:

*The Tehama-Colusa Canal Authority (TCCA) is a Joint Powers Authority comprised of 17 Central Valley Project water contractors. The service area spans four counties (Tehama, Glenn, Colusa, and Yolo) along the west side of the Sacramento Valley, providing irrigation water to farmers growing a variety of permanent and annual crops. TCCA operates and maintains the 140 mile Tehama-Colusa and Corning canals irrigation water supply system. The service area is approximately 150,000 acres, producing over \$250 million in crops per year, and contributing \$1 billion to the regional economy annually.<sup>4</sup>*

<sup>3</sup> Colusa County Department of Agriculture, Joseph J. Damiano, Agricultural Commissioner/Sealer of Weights and Measures, 100 Sunrise Blvd, Suite F, Colusa CA 95931, Phone: 530-458-0580, "Colusa County Department of Agriculture Annual Crop Report 2013."

<sup>4</sup> Tehama-Colusa Canal Authority, <http://tccanal.com/about.php>, September 22, 2014



### 3 DAVIS WATER DISTRICT BACKGROUND

The Davis Water District was formed on March 17, 1965 to get water from the Tehama-Colusa Canal. A map of the Davis Water District is shown at the end of this report.

#### 3.1 Contact Information

Contact Information for the Davis Water District is as follows:

Tom Charter, Vice-President  
 Jamie Traynham, Assistant Secretary Treasurer  
 PO Box 83, Arbuckle, CA 95912

Phone: 530-476-3137 Fax: (530) 476-3445 E-Mail: [Jamie@tnpfarms.com](mailto:Jamie@tnpfarms.com)

#### 3.2 Davis Water District Land and Soils

A map showing the various soil types within the Davis Water District is shown at the end of this report. The description of each soil type can be found in Appendix A at the end of this report. A summary of the various soil types and the acres for each type within the District is shown below:

#### DAVIS WATER DISTRICT SOIL TYPES

Soil Type	Acres
102 Capay Clay Loam, 0 to 1 percent slopes	295.19
112 Westfan Loam, 0 to 2 percent slopes	578.57
127 Mallard Clay Loam, 0 to 1 percent slopes	424.44
141 Myers Clay, 0 to 2 percent slopes	25.10
144 Hillgate Clay loam, 0 to 2 percent slopes	92.55
145 Hillgate Loam, 0 to 2 percent slopes	167.60
204 Capay Clay, 0 to 3 percent slopes, occasionally flooded	7.94
216 Altamont-Sehorn Complex, 9 to 15 percent slopes	201.66
220 Altamont Silty Clay, 5 to 9 percent slopes	28.58
253 Millsholm-Altamont-Rock outcrop complex, 5 to 15 percent slopes	20.59
<b>TOTAL ACRES</b>	<b>1,842.24</b>

The US Bureau of Reclamation notes that there are several ways to determine the number of acres within the Davis Water District as follows:

DAVIS WATER DISTRICT <sup>5</sup>	
USBR Definition	Number of Acres
Contract Acres	1770
Gross Acres	1909
Arable Acres	1863
Irrigable Acres	1770
Productive Acres	1682

<sup>5</sup> USBR, Bon Scott McElroy, Water and Lands Assistant, U.S. Bureau of Reclamation, Northern California Area Office Willows, CA 95988, (530) 934-1327, [bmcelroy@usbr.gov](mailto:bmcelroy@usbr.gov), September 10, 2014.

### **3.3 Davis Water District Crops**

The 2014 crop acreage for Davis Water District is 1516 acres of almonds and 94 acres of fallow ground.<sup>6</sup>

### **3.4 Water Supply and Service Provision**

The Davis Water District has a contract with the US Bureau of Reclamation for 4,000 acre feet of water from the Tehama-Colusa Canal. However when drought conditions occur the amount of water allocated is less than the contract amount. The water comes from the Canal via a siphon or is wheeled through the Westside Water District. No water is delivered outside District boundaries.<sup>7</sup> There are no employees for the District.<sup>8</sup>

The Bureau of Reclamation reports the following water allocations for Davis Water District:

<b>US Bureau of Reclamation Water Allocation for Davis Water District<sup>9</sup></b>		
<b>Year</b>	<b>Agricultural</b>	<b>Municipal and Industrial (M&amp;I)</b>
2010	100%	100%
2011	100%	100%
2012	100%	100%
2013	75%	100%
2014	0%	50%

### **3.5 Davis Water District Board of Directors**

The Board of Directors for Davis Water District and their terms are listed below:<sup>10</sup>

Jim Charter, P. O. Box 759, Arbuckle, CA 95912	12/3/13 - 12/5/17
Tom Charter, P. O. Box 83, Arbuckle, CA 95912	12/3/13 - 12/5/17
Perry Charter, P. O. Box 83, Arbuckle, CA 95912	12/3/13 – 12/5/17
Dan Charter, P. O. Box 939, Williams, CA 95987	12/6/11 - 12/6/15
Bill Charter, Jr., 4834 Freshwater Road, Williams, CA 95987	12/6/11 - 12/6/15

There are five landholders within the District and five Directors on the Board. The Board meets as needed two times a year. The Board meetings are held at the T&P Farms Office at 1241 Putnam Way, Arbuckle, CA 95912.<sup>11</sup>

<sup>6</sup> Davis Water District, [jamie@tnpfarms.com](mailto:jamie@tnpfarms.com), September 22, 2014.

<sup>7</sup> Davis Water District, Jamie Traynham, Assistant Secretary-Treasurer, 530-476-3137, [Jamie@tnpfarms.com](mailto:Jamie@tnpfarms.com)

<sup>8</sup> Davis Water District, Jamie Traynham, Assistant Secretary-Treasurer, 530-476-3137, [Jamie@tnpfarms.com](mailto:Jamie@tnpfarms.com)

<sup>9</sup> USBR, Bon Scott McElroy, Water and Lands Assistant, U.S. Bureau of Reclamation, Northern California Area Office Willows, CA 95988, (530) 934-1327, [bmcelroy@usbr.gov](mailto:bmcelroy@usbr.gov), September 10, 2014.

<sup>10</sup> Davis Water District, E-mail from Jamie Traynham, September 22, 2014, [Jamie@tnpfarms.com](mailto:Jamie@tnpfarms.com)

<sup>11</sup> Davis Water District, [jamie@tnpfarms.com](mailto:jamie@tnpfarms.com), September 22, 2014.

### 3.6 Davis Water District Budget

The Davis Water District reports the following income and expenses for 2014:

<b>DAVIS WATER DISTRICT 2014 BUDGET INCOME</b>		
<b>INCOME</b>		
Assessments	58,071.68	
Interest	0	
Refunds and Reimbursements	0	
Water Charges	807,500.00	
<b>TOTAL INCOME</b>	<b>865,571.68</b>	
<b>COST OF GOODS SOLD</b>		
Conveyance Charge		2,090.00
Water Charges		807,500.00
<b>TOTAL COST OF GOODS SOLD</b>		<b>809,590.00</b>
<b>GROSS PROFIT</b>	<b>55,981.68</b>	
(used for expenses)		
<b>DAVIS WATER DISTRICT 2014 BUDGET EXPENSES</b>		
<b>EXPENSES</b>		
Assessment		2,5871.84
Bank Charges		50.00
Bookkeeping		0
System Maintenance (Machine Hire)		2,500.00
Dues and Subscriptions		750.00
Fees (USBR Study)		0
Interest Expense		0
Legal and Professional Services		1,000.00
Licenses and Permits		2,500.00
Meeting Expense		0
Miscellaneous Expenses		100.00
Office Supplies		50.00
Postage		25.00
Repairs and Maintenance		2,500.00
Restoration Fund/TPUD Fees		0
Utilities		0
Water Availability Charge		1,976.24
Water Service Charge		18,658.59
<b>TOTAL EXPENSES</b>		<b>55,981.68</b>
<b>NET PROFIT</b>	<b>0</b>	

**COLUSA LAFCO**  
**DAVIS WATER DISTRICT MSR and SOI**  
**Resolutions 2015-0001 and 2015-0002 Adopted February 5, 2015**

Water Expenses Detail

At 75% Supply		
District O&M	\$5.91	\$9475.00
Water Service Cost	\$30.32	\$48,596.68

INCOME DETAIL:

Assessment	\$36.23	1602.8 Acres
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Total Transfer Water Cost:

Blended Purchase Price	\$425.00
Restoration Fee	9.99
Trinity PUD Assessment	0.23
Wheeling Fee	1.10
TCCA/USBR Transfer Fee	<u>12.50</u>
Potential Transfer Cost	\$448.82 per Acre-Foot

#### **4 DAVIS WATER DISTRICT MUNICIPAL SERVICE REVIEW**

##### **4.1 Growth and Population Projections for the Davis Water District Area**

*Purpose: To evaluate service needs based on existing and anticipated growth patterns and population projections.*

###### **4.1.1 Davis Water District Area Population Projections**

There is no population within the Davis Water District. The area in the Davis Water District is zoned for agriculture and designated for agricultural use on the Colusa County General Plan as shown on maps at the end of this report. The District does not want to encourage population growth because this would cause conflicts with the agricultural uses.

###### **4.1.2 MSR Determinations on Growth and Population Projections for the Davis Water District Area**

- 1-1) There is no permanent population within the Davis Water District. This is appropriate for an agricultural area.
- 1-2) The District should maintain an active relationship with Colusa County planning department to make sure that the District goals are considered when land use changes and land use regulations are made.

##### **4.2 Location and Characteristics of any Disadvantaged Unincorporated Communities (DUC) within or Contiguous to Davis Water District**

*Purpose: To comply with the State Law to examine any unincorporated areas which could be provided with better services by annexing to an adjacent city.*

###### **4.2.1 Determination of Davis Water District Area Disadvantaged Unincorporated Community Status**

The Davis Water District does not include any Disadvantaged Unincorporated Communities.

###### **4.2.2 MSR Determinations on Disadvantaged Unincorporated Communities near Davis Water District**

- 2-1) The Davis Water District does not include any Disadvantaged Unincorporated Communities.

### **4.3 Capacity and Infrastructure**

*Purpose: To evaluate the infrastructure needs and deficiencies in terms of supply, capacity, condition of facilities and service quality.*

#### **4.3.1 Infrastructure**

The Davis Water District has an agreement with the Westside Water District to help provide delivery of water from the Tehama-Colusa Canal. The Davis Water District pays for maintenance of the Tehama-Colusa Canal and participates in the Tehama-Colusa Canal Authority. The infrastructure within the District is the minimum needed to deliver the water from the T-C Canal to the fields. The District strives to maintain service levels within the changing dynamics of population growth in the surrounding area, escalating costs, limited funding and increasing water demands for Northern California water.

#### **4.3.2 MSR Determinations on Infrastructure for Davis Water District**

- 3-1) The Davis Water District has adequate capacity to use the water from the Tehama-Colusa Canal.

### **4.4 Financial Ability to Provide Services**

*Purpose: To evaluate factors that affect the financing of needed improvements and to identify practices or opportunities that may help eliminate unnecessary costs without decreasing service levels.*

#### **4.4.1 Financial Considerations for Davis Water District**

The Davis Water District has adequate financial resources to pay for the water delivery from the Tehama-Colusa Canal Authority. The Bureau of Reclamation sets the costs and the amount of water delivered.

#### **4.4.2 MSR Determinations on Financing for Davis Water District**

- 4-1) The Davis Water District controls costs to the extent possible.
- 4-2) The Davis Water District must pay the water rates set by the USBR and the TCCA.
- 4-3) The Davis Water District has sound financial management.
- 4-4) The financial position of the District is better when the District can supply the maximum amount of water allowed by the water-rights agreement with the US Bureau of Reclamation.
- 4-5) The District contributes to the local economy through salaries and equipment purchases.

#### **4.5 Status of and Opportunities for Shared Facilities**

*Purpose: To evaluate the opportunities for a jurisdiction to share facilities and resources to develop more efficient service delivery systems.*

##### **4.5.1 Davis Water District Facilities**

The District shares the facility and the cost of Shasta Dam and the Tehama-Colusa Canal. There are many reasons that it would not be feasible for the District to be combined with other similar districts in Colusa County. Even though there are other districts which obtain water from the Tehama-Colusa Canal; these districts may have different enabling acts, different contracts with the Bureau of Reclamation, and different means of financing their water conveyance infrastructure.<sup>12</sup> The cost of combining the Districts would far exceed any benefit derived.

##### **4.5.2 MSR Determinations on Shared Facilities for Davis Water District**

- 5-1) The District works with other districts and agencies whenever it is legally and physically possible.
- 5-2) The District receives water flowing through Shasta Dam and diverted from the Sacramento River so the water use must be coordinated by the US Bureau of Reclamation.

#### **4.6 Accountability for Community Service Needs, Government Structure and Operational Efficiencies**

*Purpose: To consider the advantages and disadvantages of various government structures that could provide public services, to evaluate the management capabilities of the organization and to evaluate the accessibility and levels of public participation associated with the agency's decision-making and management processes.*

##### **4.6.1 Davis Water District Government Structure**

The Davis Water District has a five-member Board of Directors. The District was open to share the information requested by Colusa LAFCO.

##### **4.6.2 MSR Determinations on Local Accountability and Governance for Davis Water District**

- 6-1) The Water District is the most suitable form of organization for the Davis Water District.
- 6-2) The elected Board of Directors meets as needed two times per year.

<sup>12</sup> Tehama-Colusa Canal Authority, J. Mark Atlas, Attorney, 134 West Sycamore Street, Willows, CA 95988, 530-934-5416, [jma@jmatlaslaw.com](mailto:jma@jmatlaslaw.com), E-Mail: January 9, 2009.

## **5 DAVIS WATER DISTRICT SPHERE OF INFLUENCE UPDATE**

### **5.1 SOI Requirements**

#### **5.1.1 LAFCO's Responsibilities**

In 1972, LAFCOs were given the power to establish SOIs for all local agencies under their jurisdiction. As defined by the CKH Act, “sphere of influence” means a plan for the probable physical boundaries and service area of a local agency, as determined by the commission” (§56076). SOIs are designed to both proactively guide and respond to the need for the extension of infrastructure and delivery of municipal services to areas of emerging growth and development. Likewise, they are also designed to discourage urban sprawl and the premature conversion of agricultural and open space resources to urbanized uses.

The role of SOIs in guiding the State’s growth and development was validated and strengthened in 2000 when the Legislature passed Assembly Bill (“AB”) 2838 (Chapter 761, Statutes of 2000), which was the result of two years of labor by the Commission on Local Governance for the 21st Century.

The requirement for LAFCOs to conduct MSRs was established by AB 2838 as an acknowledgment of the importance of SOIs and recognition that regular periodic updates of SOIs should be conducted on a five-year basis (§56425(g)) with the benefit of better information and data through MSRs (§56430(a)). A MSR is conducted prior to, or in conjunction with, the update of a SOI and provides the foundation for updating it.

#### **5.1.2 SOI Determinations**

LAFCO is required to make five written determinations when establishing, amending, or updating an SOI for any local agency that address the following (§56425(c)):

1. The present and planned land uses in the area, including agricultural and open-space lands.
2. The present and probable need for public facilities and services in the area.
3. The present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide.
4. The existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency.
5. For an update of an SOI of a city or special district that provides public facilities or services related to sewers, municipal and industrial water, or structural fire protection, the present and probable need for those public facilities and services of any disadvantaged unincorporated communities within the existing sphere of influence.



### 5.1.3 Possible Approaches to the SOI

SPHERE TYPE	DEFINITION
<b>Growth sphere</b>	Contains territory beyond the jurisdictional boundaries of the local agency and is an indication that the need for public services in the area has been established and the agency has the ability to effectively and efficiently extend the full spectrum of services provided by the agency.
<b>Coterminous sphere</b>	Coincides with the jurisdictional boundaries of the local agency and is an indication that the agency is landlocked, that there is no anticipated need for the agency's services outside of its existing boundaries, or the agency lacks the capacity or ability to serve additional territory or there is insufficient information to make such a determination.
<b>Zero sphere</b>	A zero sphere contains no territory and indicates that the Commission has determined that one or more of the public service functions of the agency are either non-existent, inadequate, no longer needed, or should be reallocated to some other agency of government. Adoption of a zero sphere indicates the agency should ultimately be reorganized or dissolved. The Commission may initiate dissolution of an agency as the law allows.
<b>Smaller-than-agency sphere</b>	Contains less territory than the jurisdictional boundary of the local agency. The smaller-than-agency sphere indicates that territory within the local agency, but not within its sphere, should be detached and either transferred to another local agency or not served by any agency.
<b>Overlapping sphere</b>	If more than one agency appears equally qualified to serve an area, and if fiscal considerations and community input do not clearly favor a specific agency, an overlapping sphere may be appropriate.
<b>Provisional sphere</b>	A designation indicating that LAFCO has identified in its most recent municipal service review the need for an agency to address organizational issues. Agencies given a provisional sphere will be encouraged to discuss reorganization options or alternatives to existing service provision or governmental structure and to provide LAFCO with written results of their discussions and/or studies.
<b>Service specific zone within a sphere</b>	To accommodate situations where territory within an agency's jurisdiction may require some, but not all of the services that the agency is authorized to provide, the LAFCO may designate an area within an SOI to which it may attach specific policies, including limiting the types of services authorized in that area. The intent of a service specific zone is to limit the types of services provided in a defined area and is not intended in any way to circumvent annexation.

#### **5.1.4 SOI Update Process**

LAFCO is required to establish SOIs for all local agencies and enact policies to promote the logical and orderly development of areas within the SOIs. Furthermore, LAFCO must update those SOIs every five years, as necessary. In updating the SOI, LAFCO is required to conduct a Municipal Service Review (MSR) and adopt related determinations.

LAFCO must notify affected agencies 21 days before holding a public hearing to consider the SOI and may not update the SOI until that hearing is closed. The LAFCO Executive Officer must issue a report including recommendations on the SOI amendment and update under consideration at least five days before the public hearing.

#### **5.1.5 SOI Amendments and CEQA**

LAFCO has the discretion to limit SOI updates to those that it may process without unnecessarily delaying the SOI update process or without requiring its funding agencies to bear the costs of environmental studies associated with SOI expansions. Any local agency or individual may file a request for an SOI amendment. The request must state the nature of and reasons for the proposed amendment, and provide a map depicting the proposal.

LAFCO may require the requester to pay a fee to cover LAFCO costs, including the costs of appropriate environmental review under CEQA. LAFCO may elect to serve as lead agency for such a review, may designate the proposing agency as lead agency, or both the local agency and LAFCO may serve as co-lead agencies for purposes of an SOI amendment.

Local agencies are encouraged to consult with LAFCO staff early in the process regarding the most appropriate approach for the particular SOI amendment under consideration.

Certain types of SOI amendments are likely exempt from CEQA review. Examples are SOI expansions that include territory already within the bounds or service area of an agency, SOI reductions, zero SOIs and coterminous SOI's. SOI expansions for limited purpose agencies that provide services (e.g., fire protection, levee protection, cemetery, and resource conservation) needed by both rural and urban areas are typically not considered growth-inducing and are likely exempt from CEQA. Similarly, SOI expansions for districts serving rural areas (e.g., irrigation water) are typically not considered growth inducing.

Remy et al. write:

*"In City of Agoura Hills v. Local Agency Formation Commission (2d Dist.1988) 198 Cal.App.3d480, 493-496 [243 Cal.Rptr.740] (City of Agoura Hills), the court held that a LAFCO's decision to approve a city's sphere of influence that in most respects was coterminous with the city's existing municipal boundaries was not a "project" because such action did not entail any potential effects on the physical environment."*<sup>13</sup>

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<sup>13</sup> Remy, Michael H., Tina A. Thomas, James G. Moose, Whitman F. Manley, Guide to CEQA, Solano Press Books, Point Arena, CA, February 2007, page 111.

### **5.1.6 Recommendation for Davis Water District Sphere of Influence**

The recommendation for the Davis Water District Sphere of Influence is that it remain the same as the District boundary. The District has a limited ability to expand or to combine with another District because of US Bureau of Reclamation rules and regulations regarding water supply.

## **5.2 Present and Planned Land Uses in the Davis Water District Area, Including Agricultural and Open Space Lands**

### **5.2.1 County General Plan for Davis Water District SOI Area**

The Colusa County General Plan and Zoning for the Davis Water District area are shown on maps at the end of this report. The General Plan Designations are General Agriculture and Upland Agriculture which are defined in the Colusa County General Plan as follows:

#### ***Agriculture General***

*The Agriculture General (AG) designation identifies areas to be retained for agriculture and/or uses that are complementary to existing or nearby agricultural uses. This designation includes lands under agricultural preservation and/or conservation contracts and easements; land having present or future potential for agricultural production, and contiguous or intermixed smaller parcels on which non-compatible uses could jeopardize the long-term agricultural use of nearby agricultural lands. Lands designated Agriculture General are planned to be preserved for agricultural uses and the intent of the designation is to preserve such lands for existing and future agricultural use and protect these lands from the pressures of development.<sup>14</sup>*

#### ***Agriculture Upland***

*The Agriculture Upland (AU) designation is used to identify agricultural areas suitable for cattle and sheep grazing, areas with undeveloped, uninhabited forests, chaparral and grasslands, and intermixed areas suitable for crop production. Soils range from very good soils to those that are less suitable for crop production, but are suitable for livestock and other agricultural activities. Land divisions for non-agricultural purposes are discouraged in these areas to prevent conflicts with ranching and to minimize exposure to natural hazards.<sup>15</sup>*

The zoning Designations are Agriculture Preserve (80 acre minimum parcel size) and Exclusive Agriculture (40 acre minimum parcel size).

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<sup>14</sup> Colusa County General Plan, Adopted July 31, 2012 Page 8-3.

<sup>15</sup> Colusa County General Plan, Adopted July 31, 2012 Pages 8-3 and 8-4.

**5.2.2 SOI Determinations on Present and Planned Land Use for Davis Water District Area**

- 1-1] The Sphere of Influence for the Davis Water District will be the same as the District Boundary.
- 1-2] There are no conflicts with the Davis Water District and existing or proposed land uses in the area because the Colusa County General Plan designates the area for agricultural land use.
- 1-3] The Davis Water District has water-rights and water to serve the land within the present boundary but does not have the capacity to substantially expand.
- 1-4] There are no logical areas for expansion of the Davis Water District since other districts serve most of the surrounding land.
- 1-5] If the Davis Water District proposes an annexation or detachment in the future a revised Municipal Service Review and Sphere of Influence will be required.

**5.3 Present and Probable Need for Public Facilities and Services in the Davis Water District Area**

**5.3.1 Municipal Service Background**

The lands within the DWD need the services that are provided. There is no additional water to provide service for more land. Therefore, the Sphere of Influence for the DWD will be the same as the District Boundary.

**5.3.2 SOI Determinations on Facilities and Services Present and Probable Need for Davis Water District**

- 2-1] The land within the Davis Water District will need irrigation water as long as agriculture is a profitable business in Northern California.
- 2-2] The Davis Water District makes a valuable contribution to the local economy for Colusa County by providing water for agriculture. This generates many jobs.

#### **5.4 Present Capacity of Public Facilities Present and Adequacy of Public Services**

##### **5.4.1 Davis Water District Capacity Background**

The Davis Water District's water-rights are established by agreements with the US Bureau of Reclamation. However, if there is not sufficient water stored at Shasta Dam (due to lack of precipitation) the District could still face a cut in the water supply.

##### **5.4.2 SOI Determinations on Public Facilities Present and Future Capacity for Davis Water District**

- 3-1] The Davis Water District has adequate water rights to provide irrigation water to the landowners as it is available from the USBR for the foreseeable future.
- 3-2] The District promotes water conservation and the use of technology to prevent waste.

#### **5.5 Social or Economic Communities of Interest for Davis Water District**

##### **5.5.1 Davis Water District Community Background**

The Davis Water District does not serve a community in the traditional sense of the word because there are no residents within the District. There is an economic community of landowners who formed the District and who benefit from the agricultural water service provided.

##### **5.5.2 SOI Determinations on Social or Economic Communities of Interest for Davis Water District**

- 4-1] The landowners for the Davis Water District live within the surrounding communities.

#### **5.6 Disadvantaged Unincorporated Community Status**

##### **5.6.1 Disadvantaged Unincorporated Communities**

There are no residents within the Davis Water District.

##### **5.6.2 Davis Water District Disadvantaged Unincorporated Community Status**

- 5-1] There are no residents and no DUCs within the Davis Water District.

**ABBREVIATIONS**

<b>AB</b>	Assembly Bill
<b>AF</b>	Acre-foot (of water)
<b>CKH Act</b>	Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000
<b>CEQA</b>	California Environmental Quality Act
<b>cfs</b>	cubic feet per second
<b>CVP</b>	Central Valley Project
<b>District</b>	Davis Water District
<b>DUC</b>	Disadvantaged Unincorporated Community
<b>DWD</b>	Davis Water District
<b>FWS</b>	U.S. Fish and Wildlife Service
<b>I-5</b>	Interstate 5
<b>LAFCO</b>	Local Agency Formation Commission
<b>MSR</b>	Municipal Service Review (LAFCO)
<b>NMFS</b>	National Marine Fisheries Service
<b>PUD</b>	Public Utility District
<b>SB</b>	Senate Bill
<b>SOI</b>	Sphere of Influence SOI (LAFCO)
<b>TCC</b>	Tehama-Colusa Canal
<b>TCCA</b>	Tehama-Colusa Canal Authority
<b>TPUD</b>	Trinity Public Utility District
<b>USBR</b>	United States Bureau of Reclamation

## **DEFINITIONS**

**Acre foot:** The volume of water that will cover one acre to a depth of one foot, 325,850 U.S. Gallons or 1,233,342 liters (approximately).

**Bureau of Reclamation:** (USBR, Reclamation, BOR). The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.<sup>16</sup>

**Central Valley Project:** The Central Valley Project, one of the Nation's major water conservation developments, extends from the Cascade Range in the north to the semi-arid but fertile plains along the Kern River in the south. Initial features of the project were built primarily to protect the Central Valley from crippling water shortages and menacing floods, but the CVP also improves Sacramento River navigation, supplies domestic and industrial water, generates electric power, conserves fish and wildlife, creates opportunities for recreation, and enhances water quality.<sup>17</sup>

**Drip irrigation:** Drip irrigation, also known as trickle irrigation or micro-irrigation is an irrigation method that minimizes the use of water and fertilizer by allowing water to drip slowly to the roots of plants, either onto the soil surface or directly onto the root zone, through a network of valves, pipes, tubing and emitters. Modern drip irrigation has arguably become the most important innovation in agriculture since the invention of the impact sprinkler in the 1930s, which replaced wasteful flood irrigation. Drip irrigation may also use devices called micro-spray heads which spray water in a small area, instead of dripping emitters. These are generally used on tree and vine crops with wider root zones.<sup>18</sup>

**Exempt land:** Irrigation land in a district to which the acreage limitation and pricing provisions of Reclamation law do not apply.<sup>19</sup>

**Gravity flow:** flow of water in a pipe on a descending path.

**Irrigate:** To supply (dry land) with water by means of ditches, pipes, or streams; water artificially.

**Irrigation system:** a complete set of system components including the water source, the water distribution network, and the general irrigation equipment.

**Lateral:** a pipe line other than the main water pressure line used to move water to the various delivery devices.

**Operations and maintenance costs:** The ongoing, repetitive costs of operating and maintaining a water system.

**Pumping plant:** Facility that lifts water up and over hills.

**Pumplift** (pumping lift): The vertical distance that a pump will raise waters. Distance water must be lifted in a well from the pumping level to the ground surface.

**Tehama-Colusa Canal:** The Tehama Colusa Canal is 110 miles long and serves 14 water districts. The system was designed to divert water from the Sacramento River into the settling basin by virtue of a dam across the Sacramento River located in Red Bluff, California.

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<sup>16</sup> <http://www.usbr.gov/library/glossary/#hmr>

<sup>17</sup> <http://www.usbr.gov/dataweb/html/cvp.html>

<sup>18</sup> [http://en.wikipedia.org/wiki/Drip\\_irrigation](http://en.wikipedia.org/wiki/Drip_irrigation)

<sup>19</sup> <http://www.usbr.gov/library/glossary/#hmr>

**Tehama-Colusa Canal Authority:** The Tehama-Colusa Canal Authority (TCCA) is a Joint Powers Agency of irrigation districts which operates and maintains the Tehama-Colusa and Corning Canals of the federal Central Valley Project (CVP) under a long-term contract with the Department of the Interior. Through these canals, the TCCA delivers CVP water to 17 districts which serve approximately 300,000 acres of farmland in Tehama, Glenn, Colusa and Yolo Counties.<sup>20</sup>

**Water transfers:** Selling or exchanging water or water rights among individuals or agencies. Artificial conveyance of water from one area to another.

**Water user:** Any individual, district, association, government agency, or other entity that uses water supplied from a Reclamation project.

**Water year (WY):** Period of time beginning October 1 of one year and ending September 30 of the following year and designated by the calendar year in which it ends. A calendar year used for water calculations. The US Bureau of Reclamation water year is March 1st to February 28th and October 1st to September 30th is the water account year.

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<sup>20</sup> [http://www.delta.dfg.ca.gov/afrp/acronym\\_template.asp?code=371](http://www.delta.dfg.ca.gov/afrp/acronym_template.asp?code=371)



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## APPENDIX A SOIL INFORMATION<sup>21</sup>

### 102—Capay clay loam, 0 to 1 percent slopes

General location:	On the west side of the Colusa Basin near the towns of Williams and Maxwell
Map unit geomorphic setting:	Basin floor
Elevation:	25 to 140 feet (9 to 43 meters)
Mean annual precipitation:	14 to 16 inches (355 to 405 millimeters)
Mean annual air temperature:	61 to 63 degrees F. (16 to 17 degrees C.)
Frost-free period:	225 to 250 days

Capay clay loam—90 percent                      Minor components: 10 percent

Major Component Description	Capay clay loam
Component geomorphic setting:	Basin floor
Parent material:	Alluvium
Typical vegetation:	Irrigated cropland

Component Properties and Qualities	
Slope:	0 to 1 percent
Runoff:	Very low
Surface features:	None noted.
Percent area covered by surface coarse fragments:	None noted.
Depth to restrictive feature:	None noted
Slowest permeability class:	Very slow
Salinity:	Not saline
Sodicity:	Not sodic
Available water capacity:	About 9.9 inches (High)

Component Hydrologic Properties	
Present flooding:	Rare
Present ponding:	None
Current water table:	Present
Natural drainage class:	Moderately well drained

Altered hydrology:  
Water tables have been lowered by rice drainage ditches. Most of these areas were rarely or occasionally flooded under natural conditions. There are no soil redoximorphic features above 36 inches.

Interpretive Groups:	Land capability irrigated: 2s-5
	Land capability nonirrigated: 4s-5

<sup>21</sup> USDA Natural Resource Conservation Service, Soil Survey of Colusa County California.

### 112—Westfan loam, 0 to 2 percent slopes

General location:	Near Williams and Arbuckle
Map unit geomorphic setting:	Alluvial fan
Elevation:	65 to 150 feet (20 to 46 meters)
Mean annual precipitation:	14 to 16 inches (355 to 405 millimeters)
Mean annual air temperature:	61 to 63 degrees F. (16 to 17 degrees C.)
Frost-free period:	225 to 250 days

Westfan loam—80 percent                      Minor components: 20 percent

## Major Component Description Westfan loam

Component geomorphic setting:	Alluvial fan
Parent material:	Alluvium
Typical vegetation:	Irrigated cropland

## Component Properties and Qualities

Slope:	0 to 2 percent	
Runoff:	Very low	
Surface features:	None noted.	
Percent area covered by surface coarse fragments:	None noted.	
Depth to restrictive feature:	None noted	
Slowest permeability class:	Moderately slow	
Salinity:	Not saline	
Sodicity:	Sodic within 40 inches	
Available water capacity:	About 8.8 inches (High)	

## Component Hydrologic Properties

Present flooding:	Rare
Present ponding:	None
Current water table:	None noted
Natural drainage class:	Well drained

## Interpretive Groups

Land capability irrigated: 1  
Land capability nonirrigated: 4s

## 127—Mallard clay loam, 0 to 1 percent slopes

General location:	Near the towns of Arbuckle and Williams
Map unit geomorphic setting:	Alluvial fan
Elevation:	45 to 140 feet (15 to 43 meters)
Mean annual precipitation:	14 to 16 inches (355 to 405 millimeters)
Mean annual air temperature:	61 to 63 degrees F. (16 to 17 degrees C.)
Frost-free period:	225 to 250 days

Mallard clay loam—85 percent  
 Minor components: 15 percent

Major Component Description Mallard clay loam  
 Component geomorphic setting: Lower alluvial fan  
 Parent material: Alluvium  
 Typical vegetation: Irrigated cropland

### Component Properties and Qualities

Slope:	0 to 1 percent
Runoff:	Very low
Surface features:	None noted

Percent area covered by surface coarse fragments:	None noted
Depth to restrictive feature:	None noted
Slowest permeability class:	Slow
Salinity:	Not saline
Sodicity:	Not sodic
Available water capacity:	About 10.4 inches (Very high)

### Component Hydrologic Properties

Present flooding:	Rare
Present ponding:	None
Current water table:	Present
Natural drainage class:	Somewhat poorly drained
Altered hydrology:	Water tables have been lowered by rice drainage ditches.

### Interpretive Groups

Land capability irrigated: 2w-3  
 Land capability nonirrigated: 4w-3

#### 141—Myers clay, 0 to 2 percent slopes

General location: South and west of the town of Williams  
Geomorphic setting: Basin floors Elevation: 120 to 180 feet (37 to 55 meters)  
Mean annual precipitation: 14 to 16 inches (355 to 405 millimeters)  
Mean annual air temperature: 61 to 63 degrees F (16 to 17 degrees C)  
Frost-free period: 225 to 250 days

##### Composition

Myers clay—90 percent Minor components—10 percent

##### Major Component Description Myers clay

Geomorphic setting: Basin floors  
Parent material: Alluvium  
Typical vegetation: Irrigated crops

##### Properties and qualities

Slope: 0 to 2 percent  
Runoff rate: Very low  
Percentage of the surface covered by rock fragments: None  
Slowest permeability class: Slow  
Salinity: Not saline  
Sodicity: Not sodic  
Available water capacity: About 8.9 inches (high)

##### Hydrologic properties

Present flooding: Rare  
Present ponding: None  
Current water table: None noted  
Natural drainage class: Well drained

##### Land capability classification

Irrigated: 2s-5 Nonirrigated: 4s-5

Use and Management: Major use: Irrigated crops.

# 144—Hillgate clay loam, 0 to 2 percent slopes

## Map Unit Setting

General location: Western margins of the Sacramento Valley,  
west of Williams and north to the Glenn  
County boundary

Map unit geomorphic setting: Terrace  
Elevation: 130 to 450 feet (40 to 138 meters)  
Mean annual precipitation: 14 to 16 inches (355 to 405 millimeters)  
Mean annual air temperature: 61 to 63 degrees F. (16 to 17 degrees C.)  
Frost-free period: 225 to 250 days

Hillgate clay loam—85 percent      Minor components: 15 percent

## Major Component Description      Hillgate clay loam

Component geomorphic setting: Terrace  
Parent material: Alluvium  
Typical vegetation: Irrigated cropland

## Component Properties and Qualities

Slope: 0 to 2 percent  
Runoff: Very low  
Surface features: None noted.  
Percent area covered by surface coarse fragments: None noted.  
Depth to restrictive feature: Abrupt textural change—19 inches  
Slowest permeability class: Slow  
Salinity: Not saline  
Sodicity: Not sodic  
Available water capacity: About 3.6 inches (Low)

## Component Hydrologic Properties

Present flooding: None  
Present ponding: None  
Current water table: None noted  
Natural drainage class: Well drained

Interpretive Groups:      Land capability irrigated: 2s-3  
Land capability nonirrigated: 4s-3

# **145—Hillgate loam, 0 to 2 percent slopes**

General location:	West of Williams and Maxwell in the Sacramento Valley and in the foothill valleys.
Map unit geomorphic setting:	Terrace
Elevation:	130 to 450 feet (40 to 138 meters)
Mean annual precipitation:	14 to 16 inches (355 to 405 millimeters)
Mean annual air temperature:	61 to 63 degrees F. (16 to 17 degrees C.)
Frost-free period:	225 to 250 days

Hillgate loam—90 percent  
 Minor components: 10 percent

Major Component Description Hillgate loam	
Component geomorphic setting:	Terrace
Parent material:	Alluvium
Typical vegetation:	Annual grasses and forbs

## Component Properties and Qualities

Slope:	0 to 2 percent
Runoff:	Very low
Surface features:	None noted
Percent area covered by surface coarse fragments:	None noted
Depth to restrictive feature:	Abrupt textural change—19 inches
Slowest permeability class:	Slow
Salinity:	Not saline
Sodicity:	Not sodic
Available water capacity:	About 3.0 inches (Low)

## Component Hydrologic Properties

Present flooding:	None
Present ponding:	None
Current water table:	None noted.
Natural drainage class:	Well drained

## Interpretive Groups

Land capability irrigated: 2s-3  
 Land capability nonirrigated: 4s-3

**204—Capay clay, 0 to 3 percent slopes, occasionally flooded**

General location: Small areas in foothill basins  
Geomorphic setting: Basins  
Elevation: 175 to 350 feet (54 to 107 meters)  
Mean annual precipitation: 16 to 22 inches (405 to 560 millimeters)  
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)  
Frost-free period: 225 to 250 days

Composition

Capay clay, occasionally flooded—90 percent Minor components—10 percent

Major Component Description Capay clay, occasionally flooded

Geomorphic setting: Basin floors  
Parent material: Alluvium  
Typical vegetation: Annual grasses and forbs

Properties and qualities

Slope: 0 to 3 percent  
Runoff rate: High  
Surface features: Polygonal surface cracking; polygons are approximately 24 inches in diameter.

Percentage of the surface covered by rock fragments: None  
Slowest permeability class: Very slow  
Salinity: Not saline  
Sodicity: Not sodic  
Available water capacity: About 8.9 inches (high)

Hydrologic properties

Present flooding: Occasional  
Present ponding: None  
Current water table: Present  
Natural drainage class: Moderately well drained

Land capability classification

Irrigated: 2w-5 Nonirrigated: 4w-5

Use and Management

Major use: Livestock grazing



## 216—Altamont-Sehorn complex, 9 to 15 percent slopes

General location:	Lower Coast Range foothills on steep ridges
Map unit geomorphic setting:	Hill
Elevation:	200 to 800 feet (61 to 244 meters)
Mean annual precipitation:	14 to 18 inches (355 to 458 millimeters)
Mean annual air temperature:	61 to 63 degrees F. (16 to 17 degrees C.)
Frost-free period:	225 to 250 days

Altamont silty clay—45 percent  
Sehorn silty clay—35 percent  
Minor components: 20 percent

### Major Component Description Altamont silty clay

Component geomorphic setting:	Lower sideslopes and north slopes of hill
Parent material:	Residuum weathered from sandstone-shale
Typical vegetation:	Annual grasses with scattered blue oak

### Component Properties and Qualities

Slope:	9 to 15 percent
Runoff:	Medium
Surface features:	Polygonal cracking pattern, approximately 24 inches in diameter.
Percent area covered by surface coarse fragments:	None noted.
Depth to restrictive feature:	Bedrock (paralithic)—40 to 60 inches
Slowest permeability class:	Slow above the bedrock
Salinity:	Not saline
Sodicity:	Not sodic
Available water capacity:	About 7.9 inches (High)

### Component Hydrologic Properties

Present flooding:	None
Present ponding:	None
Current water table:	None noted
Natural drainage class:	Well drained

### Interpretive Groups

Land capability irrigated: 3e-5  
Land capability nonirrigated: 4e-5

## **220—Altamont silty clay, 5 to 9 percent slopes**

### Map Unit Setting

General location: West of Maxwell, in the lower foothills and Spring Valley

Geomorphic setting: Hills

Elevation: 200 to 800 feet (61 to 244 meters)

Mean annual precipitation: 14 to 18 inches (355 to 458 millimeters)

Mean annual air temperature: 61 to 63 degrees F (16 to 17 degrees C)

Frost-free period: 225 to 250 days

Composition Altamont silty clay—85 percent Minor components—15 percent

Major Component Description Altamont silty clay

Geomorphic setting: The lower side slopes and north-facing slopes of hills

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and scattered blue oak

### Properties and qualities

Slope: 5 to 9 percent

Runoff rate: Medium

Surface features: Polygonal cracking pattern; the polygons are approximately 24 inches in diameter.

Percentage of the surface covered by rock fragments: None

Depth to restrictive feature: Bedrock (paralithic)—40 to 60 inches

Slowest permeability class: Slow above the bedrock

Salinity: Not saline

Sodicity: Not sodic

Available water capacity: About 7.9 inches (high)

### Hydrologic properties

Present flooding: None

Present ponding: None

Current water table: None noted

Natural drainage class: Well drained

### Land capability classification

Irrigated: 2e-5 Nonirrigated: 4e-5

### Use and Management

Major use: Livestock grazing

**253—Millsholm-Altamont-Rock outcrop complex, 5 to 15 percent slopes**

Map Unit Setting

General location: The lower Coast Range foothills  
Geomorphic setting: Hills  
Elevation: 180 to 350 feet (55 to 107 meters)  
Mean annual precipitation: 14 to 18 inches (355 to 458 millimeters)  
Mean annual air temperature: 61 to 63 degrees F (16 to 17 degrees C)  
Frost-free period: 225 to 250 days

Composition

Millsholm loam—55 percent Altamont silty clay—20 percent Rock outcrop—15 percent  
Minor components—10 percent

Major Component Description Millsholm loam

Geomorphic setting: Side slopes of hills  
Parent material: Residuum weathered from sandstone and shale  
Typical vegetation: Annual grasses and scattered oak

Properties and qualities

Slope: 5 to 15 percent  
Runoff rate: Low  
Percentage of the surface covered by rock fragments: None  
Depth to restrictive feature: Bedrock (lithic)—10 to 20 inches  
Slowest permeability class: Moderate above the bedrock  
Salinity: Not saline  
Sodicity: Not sodic  
Available water capacity: About 2.1 inches (very low)

Hydrologic properties

Present flooding: None  
Present ponding: None  
Current water table: None noted  
Natural drainage class: Well drained

Land capability classification

Irrigated: Not calculated Nonirrigated: 6e

Use and Management

Major use: Livestock grazing

# MAPS









