

1 **Appendix 10A. Soil Associations**

Soil Association	Description	Soil Map Units within Association
Alameda County		
<i>Soil Group 1 - Soils of the uplands</i>		
1 - Altamont-Diablo association	Moderately sloping to very steep, brownish and dark gray, moderately deep soils on soft sedimentary rocks	AaC, AaD, ArD, LaC, LaD
<i>Soil Group 2 - Soils of the terraces, alluvial fans, and floodplains</i>		
6 - Clear Lake-Sunnyvale association	Nearly level to sloping, dark-gray, very deep, well-drained to imperfectly drained soils on floodplains and basins	CdB, Pd
7 - Rincon-San Ysidro association	Nearly level, shallow to very deep, pale brown and grayish brown soils on older fans and floodplains	RdA, RdB, Sa, Sf
Contra Costa County		
<i>Soil Group 1 - Nearly level to strongly sloping, somewhat excessively drained to very poorly drained soils on valley fill, basins, low terraces, floodplains, and alluvial fans</i>		
1 - Brentwood-Rincon-Zamora association	Nearly level to gently sloping, well-drained clay loams and silty clay loams on valley fill, alluvial fans, and low terraces	Bb, RbA, RcA, Sm, Sn, ZaA, ZaB
2 - Capay-Sycamore-Brentwood association	Nearly level, moderately well-drained, poorly drained, and well-drained clays, silty clay loams, and clay loams on valley fill and floodplains	Bc, So, Sp
3 - Capay-Rincon association	Nearly level to strongly sloping, moderately well-drained and well-drained clays and clay loams on valley fill	CaA, CaC, CbA, RbC, RbD
4 - Delhi association	Gently sloping and moderately sloping, somewhat excessively drained sands in the valleys	DaC
5 - Clear Lake-Cropley association	Nearly level to gently sloping, poorly drained, and moderately well-drained clays on valley fill and in coastal valley basins	Cc, CkB
6 - Marcuse-Solano-Pescadero association	Nearly level, very poorly drained to somewhat poorly drained clays, loams, and clay loams on rims of basins	Ma, Mb, Mc, Pb, Sc., Sh, Sk
<i>Soil Group 2 - Nearly level, poorly drained and very poorly drained soils on the Delta, floodplains, and saltwater marshes and tidal flats</i>		
7 - Rindge-Kingile association	Nearly level, very poorly drained mucks on the delta	Ea, Kb, Md, Pd, Pe, Ph, Rd, Rh, Vb, Wa
8 - Sacramento-Omni association	Nearly level, poorly drained, and very poorly drained clays and clay loams on the Delta and on floodplains	Fc, Ob, Sa, Sb
9 - Joice-Reyes association	Nearly level, very poorly drained saline mucks and silty clays on saltwater marshes and tidal flats	Ja, Se
<i>Soil Group 3 - Nearly level to very steep, moderately well-drained to excessively drained soils on terraces and mountainous uplands</i>		
10 - Tierra-Antioch-Perkins association	Nearly level to moderately steep, moderately well-drained and well-drained loams and clay loams that formed in old alluvium on terraces	AdA, AdC, KaC, KaE
11 - Altamont-Diablo-Fontana association	Strongly sloping to very steep, well-drained clays and silty clay loams that formed in material weathered from soft, fine grained sandstone and shale on uplands	AbD, AbE, AcF, CmE, DdD, DdE, DdF, Fd, LbD, LbE

Soil Association	Description	Soil Map Units within Association
12 - Los Osos-Millsholm-Los Gatos association	Moderately steep to very steep, well-drained clay loams and loams that formed in material weathered from interbedded sedimentary rock on uplands	BdE, LcE, LcF, Ld, LhE, LhF
Sacramento County		
<i>Soil Group 1 - Very deep, nearly level to steep soils in areas of dredge tailings</i>		
1 - Xerorthents association	Excessively drained and somewhat excessively drained soils; material deposited as tailings during mining activities	150, 186, 244
<i>Soil Group 2 - Very deep, nearly level soils in freshwater marshes and backswamps, on natural levees, and on low and high floodplains</i>		
2 - Gazwell-Rindge association	Very poorly drained, highly organic minerals soils and organic soils that have a high water table throughout the year and are protected by levees	123, 155, 177, 200, 201, 202
3 - Sailboat-Scribner-Cosumnes association	Somewhat poorly drained and poorly drained soils that have a seasonal high water table and are protected by levees	206, 208, 209, 210, 222, 232
4 - Egbert-Valpac association	Somewhat poorly drained and poorly drained soils that have a high water table throughout the year or during part of the year and are protected by levees	139, 140, 141, 142, 143, 169, 170, 230, 231
5 - Columbia-Cosumnes association	Somewhat poorly drained soils that are subject to flooding or are protected by levees	116, 117, 118, 119, 120, 121, 122, 127, 128, 129, 167, 168
<i>Soil Group 4 - Nearly level soils in basins and on basin rims</i>		
8 - Clear Lake association	Somewhat poorly drained soils that have a seasonal high water table, are protected by levees, and are very deep or deep over a cemented hardpan	114, 115
9 - Dierssen association	Somewhat poorly drained soils that have a perched water table, are protected by levees, and are moderately deep or deep over a cemented hardpan	133, 134, 135, 225
<i>Soil Group 5 - Nearly level to gently rolling soils on low terraces</i>		
10 - San Joaquin association	Moderately well-drained soils that are moderately deep over a cemented hardpan	111, 112, 137, 138, 151, 152, 153, 154, 213, 214, 216, 217, 218, 219, 238
San Joaquin County		
<i>Soil Group 1 - Nearly level soils on deltas and floodplains</i>		
1 - Rindge-Kingile-Ryde association	Very poorly drained, organic soils and very poorly drained, highly organic, moderately fine textures, mineral soils, all of which are very deep and have been partially drained; on deltas and floodplains	159, 179, 190, 191, 213, 224, 225, 230, 231, 232, 233, 246, 247, 263, 264, 273
2 - Peltier-Egbert association	Poorly drained, highly organic, moderately fine textured soils that are very deep and have been partially drained; on deltas and floodplains	144, 145, 146, 147, 152, 153, 154, 155, 204, 205, 261
3 - Merritt-Grangeville-Columbia association	Poorly drained and somewhat poorly drained, moderately coarse textured and moderately fine textured soils that are very deep and have been partially drained or drained; on floodplains	132, 133, 148, 166, 167, 197, 198, 243, 244, 245
4 - Columbia-Vina-Coyotecreek association	Somewhat poorly drained and well-drained, moderately coarse textured and medium textured soils that are very deep and are subject to flooding or protected by levees; on floodplains	130, 131, 138, 139, 140, 234, 235

Soil Association	Description	Soil Map Units within Association
<i>Soil Group 2 - Nearly level soils in basins and on basin rims</i>		
5 - Willows-Pescadero association	Poorly drained, moderately fine textured and fine textured, saline-sodic soils that are very deep and have been partially drained; in basins	211, 274
6 - Jacktone-Hollenbeck-Stockton association	Somewhat poorly drained and moderately well-drained, fine textured soils that are moderately deep and deep to a cemented hardpan and that have been drained in some areas; on basin rims and in basins	180, 181, 249, 250, 251
7 - Guard-Devries-Rioblancho association	Poorly drained and somewhat poorly drained, moderately coarse textured and moderately fine textured soils that are moderately deep to a cemented hardpan or are very deep and that have been drained in most areas; on basin rims	149, 168, 169, 226, 227
<i>Soil Group 3 - Nearly level soils in interfan basins and on alluvial fans, low fan terraces, stream terraces, and dunes</i>		
8 - Capay association	Moderately well-drained, fine textured soils that are very deep and have been subject to artificial wetness; mainly in interfan basins	118, 120, 121, 268, 269
9 - Capay-Stomar-Zacharias association	Moderately well-drained and well-drained, moderately fine textured, gravelly moderately fine textured, and fine textured soils that are very deep; in interfan basins and on alluvial fans and stream terraces	119, 122, 156, 252, 253, 281, 282
10 - Delhi-Veritas-Tinnin association	Moderately well-drained to somewhat excessively drained, coarse textured and moderately coarse textured soils that are deep to a cemented hardpan or are very deep; on dunes, alluvial fans, and low fan terraces	109, 137, 142, 175, 201, 254, 255, 258, 265, 266, 267
11 - Archerdale-Cogna-Finrod association	Moderately well-drained and well-drained, medium textured, and moderately fine textured soils that are deep to a cemented hardpan or are very deep; on alluvial fans and low fan terraces	108, 110, 158, 160
12 - Tokay-Acampo association	Moderately well-drained and well-drained, moderately coarse textured soils that are deep to a cemented hardpan or are very deep; on low fan terraces	101, 256, 259
<i>Soil Group 4 - Nearly level to undulating soils on low terraces</i>		
13 - Madera association	Moderately well-drained, moderately coarse textured soils that are moderately deep to a cemented hardpan; on low terraces	196
14 - San Joaquin-Bruella association	Moderately well-drained and well-drained, moderately coarse textured and medium textured soils that are moderately deep to a cemented hardpan or are very deep; on low terraces	182, 238, 241
<i>Soil Group 5 - Nearly level to steep soils on dissected terraces, fan terraces, high terraces, and hills</i>		
15 - Carbona-Pleito association	Well-drained, moderately fine textured soils that are very deep; on dissected terraces	222, 223
18 - Redding-Yellowlark association	Moderately well-drained, gravelly medium textured soils that are moderately deep and deep to a cemented hardpan; mainly on fan terraces and high terraces	280
Solano County		
<i>Soil Group 1 - Nearly level to moderately sloping, well-drained to somewhat poorly drained soils on alluvial fans</i>		
1 - Yolo-Brentwood association	Nearly level to moderately sloping, well-drained loams to silty clay loams; on alluvial fans	BrA, BrC, Ys
2 - Yolo-Sycamore association	Nearly level to moderately sloping, well-drained loams and clay loams; on alluvial fans	Cn, Co, Ld, Sr, Ss, St, Su, Yr
3 - Rincon-Yolo association	Nearly level to moderately sloping, well-drained loams and clay loams; on alluvial fans	RnC, RoA, RoC

Soil Association	Description	Soil Map Units within Association
<i>Soil Group 2 - Nearly level to gently sloping, moderately well-drained to very poorly drained soils on basin rims, alluvial fans, and deltas, and in basins, dredge spoil areas, and saltwater marshes</i>		
4 - Capay-Clear Lake association	Nearly level to gently sloping, moderately well-drained and poorly drained silty clay loams to clays; on basin rims and in basins	Ca, Cc, CeA, CeB, CIA, On
5 - Sacramento association	Nearly level, poorly drained silty clay loams and clays; in basins	Om, Sa, Sc, Sd
6 - Egbert-Ryde association	Nearly level, poorly drained silty clay loams and clay loams that are high in organic matter; in basins and on deltas	Cm, Eb, Ec, Ry
7 - Valdez association	Nearly level, somewhat poorly drained silt loams and silty clay loams; on alluvial fans and in dredge spoil areas	BP, Ma, Td, Tu, Va, Vc, Vd, Ve
8 - Joice-Suisun association	Nearly level, very poorly drained mucks and peaty mucks; in saltwater marshes	An, Ja, Jb, Sp
9 - Reyes-Tamba association	Nearly level, poorly drained, and very poorly drained silty clay loams, silty clays, and mucky clays; in saltwater marshes	Re, Ta
<i>Soil Group 3 - Nearly level to moderately steep, well-drained to somewhat poorly drained soils on terraces and in basins</i>		
10 - San Ysidro-Antioch association	Nearly level to moderately sloping, moderately well-drained sandy loams and loams; on terraces	AoA, AoC, AsA, AsC, SeA, SeB, SfA
12 - Solano-Pescadero association	Nearly level, somewhat poorly drained loams to clays; on terraces and in basins	Pc, Pe, Sh, Sk, Sm, Wc
<i>Soil Group 4 - Gently sloping to very steep, well-drained and somewhat excessively drained soils on dissected terraces and mountainous uplands</i>		
13 - Altamont-Diablo association	Gently sloping to steep, well-drained clays formed from weakly consolidated sediments; on dissected terraces	AcC, AcE, AcF2, AIC, AIE, AmC, AmE2, DaC, DaE2
14 - Dibble-Los Osos association	Gently sloping to steep, well-drained loams and clay loams formed from sandstone; on mountainous uplands	DbC, DbE, DbF2, DIC, DIE, DIF2, MkA, MIC
15 - Millsholm association	Moderately steep to very steep, well-drained loams formed from sandstone; on mountainous uplands	GaG2, MmE, MmG2, MnC, MnE
17 - Hambright-Toomes association	Strongly sloping to very steep, well-drained and somewhat excessively drained loams and stony loams formed from basic igneous rocks; on mountainous uplands	GlE, HaF, HtE, ToG2, TrE
Sutter County		
<i>Soils on floodplains</i>		
9 - Shanghai-Nueva-Columbia association	Very deep, level to nearly level, somewhat poorly drained silt loam, loam, and fine sandy loam; on floodplains	134, 161
Yolo County		
<i>Soil Group 1 - Well-drained to poorly drained soils on alluvial plains, basin rims, and terraces, and in basins</i>		
1 - Yolo-Brentwood association	Well-drained, nearly level silt loams to clay loams; on alluvial fans	BrA, Ms, Ya, Yb
2 - Rincon-Marvin-Tehama association	Well-drained and somewhat poorly drained, nearly level silty clay loams to loams; on alluvial fans and basin rims	Mf, Rg
3 - Capay-Clear Lake association	Moderately well-drained to poorly drained, nearly level silty clays and clays; on basin rims and in basins	Ca, Ck, Cn, Rk, Rn

Soil Association	Description	Soil Map Units within Association
4 - Sycamore-Tyndall association	Somewhat poorly drained, nearly level very fine sandy loams to silty clay loams; on alluvial fans	La, Lb, Lc, Ld, Mb, Mc, Mk, Mn, Mp, So, Sp, Sr, Ss, St, Su, Sv, Sw, Tb, Tc, Td, Te, Tf, Va, Vb, Vc
5 - Sacramento association	Poorly drained, nearly level silty clay loams and clays; in basins	Sa, Sb, Sc, Sd, Sf
6 - Willows-Pescadero association	Poorly drained, nearly level, saline-alkali silty clay loams to clays; in basins	Lg, Lk, Pa, Pc, Wa, Wb, Wg
7 - Capay-Sacramento association	Moderately well-drained to poorly drained, nearly level silty clay loams to clays; in basins	Cc, Oa, Ob, Sg
<i>Soil Group 2 - Somewhat excessively drained to well-drained soils on uplands and high terraces</i>		
8 - Corning-Hillgate association	Well-drained, gently sloping to moderately steep gravelly loams or loams; on terraces	HcA, Rh
<p>Notes: NRCS = Natural Resources Conservation Service; SCS = Soil Conservation Service; and SSURGO = Soil Survey Geographic Sources:</p> <p><u>Alameda County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Soil Survey Data for Alameda Area, California</i>. Soil Conservation Service. 1966. <i>Soil Survey of Alameda Area, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Contra Costa County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Soil Survey Data for Contra Costa County, California</i>. Soil Conservation Service. 1977. <i>Soil Survey of Contra Costa County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Sacramento County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Database for Sacramento County, California</i>. Soil Conservation Service. 1993. <i>Soil Survey of Sacramento County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>San Joaquin County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Soil Survey Data for San Joaquin County, California</i>. Soil Conservation Service. 1992. <i>Soil Survey of San Joaquin County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Solano County</u> Natural Resources Conservation Service. 2007. <i>SSURGO Database for Solano County, California</i>. Soil Conservation Service. 1977. <i>Soil Survey of Solano County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Sutter County</u> Natural Resources Conservation Service. 2007. <i>SSURGO Database for Sutter County, California</i>. Soil Conservation Service. 1988. <i>Soil Survey of Sutter County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Yolo County</u> Natural Resources Conservation Service. 2007. <i>SSURGO Database for Yolo County, California</i>. Soil Conservation Service. 1972. <i>Soil Survey of Yolo County, California</i>. U.S. Government Printing Office, Washington, D.C.</p>		

1 Appendix 10B. Natural Resources Conservation Service Soil Suitability Ratings

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
Alameda County								
AaC	Altamont clay, 3 to 15 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer	Very limited	Caving potential; clay from 40 to 60 percent; slopes 8 to 15 percent	High	Low
AaD	Altamont clay, 15 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; thin layer	Very limited	Slopes >15 percent; caving potential; clay from 40 to 60 percent	High	Low
ArD	Altamont rocky clay, moderately deep, 7 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; slopes >15 percent; bedrock (soft) from 20 to 40 inches; clay from 40 to 60 percent	High	Low
CdB	Clear Lake clay, drained, 3 to 7 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
LaC	Linne clay loam, 3 to 15 percent slopes	Fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls	Somewhat limited	Thin layer; high piping potential; shrink-swell (LEP >6)	Slight	Caving potential is low; bedrock (soft) from 20 to 40 inches; slopes 8 to 15 percent	High	Low
LaD	Linne clay loam, 15 to 30 percent slopes	Fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls	Somewhat limited	Thin layer; high piping potential; shrink-swell (LEP >6)	Very limited	Slopes >15 percent; caving potential is low; bedrock (soft) from 20 to 40 inches	High	Low
Pd	Pescadero clay	Fine, montmorillonitic, thermic Aquic Natriferalfs	Very limited	Shrink-swell (LEP >6); very high piping potential; EC 8 to 16 dS/m	Somewhat limited	Frequent or occasional flooding; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Low
RdA	Rincon clay loam, 0 to 3 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	Shrink-swell (LEP >6); high piping potential	Slight	Caving potential is low	High	Low
RdB	Rincon clay loam, 3 to 7 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	Shrink-swell (LEP >6); high piping potential	Slight	Caving potential is low	High	Low
Sa	San Ysidro loam	Fine, montmorillonitic, thermic Typic Palexeralfs	Very limited	Shrink-swell (LEP >6); high piping potential	Slight	Caving potential is low	High	Moderate
Sf	Solano fine sandy loam	Fine-loamy, mixed, active, thermic Typic Natriferalfs	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Moderate
W	Water	—	Not rated	Not rated	Not rated	Not rated	—	—
Contra Costa County								
AbD	Altamont clay, 15 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer	Very limited	Caving potential; slopes 8 to 15 percent; clay from 40 to 60 percent	High	Low
AbE	Altamont clay, 15 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer	Very limited	Slopes >15 percent; caving potential; clay from 40 to 60 percent	High	Low
AcF	Altamont-Fontana Complex, 30 to 50 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts; Fine-loamy, mixed, thermic Calcic Haploxerolls	Very limited	Shrink-swell (LEP >6); thin layer; high piping potential	Very limited	Slopes >15 percent; caving potential; bedrock (soft) from 20 to 40 inches; clay from 40 to 60 percent	High	Low
AdA	Antioch loam, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Natriferalfs	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low; clay from 40 to 60 percent	High	Low
AdC	Antioch loam, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Natriferalfs	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low; clay from 40 to 60 percent	High	Low
Bb	Brentwood clay loam	Fine, montmorillonitic, thermic Typic Xerochrepts	Very limited	Shrink-swell (LEP >6); high piping potential	Slight	Caving potential is low	High	Low
Bc	Brentwood clay loam, wet	Fine, montmorillonitic, thermic Typic Xerochrepts	Very limited	Shrink-swell (LEP >6); high piping potential; saturation between 2 to 4 feet	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
BdE	Briones loamy sand, 5 to 30 percent slopes	Mixed, thermic Typic Xeropsamments	Limited	Thin layer; possible seepage problem	Very limited	Caving potential; slopes >15 percent; bedrock (soft) from 20 to 40 inches	High	Moderate
CaA	Capay clay, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); high piping potential	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
CaC	Capay clay, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); high piping potential	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
CbA	Capay clay, wet, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Moderate
Cc	Clear Lake clay	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6)	Very limited	Caving potential; clay from 40 to 60 percent; frequent or occasional flooding	High	Moderate
CkB	Cropley clay, 2 to 5 percent slopes	Fine, montmorillonitic, thermic Chromic Pelloxererts	Very limited	Shrink-swell (LEP >6)	Very limited	Caving potential, clay from 40 to 60 percent	High	Low
CmE	Cut and fill Land-Diablo complex, 9 to 30 percent slopes	None; Fine, montmorillonitic, thermic Chromic Pelloxererts	Very limited	Shrink-swell (LEP >6); fragments (>3 feet) 15 to 35 percent	Very limited	Slopes >15 percent; caving potential; clay from 40 to 60 percent	High	—
DaC	Delhi sand, 2 to 9 percent slopes	Mixed, thermic Typic Xeropsamments	Very limited	Seepage problem	Very limited	Caving potential	Low	Low
DdD	Diablo clay, 9 to 15 percent slopes	Fine, montmorillonitic, thermic Chromic Pelloxererts	Very limited	Shrink-swell (LEP >6)	Very limited	Caving potential; slopes 8 to 15 percent; clay from 40 to 60 percent	High	Low
DdE	Diablo clay, 15 to 30 percent slopes	Fine, montmorillonitic, thermic Chromic Pelloxererts	Very limited	Shrink-swell (LEP >6)	Very limited	Caving potential; slopes >15 percent; clay from 40 to 60 percent	High	Low
DdF	Diablo clay, 30 to 50 percent slopes	Fine, montmorillonitic, thermic Chromic Pelloxererts	Very limited	Shrink-swell (LEP >6)	Very limited	Caving potential; slopes >15 percent; clay from 40 to 60 percent	High	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
Ea	Egbert mucky clay loam	Fine, mixed, thermic Cumulic Endoaquolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); low piping potential	Very limited	Saturation <2.5 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
Fc	Fluvaquents	Fluvaquents	Not rated	Not rated	Somewhat limited	Frequent or occasional flooding; caving potential is low	—	—
Fd	Fontana-Altamont complex	Fine-loamy, mixed, thermic Calcic Haploxerolls; Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer; high piping potential	Very limited	Slopes >15 percent; caving potential; bedrock (soft) from 20 to 40 inches; clay from 40 to 60 percent	High	Low
Ja	Joice muck	Euic, thermic Typic Medisaprists	Not rated	Not rated	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; frequent or occasional flooding; caving potential is low	High	High
KaC	Kimball gravelly clay loam, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Mollic Palexeralfs	Very limited	Shrink-swell (LEP >6)	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
KaE	Kimball gravelly clay loam, 9 to 30 percent slopes	Fine, montmorillonitic, thermic Mollic Palexeralfs	Very limited	Shrink-swell (LEP >6)	Very limited	Caving potential; slopes >15 percent; clay from 40 to 60 percent	High	Moderate
Kb	Kingile muck	Clayey, mixed, euic, thermic Terric Medisaprists	Very limited	Ponding; saturation <2 feet depth; shrink-swell (LEP 3 to 6); high piping potential	Very limited	Ponding; saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; clay from 40 to 60 percent; caving potential is low	High	Moderate
LbD	Linne clay loam, 5 to 15 percent slopes	Fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls	Limited	Thin layer; high piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Bedrock (soft) from 20 to 40 inches; slopes 8 to 15 percent; caving potential is low	High	Low
LbE	Linne clay loam, 15 to 30 percent slopes	Fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls	Limited	Thin layer; high piping potential; shrink-swell (LEP 3 to 6)	Very limited	Slopes >15 percent; bedrock (soft) from 20 to 40 inches; caving potential is low	High	Low
LcE	Lodo clay loam, 9 to 30 percent slopes	Loamy, mixed, thermic Lithic Haploxerolls	Very limited	Thin layer, shrink-swell (LEP 3 to 6); high piping potential	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	Moderate	Low
LcF	Lodo clay loam, 30 to 50 percent slopes	Loamy, mixed, thermic Lithic Haploxerolls	Very limited	Thin layer, shrink-swell (LEP 3 to 6); high piping potential	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	Moderate	Low
Ld	Lodo-Rock Outcrop complex	Loamy, mixed, thermic Lithic Haploxerolls; None	Very limited	Thin layer, shrink-swell (LEP 3 to 6); high piping potential	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	Moderate	Low
LhE	Los Osos clay loam, 15 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); thin layer	Very limited	Slopes >15 percent; bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	High	Moderate
LhF	Los Osos clay loam, 30 to 50 percent slopes	Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); thin layer	Very limited	Slopes >15 percent; bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	High	Moderate
Ma	Marcuse sand	Fine, montmorillonitic, thermic Sodic Endoaquerts	Very limited	Ponding; very high piping potential; shrink-swell (LEP >6); EC 8 to 16 dS/m; saturation between 2 to 4 feet	Very limited	Ponding; caving potential; saturation between 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Moderate
Mb	Marcuse clay	Fine, montmorillonitic, thermic Sodic Endoaquerts	Very limited	EC >16 dS/m; shrink-swell (LEP >6); very high piping potential; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Moderate
Mc	Marcuse clay, strongly alkaline	Fine, montmorillonitic, thermic Sodic Endoaquerts	Very limited	EC >16 dS/m; shrink-swell (LEP >6); very high piping potential; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Moderate
Md	Merritt loam	Fine-silty, mixed, superactive, thermic Fluvaquentic Haploxerolls	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Ob	Omni silty clay	Fine, montmorillonitic (calcareous), thermic Fluvaquentic Haplaquolls	Very limited	Ponded; shrink-swell (LEP >6); EC 8 to 16 dS/m; MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Ponding; caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Moderate
Pb	Pescadero clay loam	Fine, montmorillonitic, thermic Aquic Natriferalfs	Very limited	EC >16 dS/m; shrink-swell (LEP >6); very high piping potential; MH or CH Unified and PI <40 percent	Somewhat limited	Clay from 40 to 60 percent; caving potential is low; saturation from 2.5 to 6 feet depth	High	Low
Pd	Piper sand	Coarse-loamy, mixed (calcareous), calcareous, thermic Aeric Haplaquents	Limited	Thin layer; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
Pe	Piper loamy sand	Coarse-loamy, mixed (calcareous), calcareous, thermic Aeric Haplaquents	Very limited	Ponded; slight seepage problem; saturation between 2 to 4 feet	Very limited	Ponding; caving potential; saturation from 2.5 to 6 feet depth	High	Low
Ph	Piper fine sandy loam	Coarse-loamy, mixed (calcareous), calcareous, thermic Aeric Haplaquents	Limited	Thin layer; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
RbA	Rincon clay loam, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); low piping potential	Slight	Caving potential is low	High	Low
RbC	Rincon clay loam, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); low piping potential	Slight	Caving potential is low	High	Low
RbD	Rincon clay loam, 9 to 15 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); low piping potential	Somewhat limited	Slopes 8 to 15 percent; caving potential is low; clay from 40 to 60 percent	High	Low
RcA	Rincon clay loam, wet, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); low piping potential	Somewhat limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
Rd	Rindge muck	Euic, thermic Typic Medisaprists	Not rated	Not rated	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation <2.5 feet depth; caving potential is low	High	High
Rh	Ryde silt loam	Fine-loamy, mixed, superactive, thermic Cumulic Haplaquolls	Not rated	Not rated	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; caving potential is low	High	High
Sa	Sacramento clay	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Sb	Sacramento clay, alkali	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
Sc	San Ysidro loam	Fine, montmorillonitic, thermic Typic Palexeralfs	Very limited	Shrink-swell (LEP >6); low piping potential	Slight	Caving potential is low; clay from 40 to 60 percent	High	Moderate
Se	Shima muck	Sandy or sandy-skeletal, mixed, euic, thermic Terric Medisaprists	Very limited	Seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 inches depth; clay from 40 to 60 percent	High	High
Sh	Solano loam	Fine-loamy, mixed, superactive, thermic Typic Natrixeralfs	Very limited	EC >16 dS/m; shrink-swell (LEP >6); saturation between 2 to 4 feet; low piping potential	Limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
Sk	Solano loam, strongly alkali	Fine-loamy, mixed, superactive, thermic Typic Natrixeralfs	Very limited	EC >16 dS/m; shrink-swell (LEP >6); saturation between 2 to 4 feet; low piping potential	Limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
Sm	Sorrento silty clay loam	Fine-loamy, mixed, superactive, thermic Calcic Haploxerolls	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
Sn	Sorrento silty clay loam, sand substratum	Fine-loamy, mixed, superactive, thermic Calcic Haploxerolls	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Very limited	Caving potential	High	Low
So	Sycamore silty clay loam	Fine-silty, mixed, superactive, nonacid, thermic Aeric Haplaquepts	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Moderate
Sp	Sycamore silty clay loam, clay substratum	Fine-silty, mixed, superactive, nonacid, thermic Aeric Haplaquepts	Somewhat limited	Shrink-swell (LEP 3 to 6); high piping potential	Somewhat limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
Ub	Urban land	None	Not rated	Not rated	Not rated	Not rated	—	—
Vb	Venice muck	Euic, thermic Typic Medihemists	Not rated	Not rated	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	High
W	Water	None	Not rated	Not rated	Not rated	Not rated	—	—
Wa	Webile muck	Clayey, mixed, euic, thermic Terric Medisaprists	Very limited	Organic matter (PT, OL, OH); slight seepage problem	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	High
ZaA	Zamora silty clay loam, 0 to 2 percent slopes	Fine-silty, mixed, thermic Mollic Haploxeralfs	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
ZaB	Zamora silty clay loam, 2 to 5 percent slopes	Fine-silty, mixed, thermic Mollic Haploxeralfs	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
Sacramento County								
111	Bruella sandy loam, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Ultic Palexeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
112	Bruella sandy loam, 2 to 5 percent slopes	Fine-loamy, mixed, thermic Ultic Palexeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
114	Clear Lake clay, partially drained, 0 to 2 percent slopes, frequently flooded	Fine, montmorillonitic, thermic Xeric Endoaquerts	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH unified and PI <40 percent; thin layer	Very limited	Saturation <2.5 feet depth; caving potential; clay from 40 to 60 percent; frequent or occasional flooding	High	Moderate
115	Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes	Fine, montmorillonitic, thermic Xeric Epiaquerts	Very limited	Saturation <2 feet depth; shrink-swell; PI <40 percent	Very limited	Saturation <2.5 feet depth; caving potential; clay from 40 to 60 percent	High	Low
116	Columbia sandy loam, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth	Very limited	Saturation <2.5 feet depth; caving potential	Moderate	Low
117	Columbia sandy loam, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	No limitations	—	Very limited	Caving potential	Moderate	Low
118	Columbia sandy loam, drained, 0 to 2 percent slopes, occasionally flooded	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	No limitations	—	Very limited	Caving potential; frequent or occasional flooding	Moderate	Low
119	Columbia sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth; high piping potential	Very limited	Saturation <2.5 feet depth; caving potential; clay from 40 to 60 percent	Moderate	Low
120	Columbia sandy loam, clayey substratum, drained, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Limited	High piping potential	Very limited	Caving potential; clay from 40 to 60 percent	Moderate	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
121	Columbia sandy loam, clayey substratum, drained, 0 to 2 percent slopes, occasionally flooded	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Limited	High piping potential	Very limited	Caving potential; frequent or occasional flooding; clay from 40 to 60 percent	Moderate	Low
122	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; caving potential	High	Low
123	Columbia silt loam, drained, 2 to 5 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; caving potential	Moderate	Low
127	Cosumnes silt loam, partially drained, 0 to 2 percent slopes	Fine, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	Low
128	Cosumnes silt loam, drained, 0 to 2 percent slopes	Fine, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Clay from 40 to 60 percent; caving potential is low	High	Low
129	Cosumnes silt loam, drained, 0 to 2 percent slopes, occasionally flooded	Fine, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Frequent or occasional flooding; clay from 40 to 60 percent; caving potential is low	High	Low
133	Dierssen sandy loam, drained, 0 to 2 percent slopes	Fine, mixed, thermic Argic Durixerolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent; high piping potential	Very limited	Saturation <2.5 feet depth; pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	High	Low
134	Dierssen sandy clay loam, drained, 0 to 2 percent slopes	Fine, mixed, thermic Argic Durixerolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	High	Low
135	Dierssen clay loam, deep, drained, 0 to 2 percent slopes	Fine, mixed, thermic Argic Durixerolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	Low
136	Dumps	None	Not rated	—	Very limited	Slopes >15 percent; caving potential is low	—	—
137	Durixeralfs, 0 to 1 percent slopes	Durixeralfs	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Limited	Pan (thin) <20 inches depth; caving potential is low	High	Moderate
138	Durixeralfs-Galt complex, 0 to 2 percent slopes	Durixeralfs; Fine, montmorillonitic, thermic Typic Durixererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; pan (thin) <20 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
139	Egbert clay, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
140	Egbert clay, drained, 2 to 5 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Clay from 40 to 60 percent; caving potential is low	High	Moderate
141	Egbert clay, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
142	Egbert clay, partially drained, 0 to 2 percent slopes, frequently flooded	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; frequent or occasional flooding; caving potential is low; clay from 40 to 60 percent	High	Moderate
143	Egbert-Urban Land Complex, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls; None	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
150	Fluvaquents, 0 to 2 percent slopes, frequently flooded	Fluvaquents	Not rated		Very limited	Saturation <2.5 feet depth; frequent or occasional flooding; caving potential is low	High	Moderate
151	Galt clay, leveled, 0 to 1 percent slopes	Fine, montmorillonitic, thermic Typic Durixererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; pan (thin) from 20 to 40 inches	High	Low
152	Galt clay, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Durixererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; pan (thin) from 20 to 40 inches	High	Low
153	Galt clay, 2 to 5 percent slopes	Fine, montmorillonitic, thermic Typic Durixererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; pan (thin) from 20 to 40 inches	High	Low
154	Galt-Urban Land complex, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Durixererts; None	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; pan (thin) from 20 to 40 inches	High	Low
155	Gazwell mucky clay, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Endoaquolls	Very limited	Saturation <2 feet depth; organic matter (PT, OL, OH); high piping potential; slight seepage problem	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; clay from 40 to 60 percent; caving potential is low	High	High
167	Lang fine sandy loam, drained, 0 to 2 percent slopes	Mixed, thermic Typic Psammaquents	Very limited	Saturation <2 feet depth; possible seepage problem	Very limited	Saturation <2.5 feet depth; caving potential	Moderate	Moderate
168	Lang-Urban Land complex, drained, 0 to 2 percent slopes	Mixed, thermic Typic Psammaquents; None	Very limited	Saturation <2 feet depth; possible seepage problem	Very limited	Saturation <2.5 feet depth; caving potential	Moderate	Moderate
169	Laugenour loam, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed (calcareous), thermic Aeric Fluvaquents	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
170	Laugenour-Urban Land complex, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed (calcareous), thermic Aeric Fluvaquents	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Low
177	Medisaprists, 0 to 2 percent slopes, frequently flooded	Euic, thermic Typic Medisaprists	Not rated	—	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; frequent or occasional flooding; caving potential is low	High	High
186	Orthents-Urban Land complex, 0 to 2 percent slopes	Xerorthents; None	Not rated	—	Slight	Caving potential is low	—	—
190	Pits	None	Not rated	—	Slight	Caving potential is low	—	—
200	Rindge muck, partially drained, 0 to 2 percent slopes	Euic, thermic Typic Medisaprists	Not rated	—	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; caving potential is low	High	High
201	Rindge mucky silt loam, partially drained, 0 to 2 percent slopes	Euic, thermic Typic Medisaprists	Very limited	Saturation <2 feet depth; organic matter (PT, OL, OH; slight seepage problem)	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; caving potential is low	High	High
202	Rindge mucky clay loam, 0 to 2 percent slopes	Euic, thermic Typic Medisaprists	Very limited	Saturation <2 feet depth; organic matter (PT, OL, OH; slight seepage problem)	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; caving potential is low	High	High
206	Sailboat silt loam, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Low
208	Sailboat silt loam, drained, 0 to 2 percent slopes, occasionally flooded	Fine-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Very high piping potential	Somewhat limited	Frequent or occasional flooding; caving potential is low	High	Low
209	Sailboat-Urban Land complex, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Low
210	Sailboat variant silty clay loam, partially drained, 0 to 2 percent slopes	Fine-silty, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; caving potential is low	High	Moderate
213	San Joaquin silt loam, leveled, 0 to 1 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs	Very limited	Very high piping potential; thin layer	Somewhat limited	Pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
214	San Joaquin silt loam, 0 to 3 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs	Very limited	Very high piping potential; thin layer	Somewhat limited	Pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
216	San Joaquin-Durixeralfs complex, 0 to 1 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs; Durixeralfs	Very limited	Very high piping potential; shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Limited	Pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	High	Moderate
217	San Joaquin-Galt Complex, leveled, 0 to 1 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs; Fine, montmorillonitic, thermic Typic Durixererts	Very limited	Shrink-swell (LEP >6); thin layer; high piping potential; MH or CH Unified and PI <40 percent	Very limited	Caving potential; pan(thin) <20 inches depth; clay from 40 to 60 percent	High	Moderate
218	San Joaquin-Galt Complex, 0 to 3 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs; Fine, montmorillonitic, thermic Typic Durixererts	Very limited	Very high piping potential; saturation <2 feet depth; shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; caving potential; pan (thin) from 20 to 40 inches; clay from 40 to 60 percent	High	Moderate
219	San Joaquin-Urban Land complex, 0 to 2 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs; None	Very limited	Very high piping potential; thin layer	Somewhat limited	Pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
222	Scribner clay loam, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Endoaquolls	Very limited	Saturation <2 feet depth; high piping potential; shrink-swell (LEP 3 to 6)	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Low
225	Tinnin loamy sand, 0 to 2 percent slopes	Sandy, mixed, thermic Entic Haploxerolls	Somewhat limited	Possible seepage problem	Very limited	Caving potential	High	Low
227	Urban Land	None	Not rated	—	Slight	Caving potential is low	—	—
230	Valpac loam, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Fluvaquentic Haploxerolls	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
231	Valpac-Urban Land complex, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Fluvaquentic Haploxerolls; None	Very limited	Saturation <2 feet depth; very high piping potential; shrink-swell (LEP 3 to 6)	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Low
232	Valpac variant sandy loam, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Fluvaquentic Haplaquolls	Very limited	Saturation <2 feet depth; high piping potential	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	High
238	Xerarents-San Joaquin complex, 0 to 1 percent slopes	Xerarents; Fine, mixed, thermic Abruptic Durixeralfs	Somewhat limited	Thin layer	Very limited	Caving potential; pan (thin) from 20 to 40 inches; clay from 40 to 60 percent	Moderate	Moderate
244	Xeropsamments, 1 to 15 percent slopes	Mixed, thermic Typic Xeropsamments	Not rated	—	Slight	Caving potential is low; slopes 8 to 15 percent	Moderate	Low
247	Water	None	Not rated	—	Not Rated	—	—	—

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
San Joaquin County								
101	Acampo sandy loam, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Typic Haploxerolls	Slight	Thin layer	Slight	Caving potential is low	High	Low
108	Arents, saline-sodic, 0 to 2 percent slopes	Arents	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6); thin layer; EC 8 to 16 dS/m	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	Sandy, mixed, thermic Typic Haplaquolls	Very limited	Seepage problem	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
110	Boggiano clay loam, 0 to 2 percent slopes	Fine-silty, mixed, thermic Calcic Pachic Haploxerolls	Limited	High piping potential; shrink-swell (LEP 3 to 6); thin layer	Slight	Caving potential is low	High	Low
118	Capay clay, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
119	Capay clay, 2 to 5 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
120	Capay clay, saline-sodic, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); very high piping potential; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Moderate
121	Capay clay, wet, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; high piping potential	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Moderate
122	Capay-Urban Land complex, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts; None	Very limited	Shrink-swell; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
130	Columbia fine sandy loam, drained, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Not limited	—	Very limited	Caving potential	Moderate	Low
131	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes, occasionally flooded	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Not limited	—	Somewhat limited	Saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	Moderate	Low
132	Columbia fine sandy loam, channeled, partially drained, 0 to 2 percent slopes, frequently flooded	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Not limited	—	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; frequent or occasional flooding	Moderate	Low
133	Columbia fine sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Not limited	—	Somewhat limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	Moderate	Low
137	Cortina gravelly sandy loam, 0 to 5 percent slopes	Loamy-skeletal, mixed, nonacid, thermic Typic Xerofluvents	Not limited	—	Very limited	Caving potential	Moderate	Moderate
138	Cosumnes silty clay loam, drained, 0 to 2 percent slopes	Fine, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Clay from 40 to 60 percent; caving potential is low	High	Low
139	Cosumnes silty clay loam, drained, 0 to 2 percent slopes, occasionally flooded	Fine, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Frequent or occasional flooding; caving potential is low; clay from 40 to 60 percent	High	Low
140	Coyotecreek silt loam, 0 to 2 percent slopes, occasionally flooded	Fine-silty, mixed, thermic Cumulic Haploxerolls	Very limited	Very high piping potential	Somewhat limited	Frequent or occasional flooding; caving potential is low	Moderate	Low
142	Delhi loamy sand, 0 to 2 percent slopes	Mixed, thermic Typic Xeropsamments	Somewhat limited	Possible seepage problem	Very limited	Caving potential	Moderate	Low
144	Dello sand, partially drained, 0 to 2 percent slopes, occasionally flooded	Mixed, thermic Typic Psammaquents	Very limited	Seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; frequent or occasional flooding	High	Low
145	Dello loamy sand, drained, 0 to 2 percent slopes	Mixed, thermic Typic Psammaquents	Very limited	Seepage problem	Very limited	Caving potential	High	Low
146	Dello loamy sand, partially drained, 0 to 2 percent slopes	Mixed, thermic Typic Psammaquents	Very limited	Seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
147	Dello sandy loam, clayey substratum, drained, 0 to 2 percent slopes	Mixed, thermic Typic Psammaquents	Very limited	Seepage problem	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Low
148	Dello clay loam, drained, 0 to 2 percent slopes, overwashed	Mixed, thermic Typic Psammaquents	Very limited	Seepage problem	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
149	Devries sandy loam, drained, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Typic Duraquolls	Limited	Thin layer	Somewhat limited	Pan (thin) from 20 to 40 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
150	Dumps	None	Not rated	—	Very limited	Slopes >15 percent; caving potential is low	—	—
152	Egbert mucky clay loam, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Saturation from 2.5 to 6 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Saturation from 2.5 to 6 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
154	Egbert silty clay loam, sandy substratum, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; high piping potential; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Moderate

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
155	Egbert-Urban Land complex, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls; None	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Saturation from 2.5 to 6 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
156	El Solyo clay loam, 0 to 2 percent slopes	Fine, mixed, thermic Calcixerollic Xerochrepts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; low piping potential	Slight	Caving potential is low; clay from 40 to 60 percent	High	Low
158	Finrod clay loam, 0 to 2 percent slopes	Fine, mixed, thermic Pachic Haploxerolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; thin layer	Slight	Caving potential is low; clay from 40 to 60 percent	High	Low
159	Fluvaquents, 0 to 2 percent slopes, frequently flooded	Thermic Fluvaquents	Very limited	Saturation <2 feet depth; shrink-swell (LEP 3 to 6); high piping potential	Very limited	Saturation <2.5 feet depth; frequent or occasional flooding; caving potential is low	High	Moderate
160	Galt clay, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; pan (thin) from 20 to 40 inches	High	Low
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Fluvaquentic Haploxerolls	Not limited	—	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
167	Grangeville clay loam, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Fluvaquentic Haploxerolls	Not limited	—	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
168	Guard clay loam, 0 to 2 percent slopes	Fine-loamy, mixed (calcareous), thermic Duric Haplaquolls	Limited	Saturation between 2 to 4 feet; shrink-swell (LEP 3 to 6); high piping potential	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Low
169	Guard clay loam, drained, 0 to 2 percent slopes	Fine-loamy, mixed (calcareous), thermic Duric Haplaquolls	Somewhat limited	Shrink-swell (LEP 3 to 6); high piping potential	Slight	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
175	Honcut sandy loam, 0 to 2 percent slopes	Coarse-loamy, mixed, nonacid, thermic Typic Xerorthents	Not limited	—	Slight	Caving potential is low	High	Low
179	Itano silty clay loam, partially drained, 0 to 2 percent slopes	Fine-silty, mixed, acid, thermic Typic Fluvaquents	Limited	High piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	High
180	Jacktone clay, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth; pan (thin) from 20 to 40 inches	High	Low
181	Jacktone-Urban Land complex, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts; None	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth; pan (thin) from 20 to 40 inches	High	Low
182	Jahant loam, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Mollic Palexeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); thin layer; high piping potential	Somewhat limited	Clay from 40 to 60 percent; caving potential is low	Moderate	Moderate
190	Kingile muck, partially drained, 0 to 2 percent slopes	Clayey, mixed, euic, thermic Terric Medisapristis	Limited	High piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Somewhat limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	Moderate	Moderate
191	Kingile-Ryde complex, partially drained, 0 to 2 percent slopes	Clayey, mixed, euic, thermic Terric Medisapristis; Fine-loamy, mixed, thermic Cumulic Haplaquolls	Very limited	High piping potential; organic matter (PT, OL, OH); shrink-swell (LEP 3 to 6); high piping potential; saturation between 2 to 4 feet	Very limited	Saturation from 2.5 to 6 feet depth; organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	Moderate	Moderate
196	Manteca fine sandy loam, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Haplic Durixerolls	Limited	Thin layer	Very limited	Caving potential; pan (thin) from 20 to 40 inches	High	Low
197	Merritt silty clay loam, partially drained, 0 to 2 percent slopes	Fine-silty, mixed, thermic Fluvaquentic Haploxerolls	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
198	Merritt silty clay loam, partially drained, 0 to 2 percent slopes, occasionally flooded	Fine-silty, mixed, thermic Fluvaquentic Haploxerolls	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Very limited	Caving potential; frequent or occasional flooding; saturation from 2.5 to 6 feet depth	High	Low
201	Nord loam, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Cumulic Haploxerolls	Very limited	Very high piping potential	Slight	Caving potential is low	High	Low
204	Peltier mucky clay loam, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Organic matter (PT, OL, OH); shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
205	Peltier mucky clay loam, organic substratum, partially drained, 0 to 2 percent slopes	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Organic matter (PT, OL, OH); high piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	High
211	Pescadero clay loam, partially drained, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Aquic Natrixeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; EC 8 to 10 dS/m	Somewhat limited	Clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
213	Piper sandy loam, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed (calcareous), thermic Aeric Haplaquents	Not limited	—	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
214	Pits, gravel	None	Not rated	—	Slight	Caving potential is low	—	—
222	Reiff fine sandy loam, 0 to 2 percent slopes, occasionally flooded	Coarse-loamy, mixed, nonacid, thermic Mollic Xerofluvents	Not limited	—	Very limited	Caving potential; frequent or occasional flooding	Moderate	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
223	Reiff loam, 0 to 2 percent slopes	Coarse-loamy, mixed, superactive, nonacid, thermic Mollic Xerofluvents	Not limited	—	Very limited	Caving potential	Moderate	Low
224	Rindge mucky silt loam, partially drained, 0 to 2 percent slopes, overwashed	Euic, thermic Typic Medisaprists	Very limited	Organic matter (PT, OL, OH); slight seepage problem; saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	High
225	Rindge muck, partially drained, 0 to 2 percent slopes	Euic, thermic Typic Medisaprists	Very limited	Organic matter (PT, OL, OH); slight seepage problem; saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	High
226	Rioblancho clay loam, drained, 0 to 2 percent slopes	Fine-loamy, mixed (calcareous), thermic Typic Duraquolls	Limited	High piping potential; thin layer; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low; pan (thin) from 20 to 40 inches	High	Low
227	Rioblancho-Urban Land complex, drained, 0 to 2 percent slopes	Fine-loamy, mixed (calcareous), thermic Typic Duraquolls; None	Limited	High piping potential; thin layer; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low; pan (thin) from 20 to 40 inches	High	Low
230	Ryde clay loam, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Haplaquolls	Very limited	Organic matter (PT, OL, OH); high piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	Moderate	Moderate
231	Ryde silty clay loam, organic substratum, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Haplaquolls	Very limited	Organic matter (PT, OL, OH); very high piping potential; slight seepage problem; saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	High
232	Ryde clay loam, sandy substratum, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Haplaquolls	Very limited	Very high piping potential; possible seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth	Moderate	Moderate
233	Ryde-Peltier complex, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Haplaquolls; Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Organic matter (PT, OL, OH); high piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low; clay from 40 to 60 percent	High	Moderate
234	Sailboat silt loam, drained, 0 to 2 percent slopes	Fine-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
235	Sailboat silt loam, drained, 0 to 2 percent slopes, occasionally flooded	Fine-loamy, mixed, nonacid, thermic Aquic Xerofluvents	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Frequent or occasional flooding; caving potential is low	High	Low
238	San Joaquin loam, 0 to 2 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs	Very limited	Shrink-swell (LEP >6); thin layer; high piping potential	Somewhat limited	Pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
241	San Joaquin complex, 0 to 1 percent slopes	Fine, mixed, thermic Abruptic Durixeralfs	Very limited	Shrink-swell (LEP >6); thin layer; high piping potential	Somewhat limited	Pan (thin) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
243	Scribner clay loam, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Haplaquolls	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
244	Scribner clay loam, sandy substratum, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Haplaquolls	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
245	Scribner-Urban Land complex, partially drained, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Cumulic Haplaquolls; None	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
246	Shima muck, partially drained, 0 to 2 percent slopes	Sandy or sandy-skeletal, mixed, euic, thermic Terric Medisaprists	Very limited	Seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth	High	High
247	Shinkee muck, partially drained, 0 to 2 percent slopes	Loamy, mixed, euic, thermic Terric Medisaprists	Somewhat limited	Shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
249	Stockton silty clay loam, 0 to 2 percent slopes, overwashed	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; thin layer; low piping potential	Very limited	caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Low
250	Stockton clay, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; thin layer	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Low
251	Stockton-Urban Land complex, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts; None	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; thin layer	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Low
252	Stomar clay loam, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Clay from 40 to 60 percent; caving potential is low	High	Low
253	Stomar clay loam, wet, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
254	Timor loamy sand, 0 to 2 percent slopes	Sandy, mixed, thermic Entic Haploxerolls	Somewhat limited	Possible seepage problem; thin layer	Very limited	Caving potential	High	Low
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	Sandy, mixed, thermic Entic Haploxerolls	Somewhat limited	Possible seepage problem	Very limited	Caving potential	High	Low
256	Tokay fine sandy loam, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Typic Haploxerolls	Not limited	—	Slight	Caving potential is low	High	Moderate

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
258	Trahern clay loam, partially drained, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Natric Duraquolls	Very limited	Shrink-swell (LEP >6); very high piping potential; thin layer; MH or CH Unified and PI <40 percent	Somewhat limited	Clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth; caving potential is low; pan (thin) from 20 to 40 inches	High	Low
259	Tujunga loamy sand, 0 to 2 percent slopes	Mixed, thermic Typic Xeropsamments	Very limited	Seepage problem	Very limited	Caving potential	Moderate	Low
260	Urban land	None	Not rated	—	Slight	Caving potential is low	—	—
261	Valdez silt loam, organic substratum, partially drained, 0 to 2 percent slopes	Fine-silty, mixed, nonacid, thermic Aeric Fluvaquents	Very limited	Very high piping potential; shrink-swell (LEP >6); saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	Moderate	Moderate
263	Venice mucky silt loam, partially drained, 0 to 2 percent slopes, overwashed	Euic, thermic Typic Medihemists	Very limited	Organic matter (PT, OL, OH); slight seepage problem; saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	High
264	Venice muck, partially drained, 0 to 2 percent slopes	Euic, thermic Typic Medihemists	Very limited	Organic matter (PT, OL, OH); slight seepage problem; saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	High	High
265	Veritas sandy loam, partially drained, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Typic Haploxerolls	Somewhat limited	Thin layer	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
266	Veritas fine sandy loam, 0 to 2 percent slopes	Coarse-loamy, mixed, thermic Typic Haploxerolls	Not limited	—	Slight	Caving potential is low	High	Low
267	Veritas silty clay loam, 0 to 2 percent slopes, overwashed	Coarse-loamy, mixed, thermic Typic Haploxerolls	Very limited	Very high piping potential; thin layer	Slight	Caving potential is low	High	Low
268	Vernalis clay loam, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Calcixerollic Xerochrepts	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
269	Vernalis clay loam, wet, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Calcixerollic Xerochrepts	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
273	Webile muck, partially drained, 0 to 2 percent slopes	Clayey, mixed, euic, thermic Terric Medisaprists	Very limited	Organic matter (PT, OL, OH); slight seepage problem; saturation between 2 to 4 feet	Very limited	organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	High
274	Willows clay, partially drained, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; EC 8 to 16 dS/m	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Low
280	Yellowlark gravelly loam, 2 to 5 percent slopes	Fine-loamy, mixed, thermic Ultic Haploxeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	Moderate	Moderate
281	Zacharias clay loam, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Typic Xerochrepts	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6)	Very limited	Caving potential	High	Low
282	Zacharias gravelly clay loam, 0 to 2 percent slopes	Fine-loamy, mixed, thermic Typic Xerochrepts	Not limited	—	Very limited	Caving potential	High	Low
284	Water	None	Not rated	—	Not rated	—	—	—
M-W	Miscellaneous Water	None	Not rated	—	Not rated	—	—	—
Solano County								
AcC	Altamont clay, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; bedrock (soft) from 20 to 40 inches	High	Low
AcE	Altamont clay, 9 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; slopes >15 percent; clay from 40 to 60 percent; bedrock (soft) from 20 to 40 inches	High	Low
AcF2	Altamont clay, 30 to 50 percent slopes eroded	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Slopes >15 percent; caving potential; clay from 40 to 60 percent; bedrock (soft) from 20 to 40 inches	High	Low
AIC	Altamont-San Ysidro-San Benito complex, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts; Fine, montmorillonitic, thermic Typic Palexeralfs; Fine-loamy, mixed, thermic Calcic Pachic Haploxerolls	Very limited	Shrink-swell (LEP >6); thin layer; high piping potential; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; bedrock (soft) from 20 to 40 inches	High	Moderate
AIE	Altamont-San Ysidro-San Benito complex, 9 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts; Fine, montmorillonitic, thermic Typic Palexeralfs; Fine-loamy, mixed, thermic Calcic Pachic Haploxerolls	Very limited	Shrink-swell (LEP >6); thin layer; high piping potential; MH or CH Unified and PI <40 percent	Very limited	Caving potential; slopes >15 percent; clay from 40 to 60 percent; bedrock (soft) from 20 to 40 inches	High	Moderate
AmC	Altamont-Diablo clays, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts; Fine, montmorillonitic, thermic Chromic Pelloxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; bedrock (soft) from 20 to 40 inches	High	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
AmE2	Altamont-Diablo clays, 9 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Chromoxererts; Fine, montmorillonitic, thermic Chromic Pelloxererts	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent	Very limited	Caving potential; slopes >15 percent; clay from 40 to 60 percent; bedrock (soft) from 20 to 40 inches	High	Low
An	Alviso silty clay loam	Fine, mixed, nonacid, isomesic Tropic Fluvaquents	Very limited	Shrink-swell (LEP >6); saturation between 2 to 4 feet; EC 8 to 16 dS/m; MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth	High	High
AoA	Antioch-San Ysidro complex, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Natrixeralfs; Fine, montmorillonitic, thermic Typic Palixeralfs	Very limited	Shrink-swell (LEP >6); very high piping potential; MH or CH Unified and PI <40 percent	Slight	Caving potential low; clay from 40 to 60 percent	High	Moderate
AoC	Antioch-San Ysidro complex, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Natrixeralfs; Fine, montmorillonitic, thermic Typic Palixeralfs	Very limited	Shrink-swell (LEP >6); very high piping potential; MH or CH Unified and PI <40 percent	Slight	Caving potential low; clay from 40 to 60 percent	High	Moderate
AsA	Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Natrixeralfs; Fine, montmorillonitic, thermic Typic Palixeralfs	Very limited	Very high piping potential; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Caving potential low; clay from 40 to 60 percent	High	Moderate
AsC	Antioch-San Ysidro complex, thick surface, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Natrixeralfs; Fine, montmorillonitic, thermic Typic Palixeralfs	Very limited	Very high piping potential; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Caving potential low; clay from 40 to 60 percent	High	Moderate
BP	Borrow pit	None	Not rated	Not rated	Not rated	Not rated	—	—
BrA	Brentwood clay loam, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Xerochrepts	Very limited	Shrink-swell (LEP >6); low piping potential	Slight	Caving potential is low	High	Low
BrC	Brentwood clay loam, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Xerochrepts	Very limited	shrink-swell (LEP >6); low piping potential	Slight	Caving potential is low	High	Low
Ca	Capay silty clay loam	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; high piping potential	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
Cc	Capay clay	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; high piping potential	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
CeA	Clear Lake clay, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Moderate
CeB	Clear Lake clay, 2 to 5 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	Moderate
ClA	Clear Lake clay, saline, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); EC 8 to 16 dS/m; MH or CH Unified and PI < 40 percent	Very limited	Caving potential; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth	High	High
Cm	Columbia fine sandy loam	Coarse-loamy, mixed, nonacid, thermic Aquic Xerofluvents	No limitations	No limitations	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	Moderate	Low
Cn	Conejo loam	Fine-loamy, mixed, thermic Pachic Haploxerolls	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
Co	Conejo gravelly loam	Fine-loamy, mixed, thermic Pachic Haploxerolls	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Very limited	Caving potential	High	Low
DaC	Diablo-Ayar clays, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Chromic Pelloxererts; Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; thin layer	Very limited	Caving potential; clay from 40 to 60 percent	High	Low
DaE2	Diablo-Ayar clays, 9 to 30 percent slopes, eroded	Fine, montmorillonitic, thermic Chromic Pelloxererts; Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; thin layer	Very limited	Caving potential; slopes >15 percent; clay from 40 to 60 percent	High	Low
DbC	Dibble-Los Osos loams, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Haploxeralfs; Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent; high piping potential	Somewhat limited	Bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
DbE	Dibble-Los Osos loams, 9 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Haploxeralfs; Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent; high piping potential	Very limited	Slopes >15 percent; bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
DbF2	Dibble-Los Osos loams, 30 to 50 percent slopes, eroded	Fine, montmorillonitic, thermic Typic Haploxeralfs; Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent; low piping potential	Very limited	Slopes >15 percent; bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
DIC	Dibble-Los Osos clay loams, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Typic Haploxeralfs; Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent; low piping potential	Somewhat limited	Bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
DIE	Dibble-Los Osos clay loams, 9 to 30 percent slopes	Fine, montmorillonitic, thermic Typic Haploxeralfs; Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent; low piping potential	Very limited	Slopes >15 percent; bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
DIF2	Dibble-Los Osos clay loams, 30 to 50 percent slopes, eroded	Fine, montmorillonitic, thermic Typic Haploxeralfs; Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); thin layer; MH or CH Unified and PI <40 percent; low piping potential	Very limited	Slopes >15 percent; bedrock (soft) from 20 to 40 inches; caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
Eb	Egbert silty clay loam	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
Ec	Egbert silty clay loam, occasionally flooded	Fine, mixed, thermic Cumulic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	High	Moderate

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
GaG2	Gaviota sandy loam, 30 to 75 percent slopes, eroded	Loamy, mixed, nonacid, thermic Lithic Xerorthents	Not rated	Not rated	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	Low	Low
GlE	Gilroy loam, 9 to 30 percent slopes	Fine-loamy, mixed, thermic Typic Argixerolls	Limited	Thin layer; high piping potential; shrink-swell (LEP 3 to 6)	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	High	Low
HaF	Hambright loam, 15 to 40 percent slopes	Loamy-skeletal, mixed, thermic Lithic Haploxerolls	Very limited	Thin layer; very high piping potential; fragments (>3 feet) 15 to 35 percent	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low; fragments (>3 inches) 25 to 50 percent	Low	Low
HtE	Hambright-Toomes stony loams, 9 to 30 percent slopes	Loamy-skeletal, mixed, thermic Lithic Haploxerolls; Loamy, mixed, thermic Lithic Ruptic-Xerorthentic Xerochrepts	Very limited	Thin layer; fragments (>3 feet) 15 to 35 percent; very high piping potential	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; fragments (>3 inches) 25 to 50 percent; caving potential is low	Low	Low
Ja	Joice muck	Euic, thermic Typic Medisaprists	Not rated	Not rated	Very limited	Ponding; saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; frequent or occasional flooding; caving potential is low	High	High
Jb	Joice muck, clay subsoil variant	Clayey, mixed, euic, thermic Terric Medisaprists	Very limited	Ponding; EC >16 dS/m; saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Ponding; saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; clay from 40 to 60 percent; frequent or occasional flooding	High	High
Ld	Lang silt loam	Mixed, thermic Typic Psammaquents	Limited	High piping potential; possible seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	Moderate	Moderate
Ma	Made land	—	Not rated	Not rated	Slight	Caving potential is low	—	—
Mfy	Marvin silty clay loam	Fine, montmorillonitic, thermic Aquic Haploxeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Clay from 40 to 60 percent; caving potential is low	High	Low
MkA	Millsap sandy loam, 0 to 2 percent slopes	Fine, mixed, thermic Typic Palexeralfs	Very limited	Shrink-swell (LEP >6); high piping potential; thin layer; MH or CH Unified and PI <40 percent	Very limited	Bedrock (hard) <40 inches depth; clay from 40 to 60 percent; caving potential is low	Moderate	Moderate
MIC	Millsap-Los Osos complex, 2 to 9 percent slopes	Fine, mixed, thermic Typic Palexeralfs; Fine, montmorillonitic, thermic Typic Argixerolls	Very limited	Shrink-swell (LEP >6); high piping potential; thin layer; MH or CH Unified and PI <40 percent	Very limited	Bedrock (hard) <40 inches depth; bedrock (soft) from 20 to 40 inches; clay from 40 to 60 percent; caving potential is low	Moderate	Moderate
MmE	Millsholm loam, 15 to 30 percent slopes	Loamy, mixed, thermic Lithic Xerochrepts	Very limited	Thin layer; very high piping potential	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	Low	Moderate
MmG2	Millsholm loam, 30 to 75 percent slopes, eroded	Loamy, mixed, thermic Lithic Xerochrepts	Very limited	Thin layer; very high piping potential	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	Low	Moderate
MnC	Millsholm loam, moderately deep variant, 2 to 9 percent slopes	Coarse-loamy, mixed, thermic Typic Xerochrepts	Limited	Thin layer; slight seepage problem	Somewhat limited	Bedrock (soft) from 20 to 40 inches; caving potential is low	Low	Low
MnE	Millsholm loam, moderately deep variant, 9 to 30 percent slopes	Coarse-loamy, mixed, thermic Typic Xerochrepts	Limited	Thin layer; slight seepage problem	Very limited	Slopes >15 percent; becrosk (soft) from 20 to 40 inches; caving potential is low	Low	Low
Om	Omni clay loam	Fine, montmorillonitic (calcareous), thermic Fluvaquentic Haplaquolls	Very limited	EC >16 dS/m; shrink-swell (LEP >6); saturation between 2 to 4 feet; MH or CH Unified and PI <40 percent	Limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
On	Omni silty clay	Fine, montmorillonitic (calcareous), thermic Fluvaquentic Haplaquolls	Very limited	Shrink-swell (LEP >6); saturation between 2 to 4 feet; MH or CH Unified and PI <40 percent	Limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
Pc	Pescadero clay loam	Fine, montmorillonitic, thermic Aquic Natriferalfs	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6); EC 8 to 16 dS/m	Somewhat limited	Clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Pe	Pescadero clay	Fine, montmorillonitic, thermic Aquic Natriferalfs	Very limited	Ponding; very high piping potential; shrink-swell (LEP 3 to 6); EC 8 to 16 dS/m	Very limited	Ponding; clay from 40 to 60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
QU	Quarry	None	Not rated	Not rated	Not rated	Not rated	—	—
Re	Reyes silty clay	Fine, mixed, nonacid, isomesic Typic Hydraquents	Very limited	Ponding; EC >16 dS/m; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Ponding; saturation from 2.5 to 6 feet depth; frequent or occasional flooding; clay from 40 to 60 percent; caving potential is low	High	High
RnC	Rincon loam, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI < 40 percent; high piping potential	Slight	Caving potential is low	High	Low
RoA	Rincon clay loam, 0 to 2 percent slope	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI < 40 percent; low piping potential	Slight	Caving potential is low	High	Low
RoC	Rincon clay loam, 2 to 9 percent slopes	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI < 40 percent; low piping potential	Slight	Caving potential is low	High	Low
Ry	Ryde clay loam	Fine-loamy, mixed, thermic Cumulic Haplaquolls	Very limited	Organic matter (PT, OL, OH); shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Very limited	Organic matter (PT, OH, OL) below 20 inches; saturation from 2.5 to 6 feet depth; caving potential is low	Moderate	Moderate
Sa	Sacramento silty clay loam	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
Sc	Sacramento silty clay loam, occasionally flooded	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	High	Low
Sd	Sacramento clay	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
SeA	San Ysidro sandy loam, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Palexeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); high piping potential	Slight	Caving potential is low	High	Moderate
SeB	San Ysidro sandy loam, 2 to 5 percent slopes	Fine, montmorillonitic, thermic Typic Palexeralfs	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Moderate
SfA	San Ysidro sandy loam, thick surface, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Palexeralfs	Somewhat limited	Shrink-swell (LEP 3 to 6); high piping potential	Slight	Caving potential is low	High	Moderate
Sh	Solano loam	Fine-loamy, mixed, thermic Typic Natrixeralfs	Very limited	Shrink-swell (LEP >6); very high piping potential; MH or CH Unified and PI < 40 percent	Slight	Caving potential is low	High	Moderate
Sk	Solano-Pescadero complex	Fine-loamy, mixed, thermic Typic Natrixeralfs; Fine, montmorillonitic, thermic Aquic Natrixeralfs	Very limited	Very high piping potential; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; EC 8 to 16 dS/m	Somewhat limited	Clay from 40 to 60 percent; caving potential is low	High	Moderate
Sm	Solano loam, dark surface variant	Fine-loamy, mixed, thermic Typic Natrixerolls	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6); EC 8 to 16 dS/m	Very limited	Caving potential	High	Moderate
Sp	Suisun peaty muck	Euic, thermic Typic Medihemists	Not rated	Not rated	Very limited	Ponding; saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; frequent or occasional flooding; caving potential is low	High	High
Sr	Sycamore silty clay loam	Fine-silty, mixed, nonacid, thermic Aeris Haplaquepts	Limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
Ss	Sycamore silty clay loam, drained	Fine-silty, mixed, nonacid, thermic Aeris Haplaquepts	Limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
St	Sycamore silty clay loam, saline	Fine-silty, mixed, nonacid, thermic Aeris Haplaquepts	Limited	EC 8 to 16 dS/m; high piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
Su	Sycamore complex, occasionally flooded	Fine-silty, mixed, nonacid, thermic Aeris Haplaquepts	Limited	High piping potential; EC 8 to 16 dS/m; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	High	Moderate
Ta	Tamba mucky clay	Fine, mixed, acid, thermic Typic Haplaquepts	Very limited	Ponding; EC >16 dS/m; organic matter (PT, OL, OH); shrink-swell (LEP >6); saturation <2 feet depth	Very limited	Ponding; saturation <2.5 feet depth; organic matter (PT, OH, OL) below 20 inches; frequent or occasional flooding; clay from 40 to 60 percent	High	High
Td	Tidal marsh	None	Not rated	Not rated	Very limited	Ponding; saturation <2.5 feet depth; frequent or occasional flooding; caving potential is low	High	High
ToG2	Toomes stony loam, 30 to 75 percent slopes, eroded	Loamy, mixed, thermic Lithic Ruptic-Xerorthentic Xerochrepts	Very limited	Thin layer; fragments (>3 feet) 15 to 35 percent; very high piping potential	Very limited	Bedrock (hard) <40 inches depth; fragments (>3 inches) >50 percent; slopes >15 percent; caving potential is low	Moderate	Low
TrE	Trimmer loam, 9 to 30 percent slopes	Fine-loamy, mixed, thermic Mollic Haploxeralfs	Very limited	Very high piping potential; thin layer; shrink-swell (LEP 3 to 6)	Very limited	Bedrock (hard) <40 inches depth; slopes >15 percent; caving potential is low	Moderate	Low
Tu	Tujung fine sand	Mixed, thermic Typic Xeropsamments	Very limited	Seepage problem	Very limited	Caving potential	Moderate	Low
Va	Valdez silt loam drained	Fine-silty, mixed, nonacid, thermic Aeris Fluvaquents	Very limited	Very high piping potential	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	Moderate	Moderate
Vc	Valdez silty clay loam	Fine-silty, mixed, nonacid, thermic Aeris Fluvaquents	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; caving potential is low	Moderate	Moderate
Vd	Valdez silty clay loam, wet	Fine-silty, mixed, nonacid, thermic Aeris Fluvaquents	Very limited	EC >16 dS/m; saturation <2 feet depth; high piping potential; shrink-swell (LEP 3 to 6)	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Moderate
Ve	Valdez silty clay loam, clay substratum	Fine-silty, mixed, nonacid, thermic Aeris Fluvaquents	Somewhat limited	EC 8 to 16 dS/m; shrink-swell (LEP 3 to 6); low piping potential	Somewhat limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
W	Water	None	Not rated	Not rated	Not rated	Not rated	—	—
Wc	Willows clay	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Low
Yr	Yolo loam, clay substratum	Fine-silty, mixed, nonacid, thermic Typic Xerorthents	Limited	High piping potential	Somewhat limited	Clay from 40 to 60 percent; caving potential is low	High	Low
Ys	Yolo silty clay loam	Fine-silty, mixed, nonacid, thermic Typic Xerorthents	Somewhat limited	High piping potential	Slight	Caving potential is low	Low	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
Sutter County								
134	Holillipah loamy sand, channeled, 0 to 2 percent slopes	Sandy, mixed, thermic Typic Xerofluvents	Somewhat limited	Possible seepage problem	Very limited	Caving potential; frequent or occasional flooding	Moderate	Low
161	Shanghai fine sandy loam, channeled, 0 to 2 percent slopes	Fine-silty, mixed, nonacid, thermic Aquic Xerofluvents	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	High	Low
177	Water	None	Not rated	Not rated	Not rated	Not rated	—	—
Yolo County								
BrA	Brentwood silty clay loam, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Xerochrepts	Very limited	Shrink-swell (LEP >6); high piping potential	Slight	Caving potential is low	High	Low
Ca	Capay silty clay	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Low
Cc	Capay soils, flooded	Fine, montmorillonitic, thermic Typic Chromoxererts	Very limited	Shrink-swell; MH or CH Unified and PI <40 percent	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; frequent or occasional flooding; clay from 40 to 60 percent	High	Low
Ck	Clear Lake clay	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell; MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Low
Cn	Clear Lake soils, flooded	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell; MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; frequent or occasional flooding	High	Low
HcA	Hillgate loam, 0 to 2 percent slopes	Fine, montmorillonitic, thermic Typic Palixeralfs	Somewhat limited	Shrink-swell; high piping potential	Slight	Caving potential is low; clay from 40 to 60 percent	Moderate	Moderate
La	Lang sandy loam	Mixed, thermic Typic Psammaquents	Somewhat limited	Possible seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	Moderate	Moderate
Lb	Lang sandy loam, deep	Mixed, thermic Typic Psammaquents	Limited	High piping potential; possible seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	Moderate	Moderate
Lc	Lang sandy loam, deep, flooded	Mixed, thermic Typic Psammaquents	Limited	High piping potential; possible seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; frequent or occasional flooding; clay from 40 to 60 percent	Moderate	Moderate
Ld	Lang silt loam	Mixed, thermic Typic Psammaquents	Limited	High piping potential; possible seepage problem; saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	Moderate	Moderate
Lg	Laugenour very fine sandy loam	Coarse-loamy, mixed, calcareous, thermic Aeric Fluvaquents	Somewhat limited	Saturation between 2 to 4 feet	Very limited	Caving potential; saturation from 2.5 to 6 feet depth	High	Low
Lk	Laugenour very fine sandy loam, deep, flooded	Coarse-loamy, mixed, calcareous, thermic Aeric Fluvaquents	Very limited	Very high piping potential; saturation <2 feet depth	Very limited	Saturation <2.5 feet depth; frequent or occasional flooding; caving potential is low	High	Low
Ma	Made land	Mixed Xerorthents	Not rated	Not rated	Slight	Caving potential is low	—	—
Mb	Maria silt loam	Fine-silty, mixed, calcareous, thermic Typic Haplaquepts	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
Mc	Maria silt loam, flooded	Fine-silty, mixed, calcareous, thermic Typic Haplaquepts	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Somewhat limited	Frequent or occasional flooding; caving potential is low	High	Low
Mf	Marvin silty clay loam	Fine, montmorillonitic, thermic Aquic Haploxeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Somewhat limited	Clay from 40 to 60 percent; caving potential is low	High	Low
Mk	Merritt silty clay loam	Fine-silty, mixed, thermic Fluvaquentic Haploxerolls	Very limited	Saturation <2 feet depth; very high piping potential	Very limited	Saturation <2.5 feet depth; caving potential	High	Low
Mn	Merritt silty clay loam, deep	Fine-silty, mixed, thermic Fluvaquentic Haploxerolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; low piping potential	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	Low
Mp	Merritt complex, saline-alkali	Fine-silty, mixed, thermic Fluvaquentic Haploxerolls	Very limited	Saturation <2 feet depth; very high piping potential; shrink-swell (LEP >6); EC 8 to 16 dS/m; MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; caving potential; clay from 40 to 60 percent	High	Low
Ms	Myers clay	Fine, montmorillonitic, thermic Entic Chromoxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Caving potential; clay from 40 to 60 percent	High	Moderate
Oa	Omni silty clay loam	Fine, montmorillonitic (calcareous), thermic Fluvaquentic Haplaquolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
Ob	Omni silty clay	Fine, montmorillonitic (calcareous), thermic Fluvaquentic Haplaquolls	Very limited	Saturation <2 feet depth; shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
Pa	Pescadero silty clay	Fine, montmorillonitic, thermic Aquic Natrixeralfs	Very limited	Shrink-swell (LEP >6); very high piping potential; saturation <2 feet depth; MH or CH Unified and PI <40 percent; EC 8 to 16 dS/m	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; caving potential is low	High	Low
Pc	Pescadero soils, flooded	Fine, montmorillonitic, thermic Aquic Natrixeralfs	Very limited	Shrink-swell (LEP >6); saturation <2 feet depth; EC 8 to 16 dS/m; MH or CH Unified and PI <40 percent	Very limited	Saturation <2.5 feet depth; clay from 40 to 60 percent; frequent or occasional flooding; caving potential is low	High	Low

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b			
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features	Uncoated Steel	Concrete
Rg	Rincon silty clay loam	Fine, montmorillonitic, thermic Mollic Haploxeralfs	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Slight	Caving potential is low	High	Low
Rh	Riverwash	None	Very limited	Seepage problem	Very limited	Caving potential; frequent or occasional flooding	Low	Low
Rk	Riz loam	Fine, montmorillonitic, thermic Typic Natrixeralfs	Very limited	Shrink-swell (LEP >6); very high piping potential; saturation <2 feet depth; MH or CH Unified and PI <40 percent; EC 8 to 16 dS/m	Very limited	Saturation <2.5 feet depth; caving potential is low	High	Moderate
Rn	Riz loam, flooded	Fine, montmorillonitic, thermic Typic Natrixeralfs	Very limited	Shrink-swell (LEP >6); very high piping potential; saturation <2 feet depth; MH or CH Unified and PI <40 percent; EC 8 to 16 dS/m	Very limited	Saturation <2.5 feet depth; frequent or occasional flooding; caving potential is low	High	Moderate
Sa	Sacramento silty clay loam	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Sb	Sacramento silty clay loam, drained	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Clay >60 percent; caving potential is low	High	Low
Sc	Sacramento clay	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Sd	Sacramento clay, drained	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent	Very limited	Clay >60 percent; caving potential is low	High	Low
Sf	Sacramento clay, deep	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Sg	Sacramento soils, flooded	Very-fine, montmorillonitic, thermic Vertic Haplaquolls	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet	Very limited	Clay >60 percent; saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	High	Low
So	Sycamore silt loam	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
Sp	Sycamore silt loam, drained	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Moderate
Sr	Sycamore silt loam, flooded	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet; EC 8 to 16 dS/m	Limited	Saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	High	Moderate
Ss	Sycamore silty clay loam	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Limited	High piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Moderate
St	Sycamore silty clay loam, drained	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Moderate
Su	Sycamore complex	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
Sv	Sycamore complex, drained	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
Sw	Sycamore complex, flooded	Fine-silty, mixed, nonacid, thermic Aerice Haplaquepts	Somewhat limited	High piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; frequent or occasional flooding; clay from 40 to 60 percent; caving potential is low	High	Moderate
Tb	Tyndall very fine sandy loam	Coarse-loamy, mixed, calcareous, thermic Aerice Haplaquepts	Very limited	Very high piping potential; saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Tc	Tyndall very fine sandy loam, drained	Coarse-loamy, mixed, calcareous, thermic Aerice Haplaquepts	Very limited	Very high piping potential	Slight	Caving potential is low	High	Low
Td	Tyndall very fine sandy loam, flooded	Coarse-loamy, mixed, calcareous, thermic Aerice Haplaquepts	Very limited	Very high piping potential; saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; frequent or occasional flooding; caving potential is low	High	Low
Te	Tyndall very fine sandy loam, deep	Coarse-loamy, mixed, calcareous, thermic Aerice Haplaquepts	Limited	High piping potential; saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Low
Tf	Tyndall silty clay loam	Coarse-loamy, mixed, calcareous, thermic Aerice Haplaquepts	Very limited	Very high piping potential; saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; caving potential is low	High	Low
Va	Valdez silt loam	Fine-silty, mixed, nonacid, thermic Aerice Fluvaquents	Limited	High piping potential; shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet	Limited	Saturation from 2.5 to 6 feet depth; caving potential is low	Moderate	Moderate
Vb	Valdez silt loam, deep	Fine-silty, mixed, nonacid, thermic Aerice Fluvaquents	Somewhat limited	Shrink-swell (LEP 3 to 6); saturation between 2 to 4 feet; high piping potential	Limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; caving potential is low	High	Moderate
Vc	Valdez complex, flooded	Fine-silty, mixed, nonacid, thermic Aerice Fluvaquents	Limited	Saturation between 2 to 4 feet; high piping potential; shrink-swell (LEP 3 to 6)	Limited	Saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; frequent or occasional flooding; caving potential is low	High	Moderate
W	Water	None	Not rated	Not rated	Not rated	Not rated	—	—

Soil Map Unit	Map Unit Name	Taxonomic Classification ^a	Limitations for				Risk of Corrosion ^b	
			Embankments, Dikes, and Levees ^b		Shallow Excavations ^b		Uncoated Steel	Concrete
			Rating Class	Limiting Features ^b	Rating Class	Limiting Features		
Wa	Willows silty clay loam	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet; EC 8 to 16 dS/m	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Low
Wb	Willows clay	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet; EC 8 to 16 dS/m	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent	High	Low
Wg	Willows soils, flooded	Fine, montmorillonitic, thermic Typic Pelloxererts	Very limited	Shrink-swell (LEP >6); MH or CH Unified and PI <40 percent; saturation between 2 to 4 feet; EC 8 to 16 dS/m	Very limited	Caving potential; saturation from 2.5 to 6 feet depth; clay from 40 to 60 percent; frequent or occasional flooding	High	Low
Ya	Yolo silt loam	Fine-silty, mixed, nonacid, thermic Typic Xerorthents	Very limited	Very high piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low
Yb	Yolo silty clay loam	Fine-silty, mixed, nonacid, thermic Typic Xerorthents	Limited	High piping potential; shrink-swell (LEP 3 to 6)	Slight	Caving potential is low	High	Low

^a As given in the SSURGO database
^b As rated by the Natural Resources Conservation Service

Notes: dS/m = decisiemen(s) per meter; EC = electrical conductivity ; LEP = linear extensibility percentage; NRCS = Natural Resources Conservation Service; PI = plasticity index; SCS = Soil Conservation Service; and SSURGO = Soil Survey Geographic Unified Soil Classification System:

MH = elastic silt
 CH = fat clay
 PT = peat
 OH = organic clay or silt, high plasticity
 OL = organic clay or silt, low plasticity

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1 Appendix 10C. Soil Chemical and Physical Properties and Land Use Suitability

Soil Map Unit	Map Unit Name	Moist Bulk Density ^a (g/cm ³)	Organic Matter Content ^b (%)	Linear Extensibility ^c (%)	Soil Erodibility Factor, Kw ^d	Wind Erodibility Group ^e (WEG)	Salinity ^f (dS/m)	Storie Index Rating ^g	Land Capability Classification ^h	Prime Soil ⁱ (Y/N)	Hydrologic Group ^j	Percentage of County within Planning Area
Alameda County												
AaC	Altamont clay, 3 to 15 percent slopes	1.25-1.35	0.0-2.0	6.0-8.9	0.20	7	0.0-2.0	53	3e/4e	N	D	1.73
AaD	Altamont clay, 15 to 30 percent slopes	1.25-1.35	0.0-2.0	6.0-8.9	0.20	7	0.0-2.0	42	4e/4e	N	D	0.32
ArD	Altamont rocky clay, moderately deep, 7 to 30 percent slopes	1.20-1.45	0.0-2.0	6.0-8.9	0.20	7	0.0-2.0	44	4e/4e	N	D	1.02
CdB	Clear Lake clay, drained, 3 to 7 percent slopes	1.25-1.45	0.5-3.0	6.0-8.9	0.20	7	0.0-4.0	44	2e/4e	Y	D	0.38
LaC	Linne clay loam, 3 to 15 percent slopes	1.15-1.30	0.0-3.0	3.0-5.9	0.17	4L	0.0-2.0	62	3e/4e	N	C	15.47
LaD	Linne clay loam, 15 to 30 percent slopes	1.15-1.30	0.0-3.0	3.0-5.9	0.17	4L	0.0-2.0	49	4e	N	C	0.75
Pd	Pescadero clay	1.35-1.55	0.0-2.0	6.0-8.9	0.28	4	4.0-16.0	10	3w/4w	N	D	2.46
RdA	Rincon clay loam, 0 to 3 percent slopes	1.25-1.50	0.0-2.0	6.0-8.9	0.28	6	0.0-2.0	77	2s/4s	Y	C	61.23
RdB	Rincon clay loam, 3 to 7 percent slopes	1.25-1.45	0.0-2.0	6.0-8.9	0.28	6	0.0-2.0	75	2e/4e	Y	C	2.01
Sa	San Ysidro loam	1.45-1.55	0.0-1.0	6.0-8.9	0.37	5	0.0	40	4s/4s	N	D	4.07
Sf	Solano fine sandy loam	1.40-1.65	0.0-0.5	3.0-5.9	0.37	3	0.0-8.0	15	3w/4w	N	C	4.09
W	Water	—	—	—	—	—	—	—	—	N	—	1.01
Contra Costa County												
AbD	Altamont clay, 15 to 30 percent slopes	1.25-1.35	0.0-3.0	6.0-8.9	0.2	7	0.0-2.0	36	3e/4e	N	D	0.07
AbE	Altamont clay, 15 to 30 percent slopes	1.25-1.35	0.0-3.0	6.0-8.9	0.2	7	0.0-2.0	27	4e/4e	N	D	0.38
AcF	Altamont-Fontana Complex, 30 to 50 percent slopes	1.25-1.45	0.0-3.0	6.0-8.9	0.2/0.37	7/4L	0.0-2.0	17/15	6e/6e - 7e/7e	N	D/B	0.02
AdA	Antioch loam, 0 to 2 percent slopes	1.35-1.60	0.0-2.0	6.0-8.9	0.37	6	0.0-2.0	43	4s/4s	N	D	0.31
AdC	Antioch loam, 2 to 9 percent slopes	1.35-1.60	0.0-2.0	6.0-8.9	0.37	6	0.0-2.0	41	4e/4e	N	D	0.21
Bb	Brentwood clay loam	1.35-1.50	0.0-1.0	6.0-8.9	0.28	6	0.0-2.0	80	1/4c	Y	B	5.84
Bc	Brentwood clay loam, wet	1.35-1.50	0.0-1.0	6.0-8.9	0.28	8	0.0-2.0	64	2w/4w	Y	C	1.03
BdE	Briones loamy sand, 5 to 30 percent slopes	1.60-1.70	0.0-1.0	0.0-2.9	0.20	2	—	32	4e/4e	N	B	0.01
CaA	Capay clay, 0 to 2 percent slopes	1.40-1.60	0.0-2.0	6.0-8.9	0.20	8	0.0-2.0	48	2s/4s	Y	D	7.06
CaC	Capay clay, 2 to 9 percent slopes	1.40-1.60	0.0-2.0	6.0-8.9	0.20	7	0.0-2.0	46	2e/4e	Y	D	1.27
CbA	Capay clay, wet, 0 to 2 percent slopes	1.30-1.55	0.0-2.0	6.0-8.9	0.20	7	0.0-4.0	48	2w/4w	Y	D	3.57
Cc	Clear Lake clay	1.25-1.45	0.0-4.0	6.0-8.9	0.20	7	2.0-4.0	48	2w/4w	Y	D	0.79
CkB	Cropley clay, 2 to 5 percent slopes	1.25-1.40	0.0-3.0	6.0-8.9	0.20	7	0.0-2.0	51	2e/4e	N	D	0.15
CmE	Cut and fill Land-Diablo complex, 9 to 30 percent slopes	1.20-1.35	0.0-4.0	6.0-8.9	0.20	7	0.0-2.0	30	4e/4e	N	D	0.10
DaC	Delhi sand, 2 to 9 percent slopes	1.60-1.70	0.0-1.0	0.0-2.9	0.15	1	0.0-2.0	39	3s/6e	N	A	7.44
DdD	Diablo clay, 9 to 15 percent slopes	1.20-1.35	0.0-4.0	6.0-8.9	0.20	7	0.0-2.0	36	3e/4e	N	D	0.13
DdE	Diablo clay, 15 to 30 percent slopes	1.20-1.35	0.0-4.0	6.0-8.9	0.20	7	0.0-2.0	27	4e/4e	N	D	0.44
DdF	Diablo clay, 30 to 50 percent slopes	1.20-1.35	0.0-4.0	6.0-8.9	0.20	7	0.0-2.0	17	6e/6e	N	D	0.17
Ea	Egbert mucky clay loam	1.10-1.40	0.5-1.5	6.0-8.9	0.24	3	0.0	81	2w/4w	Y	D	1.16
Fc	Fluvaquents	—	—	—	—	—	—	10	8w/8w	N	—	1.20
Fd	Fontana-Altamont complex	1.25-1.45	0.0-3.0	6.0-8.9	0.37/0.2	7/4L	0.0-2.0	27/24	6e/6e - 4e/4e	N	B/D	0.00
Ja	Joice muck	0.60-0.80	35-50	0.0-2.9	0.02	2	16.0-48.0	5	7w/7w	N	D	1.84
KaC	Kimball gravelly clay loam, 2 to 9 percent slopes	1.25-1.55	0.0-3.0	6.0-8.9	0.24	6	0.0-2.0	34	4e/4e	N	C	0.32
KaE	Kimball gravelly clay loam, 9 to 30 percent slopes	1.25-1.55	0.0-3.0	6.0-8.9	0.24	6	0.0-2.0	29	4e/4e	N	C	0.01
Kb	Kingile muck	0.80-1.40	0.0-5.0	3.0-5.9	0.05	2	0.0	32	3w/4w	N	D	3.97
LbD	Linne clay loam, 5 to 15 percent slopes	1.40-1.50	0.0-6.0	3.0-5.9	0.2	4L	0.0-2.0	42	3e/4e	N	C	0.63
LbE	Linne clay loam, 15 to 30 percent slopes	1.40-1.50	0.0-6.0	3.0-5.9	0.2	4L	0.0-2.0	32	4e/4e	N	C	0.01
LcE	Lodo clay loam, 9 to 30 percent slopes	1.40-1.55	0.0-6.0	3.0-5.9	0.24	6	—	27	4e/4e	N	D	0.02
LcF	Lodo clay loam, 30 to 50 percent slopes	1.40-1.55	0.0-6.0	3.0-5.9	0.24	6	—	13	6e/6e	N	D	0.13
Ld	Lodo-Rock outcrop complex	1.40-1.55	0.0-6.0	3.0-5.9	0.24	6	—	11	7e/7e - 8/8	N	D	0.07
LhE	Los Osos clay loam, 15 to 30 percent slopes	1.35-1.50	0.0-4.0	6.0-8.9	0.28	6	—	30	4e/4e	N	C	0.18
LhF	Los Osos clay loam, 30 to 50 percent slopes	1.35-1.50	0.0-4.0	6.0-8.9	0.28	6	—	19	6e/6e	N	C	0.06
Ma	Marcuse sand	1.35-1.70	0.0-1.0	6.0-8.9	0.32	1	—	5	3w/6w	N	D	0.24

Soil Map Unit	Map Unit Name	Moist Bulk Density ^a (g/cm ³)	Organic Matter Content ^b (%)	Linear Extensibility ^c (%)	Soil Erodibility Factor, Kw ^d	Wind Erodibility Group ^e (WEG)	Salinity ^f (dS/m)	Storie Index Rating ^g	Land Capability Classification ^h	Prime Soil ⁱ (Y/N)	Hydrologic Group ^j	Percentage of County within Planning Area
Mb	Marcuse clay	1.35-1.50	0.0-1.0	6.0-8.9	0.2	7	8.0-16.0	6	3w/4w	N	D	3.80
Mc	Marcuse clay, strongly alkaline	1.35-1.50	0.0-1.0	6.0-8.9	0.2	7	16.0	6	6w/6w	N	D	0.54
Md	Merritt loam	1.35-1.55	0.0-4.0	3.0-5.9	0.28	8	0.0-2.0	58	2w/4w	Y	D	0.64
Ob	Omni silty clay	1.30-1.55	0.0-4.0	6.0-8.9	0.24	8	2.0-16.0	11	3w/4w	N	D	0.16
Pb	Pescadero clay loam	1.40-1.60	0.0-4.0	6.0-8.9	0.28	8	16.0	28	4s/4s	N	D	0.04
Pd	Piper sand	1.50-1.75	0.0-2.0	0.0-2.9	0.2	1	0.0-4.0	27	4w/4w	N	C	0.19
Pe	Piper loamy sand	1.50-1.70	0.0-2.0	0.0-2.9	0.24	2	0.0-4.0	27	4w/4w	N	C	2.74
Ph	Piper fine sandy loam	1.50-1.70	0.0-2.0	0.0-2.9	0.24	3	0.0-4.0	16	4s/4e	N	C	2.39
RbA	Rincon clay loam, 0 to 2 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.28	6	0.0-2.0	67	2s/4s	Y	C	1.97
RbC	Rincon clay loam, 2 to 9 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.28	6	0.0-2.0	63	2e/4e	Y	C	4.12
RbD	Rincon clay loam, 9 to 15 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.28	6	0.0-2.0	60	3e/4e	N	C	0.69
RcA	Rincon clay loam, wet, 0 to 2 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.28	8	0.0-2.0	53	2w/4w	Y	D	0.54
Rd	Rindge muck	0.80-1.00	20-55	0.0-2.9	0.02	2	0.0	40	3w/4w	Y	D	10.61
Rh	Ryde silt loam	0.80-1.55	2.0-40	3.0-5.9	0.43	8	—	49	2w/4w	Y	D	2.42
Sa	Sacramento clay	1.30-1.50	0.0-5.0	6.0-8.9	0.2	8	0.0-2.0	46	3w/4w	Y	D	2.92
Sb	Sacramento clay, alkali	1.30-1.50	0.0-5.0	6.0-8.9	0.2	8	0.0-8.0	36	3w/4w	N	D	1.31
Sc	San Ysidro loam	1.35-1.70	0.0-1.0	6.0-8.9	0.43	6	0.0-2.0	43	4s/4s	N	D	1.11
Se	Shima muck	0.80-1.70	0.0-55	3.0-5.9	0.1	2	0.0-4.0	30	3w/4w	N	D	2.94
Sh	Solano loam	1.40-1.65	0.0-4.0	6.0-8.9	0.37	5	8.0-16.0	6	6w/6w	N	D	1.36
Sk	Solano loam, strongly alkali	1.40-1.65	0.0-4.0	6.0-8.9	0.37	5	8.0-16.0	6	6w/6w	N	D	0.32
Sm	Sorrento silty clay loam	1.40-1.55	0.0-4.0	3.0-5.9	0.24	4L	0.0-2.0	87	1/4c	Y	B	1.40
Sn	Sorrento silty clay loam, sand substratum	1.40-1.70	0.0-4.0	3.0-5.9	0.24	4L	0.0-2.0	70	2s/4s	Y	B	0.20
So	Sycamore silty clay loam	1.45-1.55	0.5-3.0	3.0-5.9	0.37	8	0.0-2.0	79	1/4c	Y	C	0.93
Sp	Sycamore silty clay loam, clay substratum	1.30-1.55	0.5-3.0	6.0-8.9	0.37	8	0.0-2.0	75	2s/4s	Y	C	0.29
Ub	Urban land	—	—	—	—	—	—	—	8	N	—	0.79
Vb	Venice muck	0.08-1.00	25-55	0.0-2.9	0.02	2	0.0-2.0	38	3w/4w	N	D	0.44
W	Water	—	—	—	—	—	—	—	—	N	—	14.86
Wa	Webile muck	0.80-1.50	1.0-65	6.0-8.9	0.05	2	0.0-2.0	32	3w/4w	Y	D	0.98
ZaA	Zamora silty clay loam, 0 to 2 percent slopes	1.30-1.55	0.0-4.0	3.0-5.9	0.32	7	0.0-2.0	84	1/4c	Y	B	0.33
ZaB	Zamora silty clay loam, 2 to 5 percent slopes	1.30-1.55	0.0-4.0	3.0-5.9	0.32	7	0.0-2.0	80	2e/4e	Y	B	0.12
Sacramento County												
111	Bruella sandy loam, 0 to 2 percent slopes	1.45-1.65	0.0-1.0	3.0-5.9	0.32	3	0.0	68	1/3c	Y	C	0.01
112	Bruella sandy loam, 2 to 5 percent slopes	1.45-1.65	0.0-1.0	3.0-5.9	0.32	3	0.0	65	2e/3e	Y	C	0.01
114	Clear Lake clay, partially drained, 0 to 2 percent slopes, frequently flooded	1.30-1.55	0.0-4.0	6.0-8.9	0.24	7	0.0-2.0	22	4w/4w	Y*	D	0.38
115	Clear Lake clay, hardpan substratum, drained, 0 to 1 percent slopes	1.30-1.55	0.0-5.0	6.0-8.9	0.24	7	0.0-2.0	25	2s/3s	Y	D	1.24
116	Columbia sandy loam, partially drained, 0 to 2 percent slopes	1.50-1.65	0.0-2.0	0.0-2.9	0.32	3	0.0	72	2w/3w	Y	A	0.25
117	Columbia sandy loam, 0 to 2 percent slopes	1.50-1.65	0.0-2.0	0.0-2.9	0.32	7	0.0	86	2s/3s	Y	A	0.04
118	Columbia sandy loam, drained, 0 to 2 percent slopes, occasionally flooded	1.50-1.65	0.0-2.0	0.0-2.9	0.32	7	0.0	80	2w/3w	Y	A	0.03
119	Columbia sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes	1.45-1.70	0.0-2.0	6.0-8.9	0.32	7	0.0	80	2w/3w	Y	A	0.18
120	Columbia sandy loam, clayey substratum, drained, 0 to 2 percent slopes	1.45-1.70	0.0-2.0	6.0-8.9	0.32	7	0.0	77	2s/3s	Y	A	0.14
121	Columbia sandy loam, clayey substratum, drained, 0 to 2 percent slopes, occasionally flooded	1.45-1.70	0.0-2.0	6.0-8.9	0.32	7	0.0	65	2w/3w	Y	A	0.08
122	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes	1.10-1.70	0.0-2.0	3.0-5.9	0.32	3	0.0	85	2w/3w	Y	A	0.25
123	Columbia silt loam, drained, 2 to 5 percent slopes	1.45-1.70	0.0-1.0	0.0-2.9	0.43	5	0.0	81	2e/3e	Y	B	0.57
127	Cosumnes silt loam, partially drained, 0 to 2 percent slopes	1.35-1.50	0.0-2.0	6.0-8.9	0.43	5	0.0	68	2w/3w	Y	D	0.80
128	Cosumnes silt loam, drained, 0 to 2 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.43	5	0.0	81	2s/3s	Y	D	0.95
129	Cosumnes silt loam, drained, 0 to 2 percent slopes, occasionally flooded	1.35-1.55	0.0-2.0	6.0-8.9	0.43	5	0.0	68	2w/3w	Y	D	0.89
133	Dierssen sandy loam, drained, 0 to 2 percent slopes	1.35-1.60	0.0-3.0	6.0-8.9	0.24	5	0.0-2.0	22	3w/3w	N	D	0.25
134	Dierssen sandy clay loam, drained, 0 to 2 percent slopes	1.35-1.55	0.0-3.0	6.0-8.9	0.28	5	0.0-2.0	18	3w/3w	N	D	5.32
135	Dierssen clay loam, deep, drained, 0 to 2 percent slopes	1.35-1.65	0.0-3.0	6.0-8.9	0.32	6	0.0-2.0	27	2w/3w	Y	D	1.70
136	Dumps	—	0.0	—	—	—	0.0	—	8	N	—	0.01

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137	Durixeralfs, 0 to 1 percent slopes	1.50-1.65	0.0-0.5	6.0-8.9	0.24	4	0.0-2.0	12	4s/4s	N	D	0.02
138	Durixeralfs-Galt complex, 0 to 2 percent slopes	1.30-1.65	0.0-2.0	6.0-8.9	0.24	4/7	0.0-2.0	11/15	4s	N	D	0.08
139	Egbert clay, 0 to 2 percent slopes	1.20-1.40	0.0-10	6.0-8.9	0.24	4	0.0-2.0	20	4w/4w	Y**	D	0.65
140	Egbert clay, drained, 2 to 5 percent slopes	1.20-1.40	0.0-10	6.0-8.9	0.24	5	0.0-2.0	45	2e/3e	Y	C	0.37
141	Egbert clay, partially drained, 0 to 2 percent slopes	1.20-1.50	0.0-10	6.0-8.9	0.24	5	0.0-2.0	31	2w/3w	Y	D	12.27
142	Egbert clay, partially drained, 0 to 2 percent slopes, frequently flooded	1.20-1.50	0.0-10	6.0-8.9	0.24	5	0.0-2.0	20	4w/4w	Y*	D	0.32
143	Egbert-Urban Land complex, partially drained, 0 to 2 percent slopes	1.20-1.50	0.0-10	6.0-8.9	0.24	5	0.0-2.0	—	3w	N	D	0.79
150	Fluvaquents, 0 to 2 percent slopes, frequently flooded	—	—	—	—	—	—	7	7w	N	D	1.05
151	Galt clay, leveled, 0 to 1 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	15	3s/3s	N	D	1.02
152	Galt clay, 0 to 2 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	14	3s/3s	N	D	0.78
153	Galt clay, 2 to 5 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	15	3e	N	D	0.02
154	Galt-Urban Land complex, 0 to 2 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	—	3s	N	D	0.65
155	Gazwell mucky clay, partially drained, 0 to 2 percent slopes	0.08-1.20	0.0-15	3.0-5.9	0.20	3	0.0	43	3w/3w	Y	B	20.27
167	Lang fine sandy loam, drained, 0 to 2 percent slopes	1.50-1.70	0.0-1.0	0.0-2.9	0.28	3	0.0	66	2w/3w	Y	A	0.21
168	Lang-Urban Land complex, drained, 0 to 2 percent slopes	1.50-1.70	0.0-1.0	0.0-2.9	0.28	3	0.0-2.0	—	3w	N	A	0.01
169	Laugenour loam, partially drained, 0 to 2 percent slopes	1.45-1.60	0.0-1.0	0.0-2.9	0.37	5	0.0-2.0	57	2w/3w	N	B	1.56
170	Laugenour-Urban Land complex, partially drained, 0 to 2 percent slopes	1.45-1.60	0.0-1.0	0.0-2.9	0.37	5	0.0-2.0	—	3w	N	B	0.11
177	Medisaprists, 0 to 2 percent slopes, frequently flooded	0.80-1.00	35-65	0.0-2.9	0.02	2	0.0	4	6w	N	D	1.23
186	Orthents-Urban Land complex, 0 to 2 percent slopes	—	0.0	—	—	5	0.0	—	7e	N	—	0.00
190	Pits	—	0.0	—	—	—	0.0	—	8s	N	—	0.01
200	Rindge muck, partially drained, 0 to 2 percent slopes	0.80-1.00	35-60	0.0-2.9	0.02	2	2.0-4.0	57	3w/3w	Y	A	1.81
201	Rindge mucky silt loam, partially drained, 0 to 2 percent slopes	0.80-1.30	10-60	0.0-2.9	0.28	3	2.0-4.0	57	3w/3w	Y	A	8.02
202	Rindge mucky clay loam, 0 to 2 percent slopes	0.80-1.20	10-60	0.0-2.9	0.28	3	2.0-4.0	31	4w/4w	Y**	A	0.24
206	Sailboat silt loam, partially drained, 0 to 2 percent slopes	1.45-1.60	0.0-2.0	3.0-5.9	0.43	5	0.0	57	3w	Y	C	5.79
208	Sailboat silt loam, drained, 0 to 2 percent slopes, occasionally flooded	1.45-1.60	0.0-2.0	3.0-5.9	0.43	5	0.0	64	2w/3w	Y	C	0.00
209	Sailboat-Urban Land complex, partially drained, 0 to 2 percent slopes	1.45-1.60	0.0-2.0	3.0-5.9	0.43	5	0.0	—	2w/3w	N	C	0.12
210	Sailboat variant silty clay loam, partially drained, 0 to 2 percent slopes	0.80-1.45	0.0-3.0	3.0-5.9	0.37	7	0.0-4.0	51	3w/3w	Y	C	0.59
213	San Joaquin silt loam, leveled, 0 to 1 percent slopes	1.50-1.80	0.0-1.0	6.0-8.9	0.37	5	0.0	28	3s/3s	N	D	1.36
214	San Joaquin silt loam, 0 to 3 percent slopes	1.50-1.80	0.0-1.0	6.0-8.9	0.37	5	0.0	28	3s/3s	N	D	0.59
216	San Joaquin-Durixeralfs complex, 0 to 1 percent slopes	1.50-1.80	0.0-1.0	6.0-8.9	0.37/0.24	5/4	0.0-2.0	12/28	4s/4s	N	D	0.25
217	San Joaquin-Galt complex, leveled, 0 to 1 percent slopes	1.30-1.80	0.0-1.0	6.0-8.9	0.37/0.43	5/5	0.0-2.0	19/28	3s/3s	N	D	0.74
218	San Joaquin-Galt complex, 0 to 3 percent slopes	1.30-1.80	0.0-2.0	6.0-8.9	0.37/0.24	5/7	0.0-2.0	27/15	3s - 3w	N	D	0.09
219	San Joaquin-Urban Land complex, 0 to 2 percent slopes	1.50-1.80	0.0-1.0	6.0-8.9	0.37	5	0.0	—	4s	N	D	0.38
222	Scribner clay loam, partially drained, 0 to 2 percent slopes	1.35-1.55	2.0-10	3.0-5.9	0.24	4	0.0-2.0	48	2w/3w	Y	C	7.45
225	Tinnin loamy sand, 0 to 2 percent slopes	1.60-1.75	0.0-2.0	0.0-2.9	0.15	2	0.0-2.0	66	4e	N	A	0.65
227	Urban Land	—	0.0	—	—	—	0.0	—	8	N	—	0.03
230	Valpac loam, partially drained, 0 to 2 percent slopes	1.40-1.60	0.0-3.0	3.0-5.9	0.37	5	0.0-2.0	57	2w/3w	Y	C	3.25
231	Valpac-Urban Land complex, partially drained, 0 to 2 percent slopes	1.40-1.60	0.0-3.0	3.0-5.9	0.37	5	0.0-2.0	—	3w - 8	N	C	0.41
232	Valpac variant sandy loam, partially drained, 0 to 2 percent slopes	1.10-1.65	0.0-3.0	0.0-2.9	0.32	3	0.0-2.0	32	3w/3w	Y	B	0.90
238	Xerarents-San Joaquin complex, 0 to 1 percent slopes	1.45-1.80	0.0-1.0	6.0-8.9	0.32	3	0.0	38/28	3s/3s	N	D	0.11
244	Xeropsamments, 1 to 15 percent slopes	—	—	6.0-8.9	—	—	—	39	4s/6e	N	A	0.79
247	Water	—	—	—	—	—	—	—	—	N	—	11.93
San Joaquin County												
101	Acampo sandy loam, 0 to 2 percent slopes	1.50-1.65	0.0-3.0	0.0-2.9	0.32	3	0.0-2.0	57	2s/4s	Y	C	0.07
108	Arents, saline-sodic, 0 to 2 percent slopes	1.35-1.65	0.0-1.0	3.0-5.9	0.43	3	4.0-16.0	14	3w/4w	N	D	0.10
109	Bisgani loamy coarse sand, partially drained, 0 to 2 percent slopes	1.60-1.70	0.0-3.0	0.0-2.9	0.17	2	0.0-4.0	30	3w/4w	N	B	0.23
110	Boggiano clay loam, 0 to 2 percent slopes	1.40-1.55	0.0-3.0	3.0-5.9	0.37	4	0.0-2.0	61	2s/4s	Y	B	0.00
118	Capay clay, 0 to 2 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	44	2s/4s	Y	D	5.06
119	Capay clay, 2 to 5 percent slopes	1.40-1.60	0.2-2.0	6.0-8.9	0.24	7	0.0-2.0	41	2e/4e	Y	D	0.02
120	Capay clay, saline-sodic, 0 to 2 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.32	7	4.0-8.0	28	2w/4w	N	D	0.28

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121	Capay clay, wet, 0 to 2 percent slopes	1.30-1.55	0.0-2.0	6.0-8.9	0.24	7	0.0-4.0	40	2w/4w	Y	D	2.47
122	Capay-Urban Land complex, 0 to 2 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	44/0	2s/4s	Y	D	0.80
130	Columbia fine sandy loam, drained, 0 to 2 percent slopes	1.50-1.65	0.0-2.0	0.0-2.9	0.32	7	0.0-2.0	85	2s/4s	Y	B	1.52
131	Columbia fine sandy loam, partially drained, 0 to 2 percent slopes, occasionally flooded	1.50-1.60	0.0-2.0	0.0-2.9	0.32	7	0.0-2.0	48	2w/4w	Y	C	0.34
132	Columbia fine sandy loam, channeled, partially drained, 0 to 2 percent slopes, frequently flooded	1.50-1.65	0.0-2.0	0.0-2.9	0.32	7	0.0-2.0	20	4w/4w	Y*	C	0.31
133	Columbia fine sandy loam, clayey substratum, partially drained, 0 to 2 percent slopes	1.45-1.60	0.0-2.0	6.0-8.9	0.32	7	0.0-2.0	48	2w/4w	Y	C	0.65
137	Cortina gravelly sandy loam, 0 to 5 percent slopes	1.45-1.70	0.0-1.0	0.0-2.9	0.20	4	0.0-2.0	42	3s/4s	N	B	0.01
138	Cosumnes silty clay loam, drained, 0 to 2 percent slopes	1.35-1.50	0.0-2.0	6.0-8.9	0.37	7	0.0-2.0	68	2s/4s	Y	C	0.25
139	Cosumnes silty clay loam, drained, 0 to 2 percent slopes, occasionally flooded	1.35-1.50	0.0-2.0	6.0-8.9	0.37	7	0.0-2.0	58	2w/4w	Y	C	0.23
140	Coyotecreek silt loam, 0 to 2 percent slopes, occasionally flooded	1.40-1.60	0.0-3.0	0.0-2.9	0.43	6	0.0-2.0	80	2w/4w	Y	B	0.01
142	Delhi loamy sand, 0 to 2 percent slopes	1.60-1.70	0.0-1.0	0.0-2.9	0.24	2	0.0-2.0	65	3s/4s	N	A	0.03
144	Dello sand, partially drained, 0 to 2 percent slopes, occasionally flooded	1.60-1.70	0.0-1.0	0.0-2.9	0.10	1	0.0-2.0	20	3w/4w	N	C	0.13
145	Dello loamy sand, drained, 0 to 2 percent slopes	1.60-1.70	0.0-1.0	0.0-2.9	0.15	2	0.0-2.0	52	3w/4w	N	A	0.30
146	Dello loamy sand, partially drained, 0 to 2 percent slopes	1.60-1.70	0.0-1.0	0.0-2.9	0.15	2	0.0-2.0	39	3w/4w	N	C	0.39
147	Dello sandy loam, clayey substratum, drained, 0 to 2 percent slopes	1.40-1.70	0.0-1.0	6.0-8.9	0.24	3	0.0-2.0	58	3w/4w	N	B	0.11
148	Dello clay loam, drained, 0 to 2 percent slopes, overwashed	1.40-1.70	0.0-1.0	3.0-5.9	0.28	4	0.0-2.0	55	3w/4w	N	A	0.39
149	Devries sandy loam, drained, 0 to 2 percent slopes	1.50-1.60	0.0-3.0	0.0-2.9	0.24	3	0.0-2.0	18	3w/4w	N	C	1.32
150	Dumps	—	—	—	—	—	—	0	8s/8s	N	—	0.08
152	Egbert mucky clay loam, partially drained, 0 to 2 percent slopes	1.10-1.40	0.0-2.0	6.0-8.9	0.28	3	0.0-2.0	58	2w/4w	Y	C	0.47
153	Egbert silty clay loam, partially drained, 0 to 2 percent slopes	1.30-1.40	0.0-1.0	6.0-8.9	0.28	4	0.0-2.0	58	2w/4w	Y	C	3.35
154	Egbert silty clay loam, sandy substratum, partially drained, 0 to 2 percent slopes	1.30-1.75	0.0-1.0	6.0-8.9	0.28	4	0.0-2.0	41	2w/4w	Y	C	2.82
155	Egbert-Urban Land complex, partially drained, 0 to 2 percent slopes	1.30-1.40	0.0-1.0	6.0-8.9	0.28	4	0.0-2.0	55/0	2w/4w	Y	C	0.25
156	El Solyo clay loam, 0 to 2 percent slopes	1.35-1.50	0.0-2.0	6.0-8.9	0.43	4	0.0-4.0	72	2s/4s	Y	C	0.60
158	Finrod clay loam, 0 to 2 percent slopes	1.25-1.50	0.0-3.0	6.0-8.9	0.28	4	0.0-2.0	40	2s/4s	Y	C	0.01
159	Fluvaquents, 0 to 2 percent slopes, frequently flooded	1.40-1.55	2.0-2.0	3.0-5.9	0.37	7	0.0	7	7w/7w	N	D	1.22
160	Galt clay, 0 to 2 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	25	3s/4s	N	D	0.01
166	Grangeville fine sandy loam, partially drained, 0 to 2 percent slopes	1.50-1.70	0.0-6.0	0.0-2.9	0.32	7	0.0-2.0	76	2w/4w	Y	B	2.48
167	Grangeville clay loam, partially drained, 0 to 2 percent slopes	1.40-1.70	0.0-6.0	3.0-5.9	0.32	6	0.0-2.0	65	2w/4w	Y	B	0.91
168	Guard clay loam, 0 to 2 percent slopes	1.40-1.55	0.0-5.0	3.0-5.9	0.28	4L	0.0-2.0	23	3w/4w	Y	C	0.15
169	Guard clay loam, drained, 0 to 2 percent slopes	1.40-1.55	0.0-5.0	3.0-5.9	0.28	4L	0.0-2.0	45	2w/4w	Y	C	4.34
175	Honcut sandy loam, 0 to 2 percent slopes	1.55-1.65	0.0-1.0	0.0-2.9	0.28	3	0.0-2.0	95	2s/4s	Y	B	0.07
179	Itano silty clay loam, partially drained, 0 to 2 percent slopes	1.40-1.55	0.0-1.0	3.0-5.9	0.37	6	0.0-2.0	43	3w/4w	N	C	1.07
180	Jacktone clay, 0 to 2 percent slopes	1.35-1.60	0.0-5.0	6.0-8.9	0.24	7	0.0-2.0	25	3s/4s	N	D	0.12
181	Jacktone-Urban Land complex, 0 to 2 percent slopes	1.35-1.60	0.0-5.0	6.0-8.9	0.24	7	0.0-2.0	25/0	3s/4s	N	D	2.27
182	Jahant loam, 0 to 2 percent slopes	1.40-1.55	0.0-3.0	6.0-8.9	0.37	5	0.0-2.0	40	3s/4s	Y	D	0.06
190	Kingile muck, partially drained, 0 to 2 percent slopes	0.80-1.40	0.0-4.5	3.0-5.9	0.02	2	0.0-2.0	34	3w/4w	Y	C	5.57
191	Kingile-Ryde complex, partially drained, 0 to 2 percent slopes	0.80-1.45	0.0-4.5	3.0-5.9	0.28	2/7	0.0-2.0	34/40	3w/4w	Y	C	1.60
196	Manteca fine sandy loam, 0 to 2 percent slopes	1.50-1.70	0.0-2.0	0.0-2.9	0.28	3	0.0-2.0	30	3s/4s	N	C	1.01
197	Merritt silty clay loam, partially drained, 0 to 2 percent slopes	1.35-1.70	0.0-4.0	3.0-5.9	0.43	7	0.0-2.0	68	2w/4w	Y	B	8.56
198	Merritt silty clay loam, partially drained, 0 to 2 percent slopes, occasionally flooded	1.35-1.70	0.0-4.0	3.0-5.9	0.43	7	0.0-2.0	58	2w/4w	Y	B	0.21
201	Nord loam, 0 to 2 percent slopes	1.45-1.60	0.0-2.0	0.0-2.9	0.37	7	0.0-2.0	100	1/4c	Y	B	0.01
204	Peltier mucky clay loam, partially drained, 0 to 2 percent slopes	1.10-1.40	0.0-2.5	6.0-8.9	0.28	3	0.0-2.0	34	3w/4w	Y	C	5.08
205	Peltier mucky clay loam, organic substratum, partially drained, 0 to 2 percent slopes	0.80-1.35	0.0-2.0	6.0-8.9	0.28	3	0.0-2.0	41	3w/4w	Y	C	0.35
211	Pescadero clay loam, partially drained, 0 to 2 percent slopes	1.40-1.60	0.0-4.0	6.0-8.9	0.32	4L	4.0-16.0	10	3w/4w	N	D	0.34
213	Piper sandy loam, partially drained, 0 to 2 percent slopes	1.50-1.70	0.0-2.0	0.0-2.9	0.28	3	0.0-4.0	38	3w/4w	N	C	0.11
214	Pits, gravel	—	—	—	—	—	—	0	8s/8s	N	A	0.04
222	Reiff fine sandy loam, 0 to 2 percent slopes, occasionally flooded	1.50-1.65	0.0-2.0	0.0-2.9	0.32	5	0.0-2.0	76	2w/4w	Y	B	0.06
223	Reiff loam, 0 to 2 percent slopes	1.45-1.65	0.0-2.0	0.0-2.9	0.37	5	0.0	90	2s/4s	Y	B	0.12
224	Rindge mucky silt loam, partially drained, 0 to 2 percent slopes, overwashed	0.80-1.30	0.0-2.5	0.0-2.9	0.28	3	0.0-2.0	47	3w/4w	Y	C	1.71
225	Rindge muck, partially drained, 0 to 2 percent slopes	0.80-1.00	0.0-5.5	0.0-2.9	0.02	2	0.0-2.0	47	3w/4w	Y	C	9.74

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226	Rioblancho clay loam, drained, 0 to 2 percent slopes	1.40-1.60	0.0-5.0	3.0-5.9	0.28	6	0.0-2.0	31	3w/4w	N	C	0.67
227	Rioblancho-Urban Land complex, drained, 0 to 2 percent slopes	1.40-1.60	0.0-5.0	3.0-5.9	0.28	6	0.0-2.0	31/0	3w/4w	N	C	0.39
230	Ryde clay loam, partially drained, 0 to 2 percent slopes	0.80-1.45	0.0-10	3.0-5.9	0.28	7	0.0-2.0	40	3w/4w	Y	C	3.22
231	Ryde silty clay loam, organic substratum, partially drained, 0 to 2 percent slopes	0.80-1.50	0.0-10	3.0-5.9	0.28	7	0.0-2.0	43	3w/4w	Y	C	0.69
232	Ryde clay loam, sandy substratum, partially drained, 0 to 2 percent slopes	0.80-1.75	0.0-10	3.0-5.9	0.28	7	0.0-2.0	36	3w/4w	Y	C	1.17
233	Ryde-Peltier complex, partially drained, 0 to 2 percent slopes	0.80-1.45	0.0-25	6.0-8.9	0.28	7/3	0.0-2.0	34/40	3w/4w	Y	C	1.50
234	Sailboat silt loam, drained, 0 to 2 percent slopes	1.45-1.60	0.0-2.0	3.0-5.9	0.43	5	0.0-2.0	95	1/4s	Y	B	0.75
235	Sailboat silt loam, drained, 0 to 2 percent slopes, occasionally flooded	1.45-1.60	0.0-2.0	3.0-5.9	0.43	5	0.0-2.0	80	2w/4w	Y	B	0.10
238	San Joaquin loam, 0 to 2 percent slopes	1.50-1.65	0.0-1.0	6.0-8.9	0.37	5	0.0-2.0	22	4s/4s	N	D	0.02
241	San Joaquin complex, 0 to 1 percent slopes	1.50-1.65	0.0-1.0	6.0-8.9	0.37	5	0.0-2.0	25/32	3s/4s	N	D	0.01
243	Scribner clay loam, partially drained, 0 to 2 percent slopes	1.35-1.55	0.0-10	3.0-5.9	0.24	4	0.0-2.0	40	2w/4w	Y	C	0.97
244	Scribner clay loam, sandy substratum, partially drained, 0 to 2 percent slopes	1.35-1.70	0.0-10	3.0-5.9	0.24	4	0.0-2.0	36	2w/4w	Y	C	0.12
245	Scribner-Urban Land complex, partially drained, 0 to 2 percent slopes	1.35-1.55	0.0-10	3.0-5.9	0.24	4	0.0-2.0	40/0	2w/4w	Y	C	0.52
246	Shima muck, partially drained, 0 to 2 percent slopes	0.80-1.70	0.0-55	3.0-5.9	0.02	2	0.0-4.0	34	3w/4w	Y	C	0.31
247	Shinkee muck, partially drained, 0 to 2 percent slopes	0.80-1.60	0.0-65	3.0-5.9	0.02	2	0.0-2.0	43	3w/4w	Y	C	1.33
249	Stockton silty clay loam, 0 to 2 percent slopes, overwashed	1.30-1.55	0.0-2.0	6.0-8.9	0.37	7	0.0-2.0	36	2s/4s	Y	D	0.00
250	Stockton clay, 0 to 2 percent slopes	1.30-1.55	0.0-5.0	6.0-8.9	0.24	7	0.0-2.0	20	2s/4s	Y	D	0.06
251	Stockton-Urban Land complex, 0 to 2 percent slopes	1.30-1.55	0.0-5.0	6.0-8.9	0.24	7	0.0-2.0	20/0	2s/4s	Y	D	0.02
252	Stomar clay loam, 0 to 2 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.37	4	0.0-2.0	68	2s/4s	Y	C	2.81
253	Stomar clay loam, wet, 0 to 2 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.37	4	0.0-2.0	61	2w/4w	Y	C	0.31
254	Timor loamy sand, 0 to 2 percent slopes	1.60-1.70	0.0-2.0	0.0-2.9	0.17	2	0.0-2.0	43	3s/4s	N	A	0.18
255	Tinnin loamy coarse sand, 0 to 2 percent slopes	1.60-1.75	0.0-3.0	0.0-2.9	0.17	2	0.0-2.0	57	3s/4s	N	A	0.70
256	Tokay fine sandy loam, 0 to 2 percent slopes	1.50-1.65	0.0-3.0	0.0-2.9	0.32	3	0.0-2.0	95	1/4c	Y	B	0.14
258	Trahern clay loam, partially drained, 0 to 2 percent slopes	1.35-1.55	0.0-2.0	6.0-8.9	0.37	4	0.0-8.0	9	3w/4w	N	D	0.25
259	Tujung loamy sand, 0 to 2 percent slopes	1.60-1.70	0.0-1.0	0.0-2.9	0.20	2	0.0-2.0	65	3e/4e	N	A	0.22
260	Urban land	—	—	—	—	—	—	0	8/8	N	—	0.19
261	Valdez silt loam, organic substratum, partially drained, 0 to 2 percent slopes	0.80-1.55	0.0-1.0	3.0-5.9	0.43	5	0.0-2.0	47	3w/4w	Y	C	2.69
263	Venice mucky silt loam, partially drained, 0 to 2 percent slopes, overwashed	0.08-1.20	0.0-25	0.0-2.9	0.28	3	0.0-2.0	47	3w/4w	Y	C	0.32
264	Venice muck, partially drained, 0 to 2 percent slopes	0.08-1.00	0.0-55	0.0-2.9	0.02	2	0.0-2.0	43	3w/4w	Y	C	1.03
265	Veritas sandy loam, partially drained, 0 to 2 percent slopes	1.50-1.65	0.0-3.0	0.0-2.9	0.24	3	0.0-2.0	33	2w/4w	Y	B	0.14
266	Veritas fine sandy loam, 0 to 2 percent slopes	1.50-1.65	0.0-2.0	0.0-2.9	0.28	3	0.0-4.0	57	2s/4s	Y	B	0.68
267	Veritas silty clay loam, 0 to 2 percent slopes, overwashed	1.45-1.60	0.0-2.0	3.0-5.9	0.37	7	0.0-4.0	43	2s/4s	Y	B	0.13
268	Vernalis clay loam, 0 to 2 percent slopes	1.40-1.60	0.0-2.0	3.0-5.9	0.32	4	0.0-2.0	85	1/4c	Y	B	0.41
269	Vernalis clay loam, wet, 0 to 2 percent slopes	1.40-1.60	0.5-2.0	3.0-5.9	0.32	4	0.0	76	2w/4w	Y	B	0.23
273	Webile muck, partially drained, 0 to 2 percent slopes	0.80-1.50	0.0-65	6.0-8.9	0.02	2	0.0-2.0	36	3w/4w	Y	C	0.37
274	Willows clay, partially drained, 0 to 2 percent slopes	1.40-1.55	0.0-3.0	6.0-8.9	0.28	7	2.0-16.0	27	3w/4w	N	D	1.23
280	Yellowlark gravelly loam, 2 to 5 percent slopes	1.35-1.55	0.5-2.0	6.0-8.9	0.24	6	0.0	32	2e/4e	N	C	0.55
281	Zacharias clay loam, 0 to 2 percent slopes	1.40-1.55	0.0-2.0	3.0-5.9	0.37	4	0.0-2.0	81	1/4c	Y	B	0.20
282	Zacharias gravelly clay loam, 0 to 2 percent slopes	1.40-1.60	0.0-2.0	3.0-5.9	0.20	4L	0.0-2.0	66	2s/4s	Y	B	0.17
284	Water	—	—	—	—	—	—	—	—	N	—	5.42
M-W	Miscellaneous Water	—	—	—	—	—	—	—	—	N	—	0.01
Solano County												
AcC	Altamont clay, 2 to 9 percent slopes	1.20-1.45	0.5-3.0	6.0-8.9	0.20	7	0.0-2.0	62	3e/4e	N	D	0.47
AcE	Altamont clay, 9 to 30 percent slopes	1.20-1.45	0.5-3.0	6.0-8.9	0.20	7	0.0-2.0	45	4e/4e	N	D	0.58
AcF2	Altamont clay, 30 to 50 percent slopes eroded	1.20-1.45	0.5-3.0	6.0-8.9	0.20	7	0.0-2.0	22	6e/6e	N	D	0.19
AlC	Altamont-San Ysidro-San Benito complex, 2 to 9 percent slopes	1.20-1.70	0.0-4.0	6.0-8.9	0.20/0.43/0.24	7/3/6	0.0-2.0	62/65/52	3e/4e - 4e/4e	N	D/D/B	0.18
AlE	Altamont-San Ysidro-San Benito complex, 9 to 30 percent slopes	1.20-1.70	0.0-4.0	6.0-8.9	0.24/0.37/0.32	7/3/6	0.0-2.0	45/59/38	4e/4	N	D/D/B	0.00
AmC	Altamont-Diablo clays, 2 to 9 percent slopes	1.20-1.45	0.5-4.0	6.0-8.9	0.24	7	0.0-2.0	62/46	3e/4e	N	D	0.33
AmE2	Altamont-Diablo clays, 9 to 30 percent slopes	1.20-1.45	0.5-4.0	6.0-8.9	0.24	7	0.0-2.0	43/34	4e/4e	N	D	0.18
An	Alviso silty clay loam	1.20-1.40	0.0-1.0	6.0-8.9	0.32	7	8.0-16.0	14	3w/4w	N	D	0.84

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AoA	Antioch-San Ysidro complex, 0 to 2 percent slopes	1.35-1.70	0.0-2.0	6.0-8.9	0.43/0.37	5/3	0.0-2.0	80/67	4s/4e	N	D	3.19
AoC	Antioch-San Ysidro complex, 2 to 9 percent slopes	1.35-1.70	0.0-2.0	6.0-8.9	0.37/0.43	5/3	0.0-2.0	78/65	4e/4e	N	D	0.70
AsA	Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes	1.35-1.70	0.0-2.0	6.0-8.9	0.37/0.43	5/3	0.0-2.0	80/67	3s/4s - 3s/4e	N	D	0.26
AsC	Antioch-San Ysidro complex, thick surface, 2 to 9 percent slopes	1.35-1.70	0.0-2.0	6.0-8.9	0.37/0.43	5/3	0.0-2.0	78/65	3e/4e	N	D	0.71
BP	Borrow pit	—	—	—	—	—	—	—	—	N	—	0.13
BrA	Brentwood clay loam, 0 to 2 percent slopes	1.35-1.50	0.0-1.0	6.0-8.9	0.28	6	0.0-2.0	90	1/4c	Y	B	0.04
BrC	Brentwood clay loam, 2 to 9 percent slopes	1.35-1.50	0.0-1.0	6.0-8.9	0.28	6	0.0-2.0	87	2e/4e	Y	B	0.03
Ca	Capay silty clay loam	1.40-1.60	0.0-2.0	6.0-8.9	0.37	7	0.0-2.0	64	2s/4s	Y	D	1.80
Cc	Capay clay	1.40-1.60	0.0-2.0	6.0-8.9	0.17	7	0.0-2.0	64	2s/4s	Y	D	10.07
CeA	Clear Lake clay, 0 to 2 percent slopes	1.25-1.45	0.3-4.0	6.0-8.9	0.17	7	0.0-2.0	49	2s/4s	Y	D	3.57
CeB	Clear Lake clay, 2 to 5 percent slopes	1.25-1.45	0.3-4.0	6.0-8.9	0.17	7	0.0-2.0	47	2e/4e	Y	D	0.14
ClA	Clear Lake clay, saline, 0 to 2 percent slopes	1.25-1.45	0.3-4.0	6.0-8.9	0.17	7	8.0-16.0	11	3s/4s	N	D	0.14
Cm	Columbia fine sandy loam	1.45-1.70	0.0-2.0	6.0-8.9	0.28	3	0.0	88	2s/4e	Y	C	0.58
Cn	Conejo loam	1.35-1.50	0.5-4.0	3.0-5.9	0.24	6	0.0	100	1/4c	Y	B	0.01
Co	Conejo gravelly loam	1.35-1.50	0.5-4.0	3.0-5.9	0.15	6	0.0	80	2s/4e	Y	B	0.06
DaC	Diablo-Ayar clays, 2 to 9 percent slopes	1.20-1.40	0.5-4.0	6.0-8.9	0.17/0.20	7	0.0-2.0	61/46	3e/4e - 2e/4e	Y	D	0.49
DaE2	Diablo-Ayar clays, 9 to 30 percent slopes, eroded	1.20-1.40	0.5-4.0	6.0-8.9	0.17/0.20	7	0.0-2.0	43/32	4e/4e	N	D	0.84
DbC	Dibble-Los Osos loams, 2 to 9 percent slopes	1.30-1.55	0.0-4.0	6.0-8.9	0.37/0.32	5	0.0	58/48	3e/4e	N	C	0.17
DbE	Dibble-Los Osos loams, 9 to 30 percent slopes	1.30-1.55	0.0-4.0	6.0-8.9	0.37/0.32	5	0.0	43/36	6e/6e - 4e/4e	N	C	0.08
DbF2	Dibble-Los Osos loams, 30 to 50 percent slopes, eroded	1.30-1.55	0.0-4.0	6.0-8.9	0.37/0.32	5	0.0	17/21	7e/7e	N	C	0.03
DlC	Dibble-Los Osos clay loams, 2 to 9 percent slopes	1.30-1.50	0.0-4.0	6.0-8.9	0.28/0.24	6	0.0	52/44	3e/4e	N	C	0.04
DlE	Dibble-Los Osos clay loams, 9 to 30 percent slopes	1.30-1.50	0.0-4.0	6.0-8.9	0.28/0.24	6	0.0	38/32	4e/4e	N	C	0.48
DlF2	Dibble-Los Osos clay loams, 30 to 50 percent slopes, eroded	1.30-1.50	0.0-4.0	6.0-8.9	0.28/0.24	6	0.0	18/15	6e/6e	N	C	0.95
Eb	Egbert silty clay loam	1.30-1.40	1.0-10	6.0-8.9	0.20	7	0.0-2.0	77	2w/4w	Y	C	2.41
Ec	Egbert silty clay loam, occasionally flooded	1.30-1.40	1.0-10	6.0-8.9	0.20	7	0.0-2.0	77	2w/4w	N	C	0.64
GaG2	Gaviota sandy loam, 30 to 75 percent slopes, eroded	1.50-1.60	0.5-1.0	0.0-2.9	0.24	3	0.0	7	7e/7e	N	D	0.24
GlE	Gilroy loam, 9 to 30 percent slopes	1.40-1.55	0.0-2.0	3.0-5.9	0.20	5	0.0	53	4e4/e	N	C	0.01
HaF	Hambright loam, 15 to 40 percent slopes	1.45-1.55	0.0-2.0	0.0-2.9	0.17	5	0.0	29	6e/6e	N	D	0.28
HtE	Hambright-Toomes stony loams, 9 to 30 percent slopes	1.45-1.55	0.0-2.0	0.0-2.9	0.15	6	0.0	23	7e/7e	N	D	0.06
Ja	Joice muck	0.50-1.00	30-50	0.0-2.9	0.02	2	16.0	5	6w/6w	N	D	6.48
Jb	Joice muck, clay subsoil variant	0.50-1.00	1.0-50	6.0-8.9	0.02	2	16.0	5	6w/6w	N	D	0.63
Ld	Lang silt loam	1.35-1.70	0.0-1.0	6.0-8.9	0.43	5	0.0	61	3w/4w	Y**	C	0.00
Ma	Made land	—	—	—	—	—	—	—	8/8	N	—	0.02
Mfy	Marvin silty clay loam	1.30-1.55	0.0-3.0	6.0-8.9	0.37	7	0.0-4.0	65	2s/4s	Y	C	0.01
MkA	Millsap sandy loam, 0 to 2 percent slopes	1.50-1.60	0.0-1.0	6.0-8.9	0.28	3	0.0	52	4s/4e	N	D	0.09
MlC	Millsap-Los Osos complex, 2 to 9 percent slopes	1.35-1.60	0.0-7.0	6.0-8.9	0.28/0.24	3/6	0.0	51/43	4e/4e - 3e/4e	N	D/C	0.21
MmE	Millsholm loam, 15 to 30 percent slopes	1.45-1.55	0.0-2.0	0.0-2.9	0.24	5	0.0	30	6e/6e	N	D	0.50
MmG2	Millsholm loam, 30 to 75 percent slopes, eroded	1.45-1.55	0.0-2.0	0.0-2.9	0.24	5	0.0	10	7e/7e	N	D	0.06
MnC	Millsholm loam, moderately deep variant, 2 to 9 percent slopes	1.45-1.55	0.0-2.0	0.0-2.9	0.28	5	0.0	53	3e/4e	N	C	0.00
MnE	Millsholm loam, moderately deep variant, 9 to 30 percent slopes	1.45-1.55	0.0-2.0	0.0-2.9	0.28	5	0.0	39	4e/4e	N	C	0.06
Om	Omni clay loam	1.25-1.45	0.5-5.0	6.0-8.9	0.24	6	8.0-16.0	—	3w/4w	N	D	0.05
On	Omni silty clay	1.25-1.35	1.0-5.0	6.0-8.9	0.24	4	0.0-2.0	50	3w/4w	N	D	1.66
Pc	Pescadero clay loam	1.40-1.60	0.0-4.0	6.0-8.9	0.28	5	0.0-16.0	45	3w/4w	N	D	1.46
Pe	Pescadero clay	1.35-1.60	0.0-4.0	6.0-8.9	0.28	4	0.0-16.0	35	3w/4w	N	D	0.23
QU	Quarry	—	—	—	—	—	—	—	8/8	N	—	0.01
Re	Reyes silty clay	1.25-1.35	4.0-10	6.0-8.9	0.20	4	8.0-16.0	8	4w/4w	N	D	5.95
RnC	Rincon loam, 2 to 9 percent slopes	1.30-1.55	0.0-3.0	6.0-8.9	0.32	5	0.0	92	2e/4e	Y	C	0.03
RoA	Rincon clay loam, 0 to 2 percent slopes	1.30-1.50	0.0-3.0	6.0-8.9	0.24	6	0.0	86	2s/4s	Y	C	0.20
RoC	Rincon clay loam, 2 to 9 percent slopes	1.30-1.50	0.0-2.0	6.0-8.9	0.24	6	0.0	83	2e/4e	Y	C	0.06
Ry	Ryde clay loam	0.80-1.35	5.0-40	3.0-5.9	0.1	6	0.0-8.0	47	2w/4w	Y	C	3.15

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Sa	Sacramento silty clay loam	1.25-1.40	1.0-5.0	6.0-8.9	0.28	7	0.0-2.0	39	2w/4w	Y	D	1.96
Sc	Sacramento silty clay loam, occasionally flooded	1.25-1.40	1.0-5.0	6.0-8.9	0.28	7	0.0-2.0	39	2w/4w	N	D	0.37
Sd	Sacramento clay	1.25-1.35	1.0-5.0	6.0-8.9	0.15	4	0.0-2.0	30	2w/4w	Y	D	3.66
SeA	San Ysidro sandy loam, 0 to 2 percent slopes	1.50-1.70	0.0-1.0	6.0-8.9	0.43	3	0.0	67	4s/4e	N	D	1.21
SeB	San Ysidro sandy loam, 2 to 5 percent slopes	1.50-1.70	0.0-1.0	6.0-8.9	0.43	8	0.0	63	4e/4e	N	D	0.04
SfA	San Ysidro sandy loam, thick surface, 0 to 2 percent slopes	1.50-1.70	0.0-1.0	6.0-8.9	0.43	3	0.0	67	3s/4e	N	D	0.15
Sh	Solano loam	1.40-1.65	0.0-2.0	6.0-8.9	0.37	3	0.0-8.0	31	4s/4e	N	D	0.84
Sk	Solano-Pescadero complex	1.40-1.65	0.0-4.0	6.0-8.9	0.28/0.37	5	0.0-16.0	40/46	4s/4e - 3s/4s	N	D	0.36
Sm	Solano loam, dark surface variant	1.50-1.80	0.0-2.0	3.0-5.9	0.37	3	4.0-16.0	35	4s/4e	N	D	0.52
Sp	Suisun peaty muck	0.50-0.80	45-55	0.0-2.9	0.02	2	16	4	6w/6w	N	D	2.58
Sr	Sycamore silty clay loam	1.40-1.50	0.5-3.0	3.0-5.9	0.32	7	0.0-2.0	77	2w/4w	Y	C	0.28
Ss	Sycamore silty clay loam, drained	1.40-1.50	0.5-3.0	3.0-5.9	0.32	7	0.0-2.0	77	1/4c	Y	B	0.07
St	Sycamore silty clay loam, saline	1.40-1.55	0.0-3.0	3.0-5.9	0.37	7	0.0-2.0	18	3w/4w	N	B	0.92
Su	Sycamore complex, occasionally flooded	1.40-1.55	0.0-3.0	3.0-5.9	0.37/0.32	7/5	0.0-2.0	18/20	3w/4w	N	C	1.25
Ta	Tamba mucky clay	1.00-1.20	10-30	6.0-8.9	0.02	3	16	6	6w/6w	N	D	7.30
Td	Tidal marsh	—	—	—	—	—	8.0-16.0	—	8w/8w	N	D	1.04
ToG2	Toomes stony loam, 30 to 75 percent slopes, eroded	1.45-1.55	1.0-2.0	0.0-2.9	0.15	6	0.0	8	7e/7e	N	D	0.17
TrE	Trimmer loam, 9 to 30 percent slopes	1.45-1.55	0.0-2.0	3.0-5.9	0.20	5	0.0	53	4e/4e	N	C	0.04
Tu	Tujung fine sand	1.60-1.70	0.0-1.0	0.0-2.9	0.10	1	0.0	65	3s/4s	N	A	0.48
Va	Valdez silt loam drained	1.45-1.55	0.0-2.0	0.0-2.9	0.55	5	0.0-2.0	88	2w/4w	Y	C	2.22
Vc	Valdez silty clay loam	1.40-1.60	0.0-2.0	3.0-5.9	0.37	7	0.0-8.0	60	2w/4w	N	C	0.03
Vd	Valdez silty clay loam, wet	1.40-1.60	0.0-2.0	3.0-5.9	0.37	7	16	5	6w/6w	N	D	0.07
Ve	Valdez silty clay loam, clay substratum	1.35-1.55	0.0-2.0	6.0-8.9	0.37	7	8.0-16.0	17	2w/4w	N	C	3.52
W	Water	—	—	—	—	—	—	—	—	N	—	17.63
Wc	Willows clay	1.40-1.55	0.5-3.0	6.0-8.9	0.20	7	2.0-8.0	44	2w/4w	N	D	1.04
Yr	Yolo loam, clay substratum	1.35-1.50	0.0-3.0	6.0-8.9	0.32	5	0.0	95	2s/4e	Y	B	0.02
Ys	Yolo silty clay loam	1.35-1.50	0.5-3.0	3.0-5.9	0.32	7	0.0	90	1/4c	Y	B	0.43
Sutter County												
134	Holillipah loamy sand, channeled, 0 to 2 percent slopes	1.50-1.70	0.0-1.0	0.0-2.9	0.17	2	0.0-2.0	34	4w	N	A	76.29
161	Shanghai fine sandy loam, channeled, 0 to 2 percent slopes	1.50-1.70	0.0-2.0	3.0-5.9	0.37	1	0.0-2.0	30	4w	N	C	2.93
177	Water	—	—	—	—	—	—	—	—	N	—	20.78
Yolo County												
BrA	Brentwood silty clay loam, 0 to 2 percent slopes	1.35-1.50	0.0-1.0	6.0-8.9	0.32	7	0.0-2.0	81	1/4c	Y	B	1.36
Ca	Capay silty clay	1.40-1.60	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	50	2s/4s	Y	D	2.94
Cc	Capay soils, flooded	1.40-1.60	0.0-2.0	6.0-8.9	0.24	7	0.0-2.0	34	4w/4w	N	D	10.16
Ck	Clear Lake clay	1.25-1.45	0.5-4.0	6.0-8.9	0.24	7	0.0-4.0	41	2w/4w	Y	D	0.21
Cn	Clear Lake soils, flooded	1.25-1.60	0.5-4.0	6.0-8.9	0.28/0.32	7	0.0-8.0	31	4w/4w	N	D	10.61
HcA	Hillgate loam, 0 to 2 percent slopes	1.30-1.55	0.0-1.0	6.0-8.9	0.43	5	0.0	54	3s/4s	N	D	0.22
La	Lang sandy loam	1.50-1.70	0.0-1.0	0.0-2.9	0.28	3	0.0	65	2e/4e	Y**	C	0.99
Lb	Lang sandy loam, deep	1.35-1.70	0.0-1.0	6.0-8.9	0.28	3	0.0	58	3w/4w	Y**	C	0.78
Lc	Lang sandy loam, deep, flooded	1.35-1.70	0.0-1.0	6.0-8.9	0.28	3	0.0	29	4w/4w	N	C	0.21
Ld	Lang silt loam	1.35-1.70	0.0-1.0	6.0-8.9	0.43	5	0.0	61	3w/4w	Y**	C	0.60
Lg	Laugenour very fine sandy loam	1.45-1.65	0.0-1.0	0.0-2.9	0.37	3	0.0-2.0	81	1/4c	Y	B	0.14
Lk	Laugenour very fine sandy loam, deep, flooded	1.45-1.65	0.0-1.0	3.0-5.9	0.37	3	0.0-2.0	36	4w/4w	N	C	0.24
Ma	Made land	—	—	—	—	—	—	—	8	N	—	4.13
Mb	Maria silt loam	1.45-1.55	0.0-3.0	3.0-5.9	0.55	6	0.0-2.0	90	1/4c	Y	B	0.15
Mc	Maria silt loam, flooded	1.45-1.55	0.0-3.0	3.0-5.9	0.55	6	0.0-2.0	43	4w/4w	N	B	0.19
Mf	Marvin silty clay loam	1.30-1.55	0.0-3.0	6.0-8.9	0.37	7	0.0-4.0	65	2s/4s	Y	C	0.59
Mk	Merritt silty clay loam	1.35-1.70	0.0-4.0	3.0-5.9	0.43	7	0.0-2.0	65	3w/4w	Y**	C	2.03

Soil Map Unit	Map Unit Name	Moist Bulk Density ^a (g/cm ³)	Organic Matter Content ^b (%)	Linear Extensibility ^c (%)	Soil Erodibility Factor, Kw ^d	Wind Erodibility Group ^e (WEG)	Salinity ^f (dS/m)	Storie Index Rating ^g	Land Capability Classification ^h	Prime Soil ⁱ (Y/N)	Hydrologic Group ^j	Percentage of County within Planning Area
Mn	Merritt silty clay loam, deep	1.45-1.60	0.0-4.0	6.0-8.9	0.43	7	4.0-8.0	36	3w/4w	Y**	C	1.94
Mp	Merritt complex, saline-alkali	1.30-1.70	0.0-4.0	6.0-8.9	0.43	7	8.0-16.0	27/34	4w/4w	N	C	0.14
Ms	Myers clay	1.35-1.50	0.2-2.0	6.0-8.9	0.28	7	0.0-2.0	51	2s/4s	Y	D	0.35
Oa	Omni silty clay loam	1.35-1.50	0.0-4.0	6.0-8.9	0.43	7	0.0-2.0	62	3w/4w	N	D	0.48
Ob	Omni silty clay	1.35-1.50	0.0-4.0	6.0-8.9	0.37	4	0.0-2.0	39	3w/4w	N	D	3.08
Pa	Pescadero silty clay	1.35-1.60	0.0-4.0	6.0-8.9	0.28	4	4.0-16.0	35	3w/6w	N	D	0.13
Pc	Pescadero soils, flooded	1.40-1.60	0.0-4.0	6.0-8.9	0.37	6	4.0-16.0	15	4w/6w	N	D	2.95
Rg	Rincon silty clay loam	1.30-1.50	0.0-3.0	6.0-8.9	0.37	7	0.0-2.0	73	2s/3s	Y	C	0.52
Rh	Riverwash	1.50-1.70	0.0-0.1	0.0-2.9	0.05	1	0.0	—	8	N	D	0.03
Rk	Riz loam	1.30-1.55	0.0-2.0	6.0-8.9	0.43	6	4.0-16.0	45	4w/4w	N	D	0.20
Rn	Riz loam, flooded	1.30-1.55	0.0-2.0	6.0-8.9	0.43	6	4.0-16.0	24	4w/4w	N	D	0.72
Sa	Sacramento silty clay loam	1.25-1.50	0.5-5.0	6.0-8.9	0.32	7	0.0-2.0	65	2w/4w	Y**	D	4.96
Sb	Sacramento silty clay loam, drained	1.25-1.50	0.5-5.0	6.0-8.9	0.32	7	0.0-2.0	73	2s/4s	Y	D	0.12
Sc	Sacramento clay	1.25-1.35	0.5-5.0	6.0-8.9	0.17	4	0.0-2.0	38	2w/4w	Y**	D	11.34
Sd	Sacramento clay, drained	1.25-1.35	0.5-5.0	6.0-8.9	0.17	4	0.0-2.0	46	2s/4s	Y	D	0.04
Sf	Sacramento clay, deep	1.25-1.35	0.5-5.0	6.0-8.9	0.17	4	0.0-2.0	41	2w/4w	Y**	D	0.59
Sg	Sacramento soils, flooded	1.25-1.35	0.5-5.0	6.0-8.9	0.32	7	0.0-2.0	30	4w/4w	N	D	11.22
So	Sycamore silt loam	1.45-1.55	0.5-3.0	3.0-5.9	0.49	6	0.0-2.0	76	2w/4w	Y**	C	2.61
Sp	Sycamore silt loam, drained	1.45-1.55	0.5-3.0	3.0-5.9	0.49	6	0.0-2.0	90	1/4c	Y	B	0.15
Sr	Sycamore silt loam, flooded	1.45-1.55	0.5-3.0	3.0-5.9	0.49	6	0.0-16.0	45	4w/4w	N	C	1.76
Ss	Sycamore silty clay loam	1.40-1.60	0.0-3.0	3.0-5.9	0.43	7	0.0-2.0	65	2w/4w	Y**	C	1.25
St	Sycamore silty clay loam, drained	1.40-1.60	0.0-3.0	3.0-5.9	0.43	7	0.0-2.0	77	1/4c	Y	B	0.00
Su	Sycamore complex	1.35-1.55	0.0-3.0	3.0-5.9	.43/.49	7/6	0.0-2.0	51/64	2w/4w	Y**	C	1.25
Sv	Sycamore complex, drained	1.35-1.55	0.0-3.0	3.0-5.9	.43/.49	7/6	0.0-2.0	76/61	1/4c	Y	B	0.02
Sw	Sycamore complex, flooded	1.35-1.55	0.0-3.0	3.0-5.9	.43/.49	7/6	0.0-2.0	26/32	4w/4w	N	C	4.94
Tb	Tyndall very fine sandy loam	1.45-1.60	0.0-2.0	0.0-2.9	0.37	3	0.0-8.0	77	2w/4w	Y**	C	1.92
Tc	Tyndall very fine sandy loam, drained	1.45-1.60	0.0-2.0	0.0-2.9	0.37	3	0.0-8.0	81	1/4c	Y	B	0.00
Td	Tyndall very fine sandy loam, flooded	1.45-1.60	0.0-2.0	0.0-2.9	0.37	3	0.0-8.0	38	4w/4w	N	C	0.52
Te	Tyndall very fine sandy loam, deep	1.35-1.55	0.0-2.0	6.0-8.9	0.37	3	0.0-8.0	69	2w/4w	Y**	C	0.22
Tf	Tyndall silty clay loam	1.45-1.60	0.0-2.0	3.0-5.9	0.37	7	0.0-8.0	69	2w/4w	Y**	C	0.68
Va	Valdez silt loam	1.40-1.60	0.0-2.0	3.0-5.9	0.43	6	0.0-2.0	81	3w/4w	Y**	C	0.53
Vb	Valdez silt loam, deep	1.35-1.55	0.0-2.0	6.0-8.9	0.43	6	0.0-2.0	77	3w/4w	Y**	C	1.75
Vc	Valdez complex, flooded	1.35-1.55	0.0-2.0	6.0-8.9	0.43	6	0.0-2.0	41	4w/4w	N	C	0.53
W	Water	—	—	—	—	—	—	—	—	N	—	3.58
Wa	Willows silty clay loam	1.40-1.55	1.0-5.0	6.0-8.9	0.32	7	2.0-16.0	31	2w/4w	N	D	1.34
Wb	Willows clay	1.40-1.55	0.5-3.0	6.0-8.9	0.28	7	2.0-16.0	29	2w/4w	N	D	0.90
Wg	Willows soils, flooded	1.40-1.55	0.5-3.0	6.0-8.9	0.32	7	2.0-16.0	15	4w/4w	N	D	1.23
Ya	Yolo silt loam	1.35-1.50	0.5-3.0	3.0-5.9	0.43	6	0.0-2.0	100	1/4c	Y	B	0.31
Yb	Yolo silty clay loam	1.35-1.50	0.5-3.0	3.0-5.9	0.37	7	0.0-2.0	90	1/4c	Y	B	0.14

^a Whole soil horizon

^b Percentage; whole soil horizon

^c Percentage; most limiting from entire profile

^d Natural Resources Conservation Service - Kw; surface horizon

^e Natural Resources Conservation Service WEG; surface horizon

^f Range for top 24 inches

^g Storie Index rating indicates suitability for agricultural use. <40 = poorly suited, 40-60 = fairly suited, 60-80 = moderately suited, 80-100 = well suited

^h Irrigated/non-irrigated; land capability classification is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. Land capability classification is subdivided into capability class and capability subclass. Classes and subclasses are defined below:

Class I (1) soils have slight limitations that restrict their use.

Soil Map Unit	Map Unit Name	Moist Bulk Density ^a (g/cm ³)	Organic Matter Content ^b (%)	Linear Extensibility ^c (%)	Soil Erodibility Factor, Kw ^d	Wind Erodibility Group ^e (WEG)	Salinity ^f (dS/m)	Storie Index Rating ^g	Land Capability Classification ^h	Prime Soil ⁱ (Y/N)	Hydrologic Group ^j	Percentage of County within Planning Area
<p>Class II (2) soils have moderate limitations that reduce the choice of plants or require moderate conservation practices. Class III (3) soils have severe limitations that reduce the choice of plants or require special conservation practices, or both. Class IV (4) soils have very severe limitations that restrict the choice of plants or require very careful management, or both. Class V (5) soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover. Class VI (6) soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover. Class VII (7) soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife. Class VIII (8) soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for aesthetic purposes. Subclass e is made up of soils for which the susceptibility to erosion is the dominant problem or hazard affecting their use. Erosion susceptibility and past erosion damage are the major soil factors that affect soils in this subclass. Subclass w is made up of soils for which excess water is the dominant hazard or limitation affecting their use. Poor soil drainage, wetness, a high water table, and overflow are the factors that affect soils in this subclass. Subclass s is made up of soils that have soil limitations within the rooting zone, such as shallowness of the rooting zone, stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity or sodium content. Subclass c is made up of soils for which the climate (the temperature or lack of moisture) is the major hazard or limitation affecting their use.</p> <p>ⁱ Y = yes; N = no for soil mapping units meeting the criteria for prime farmland as outlined in the U.S. Department of Agriculture's land inventory and monitoring project for the county soil surveys. * = prime if either protected from flooding or not frequently flooded during the growing season ** = prime if drained</p> <p>^j Soils are classified by the Natural Resources Conservation Service into four Hydrologic Soil Groups based on the soil's runoff potential. Class A soils generally have the lowest runoff potential, and Class D soils have the highest.</p> <p>Notes: dS/m = decisiemen(s) per meter g/cm³ = gram(s) per cubic centimeter Kw = whole soil erodibility factor NRCS = Natural Resources Conservation Service SCS = Soil Conservation Service SSURGO = Soil Survey Geographic WEG = wind erodibility group</p> <p>Sources:</p> <p><u>Alameda County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Soil Survey Data for Alameda Area, California</i>. Soil Conservation Service. 1966. <i>Soil Survey of Alameda Area, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Contra Costa County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Soil Survey Data for Contra Costa County, California</i>. Soil Conservation Service. 1977. <i>Soil Survey of Contra Costa County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Sacramento County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Database for Sacramento County, California</i>. Soil Conservation Service. 1993. <i>Soil Survey of Sacramento County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>San Joaquin County</u> Natural Resources Conservation Service. 2008. <i>SSURGO Soil Survey Data for San Joaquin County, California</i>. Soil Conservation Service. 1992. <i>Soil Survey of San Joaquin County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Solano County</u> Natural Resources Conservation Service. 2007. <i>SSURGO Database for Solano County, California</i>. Soil Conservation Service. 1977. <i>Soil Survey of Solano County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Sutter County</u> Natural Resources Conservation Service. 2007. <i>SSURGO Database for Sutter County, California</i>. Soil Conservation Service. 1988. <i>Soil Survey of Sutter County, California</i>. U.S. Government Printing Office, Washington, D.C.</p> <p><u>Yolo County</u> Natural Resources Conservation Service. 2007. <i>SSURGO Database for Yolo County, California</i>. Soil Conservation Service. 1972. <i>Soil Survey of Yolo County, California</i>. U.S. Government Printing Office, Washington, D.C.</p>												