Appendix G
Farmland Definitions

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1.1 Prime Farmland

Prime Farmland is land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Prime Farmland must meet all the following criteria:

a. **Water**: The soils have xeric, ustic, or aridic (torric) moisture regimes in which the available water capacity is at least 4.0 inches (10 cm) per 40 to 60 inches (1.02 to 1.52 meters) of soil, and a developed irrigation water supply that is dependable and of adequate quality. A dependable water supply is one that is available for the production of the commonly grown crops in 8 out of 10 years.

b. **Soil Temperature Range**: The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50.8 cm), have a mean annual temperature higher than 32^{o}F (0^{o}C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47^{o}F (8^{o}C); in soils that have no O horizon, the mean summer temperature is higher than 59^{o}F (15^{o}C).

c. **Acid-Alkali Balance**: The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1.02 meters).

d. **Water Table**: The soils have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown.

e. **Soil Sodium Content**: The soils can be managed so that, in all horizons within a depth of 40 inches (1.02 meters), during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage is less than 15.

f. **Flooding**: Flooding of the soil (uncontrolled runoff from natural precipitation) during the growing season occurs infrequently, taking place less often than once every two years.

g. **Erodibility**: The product of K (erodibility factor) multiplied by the percent of slope is less than 2.0.

h. **Permeability**: The soils have a permeability rate of at least 0.06 inch (0.15 cm) per hour in the upper 20 inches (50.8 cm) and the mean annual soil temperature at a depth of 20 inches (50.8 cm) is less than 59°F (15°C); the permeability rate is not a limiting factor if the mean annual soil temperature is 59°F (15°C) or higher.

i. **Rock Fragment Content**: Less than 10 percent of the upper 6 inches (15.24 cm) in these soils consists of rock fragments coarser than 3 inches (7.62 cm).

j. **Rooting Depth**: The soils have a minimum rooting depth of 40 inches (1.02 meters).

1.2 Farmland of Statewide Importance

Farmland of Statewide Importance is land other than Prime Farmland that has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Farmland of Statewide Importance must meet all the following criteria:

a. **Water**: The soils have xeric, ustic, or aridic (torric) moisture regimes in which the available water capacity is at least 3.5 inches (8.89 cm) within a depth of 60 inches (1.52 meters) of soil; or within the root zone if it is less than 60 inches (1.52 meters) deep. They have a developed irrigation supply that is dependable and of adequate quality. A dependable water supply is one that is available for the production of the commonly grown crops in 8 out of 10 years.

b. **Soil Temperature Range:** The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50.8 cm), have a mean annual temperature higher than 32°F (0°C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47°F (8°C); in soils that have no O horizon, the mean summer temperature is higher than 59°F (15°C).

c. **Acid-Alkali Balance**: The soils have a pH between 4.5 and 9.0 in all horizons within a depth of 40 inches (1.02 meters) or in the root zone if the root zone is less than 40 inches (1.02 meters) deep.

d. **Water Table**: The soils have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown.

e. **Soil Sodium Content**: The soils can be managed so that, in all horizons within a depth of 40 inches (1.02 meters), or in the root zone if the root zone is less than 40 inches (1.02 meters) deep, during part of each year the conductivity of the saturation extract is less than 16 mmhos/cm and the exchangeable sodium percentage is less than 25.

f. **Flooding**: Flooding of the soil (uncontrolled runoff from natural precipitation) during the growing season occurs infrequently, taking place less often than once every two years.

g. **Erodibility**: The product of K (erodibility factor) multiplied by the percent of slope is less than 3.0.

h. **Rock Fragment Content**: Less than 10 percent of the upper 6 inches (15.24 cm) in these soils consists of rock fragments coarser than 3 inches (7.62 cm).

Farmland of Statewide Importance does not have any restrictions regarding permeability or rooting depth.

1.3 Unique Farmland

Unique Farmland is land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance but that has been used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Characteristically Unique Farmland:

- Is used for specific high value crops
- Has a moisture supply that is adequate for the specific crop; the supply is from stored moisture, precipitation or a developed irrigation system
- Combines favorable factors of soil quality, growing season, temperature, humidity, air drainage, elevation, exposure, or other conditions, such as nearness to market, that favor growth of a specific food or fiber crop
- Excludes abandoned orchards or vineyards, dryland grains, and extremely low yielding crops, such as irrigated pasture, as determined in consultation with the County Cooperative Extension Director and Agricultural Commissioner

High-value crops are listed in *California Agriculture*, an annual report of the California Department of Food and Agriculture. In order for land to be classified Unique Farmland, the crop grown on the land must have qualified for the list at some time during the two update cycles prior to the mapping date.

1.4 Farmland of Local Importance

Farmland of Local Importance is currently producing crops, has the capability of production, or is used for the production of confined livestock. Farmland of Local Importance is land other than Prime Farmland, Farmland of Statewide Importance or Unique Farmland. This land may be important to the local economy due to its productivity or value. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use. In a few counties the local advisory committee has elected to additionally define areas of Local Potential (LP) farmland. This land includes soils which qualify for Prime Farmland or Farmland of Statewide Importance, but generally are not cultivated or irrigated.

1.5 Grazing Land

Grazing Land is defined in Government Code §65570(b)(3) as “land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock.” The minimum mapping unit for Grazing Land is 40 acres. Grazing Land does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance, and heavily brushed, timbered, excessively steep, or rocky lands that restrict the access and movement of livestock. The Farmland Mapping and Monitoring Program (FMMP) convenes a

grazing land advisory committee in each project county to help identify grazing lands. The committees consist of members of the local livestock ranching community, livestock ranching organizations, and the U.C. Cooperative Extension livestock advisor. The FMMP works with the president of the local Cattlemen's Association and the U.C. Cooperative Extension livestock advisor in selecting members of these committees.

1.6 Urban and Built-up Land

Urban and Built-up Land is used for residential, industrial, commercial, construction, institutional, public administrative purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as a part of Urban and Built-up Land if they are a part of the surrounding urban areas.

Units of land smaller than 10 acres will be incorporated into the surrounding map classifications. The building density for residential use must be at least 1 structure per 1.5 acres (or approximately 6 structures per 10 acres). Urban and Built-up Land must contain man-made structures or buildings under construction, and the infrastructure required for development (e.g., paved roads, sewers, water, electricity, drainage, or flood control facilities) that are specifically designed to serve that land. Parking lots, storage and distribution facilities, and industrial uses such as large packing operations for agricultural produce will generally be mapped as Urban and Built-up Land even though they may be associated with agriculture.

Urban and Built-up Land does not include strip mines, borrow pits, gravel pits, farmsteads, ranch headquarters, commercial feedlots, greenhouses, poultry facilities, or road systems for freeway interchanges outside of areas classified as Urban and Built-up Land areas.

Within areas classified as Urban and Built-up Land, vacant and nonagricultural land which is surrounded on all sides by urban development and is less than 40 acres in size will be mapped as Urban and Built-up. Vacant and nonagricultural land larger than 40 acres in size will be mapped as Other Land.

1.7 Other Land

Other Land is that which is not included in any of the other mapping categories. The following types of land are generally included:

- Rural development which has a building density of less than 1 structure per 1.5 acres, but with at least 1 structure per 10 acres
- Brush, timber, wetlands, and other lands not suitable for livestock grazing
- Government lands not available for agricultural use
- Road systems for freeway interchanges outside of Urban and Built-up Land areas
- Vacant and nonagricultural land larger than 40 acres in size and surrounded on all sides by urban development
- Confined livestock, poultry, or aquaculture facilities, unless accounted for by the county's Farmland of Local Importance definition

- Strip mines, borrow pits, gravel pits, and ranch headquarters, or water bodies smaller than 40 acres
- A variety of other rural land uses

1.8 Land Committed to Nonagricultural Use

Land Committed to Nonagricultural Use is land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors.

County boards of supervisors and city councils will have the final authority to designate lands in this category. The FMMP will work with city and county planning staffs to obtain this information. Land Committed to Nonagricultural Use will be shown on an overlay to Important and Interim Farmland Maps. The current land use will be indicated on the base map, with the overlay indicating the areas that are Committed to Nonagricultural Use. Land Committed to Nonagricultural Use must be designated in an adopted, local general plan for future nonagricultural development. The resulting development must meet the requirements of Urban and Built-up Land or the rural development density criteria of Other Land.

Land Committed to Nonagricultural Use must also meet the requirements of either (a) or (b) below:

a. It must have received one of the following final discretionary approvals:
   - Tentative subdivision map (approved per the Subdivision Map Act)
   - Tentative or final parcel map (approved per the Subdivision Map Act)
   - Recorded development agreement (per Government Code §65864)
   - Other decisions by a local government which are analogous to items #1-3 above and which exhibit an element of permanence. Zoning by itself does not qualify as a permanent commitment

Or

b. It must be the subject of one of the final fiscal commitments to finance the capital improvements specifically required for future development of the land in question as shown below:
   - Recorded Resolution of Intent to form a district and levy an assessment
   - Payment of assessment
   - Sale of bonds
   - Binding contract, secured by bonds, guaranteeing installation of infrastructure
   - Other fiscal commitments which are analogous to items #1-4 above and exhibit an element of permanence

Land Committed to Nonagricultural Use is mapped when the respective local government notifies FMMP that the land meets these criteria and submits 1:24,000 maps identifying the area and showing its boundaries. The information provided is subject to verification by FMMP. In some cases, the local government must also provide FMMP with documentation of the permanent commitment.

1.9 Soil Taxonomy Terms

Soils are classified based on their physical and chemical characteristics using systems outlined by the U.S. Department of Agriculture's *Soil Survey Manual* and the National Cooperative Soil Survey's *Soil Taxonomy*.

Soil horizons are layers of soils approximately parallel to the land surface and differing from adjacent, genetically related layers in physical, chemical, and biological properties. Examples of such properties include color, texture, acid-alkali balance, and organic matter content. Soil moisture regimes are used in defining soil classes at various levels in the soil taxonomy system:

Xeric – typically found in Mediterranean-type climates where winters are moist and cool, and summers are warm and dry.

Ustic – involves the concept of limited, but effective, soil moisture. Though implying dryness, moisture is available at a time when other conditions are suitable for plant growth.

Aridic (torric) – soils with this moisture regime are generally found in arid climates with hot and dry summers. Soil temperature regimes are used in defining soil classes at a depth of 19.7 inches (50 cm or to the depth of rock if it is shallower) which is analogous to plant rooting depth.

Frigid – mean annual soil temperature is less than 47°F (8°C) and the difference between mean winter and mean summer temperature is more than 9°F (5°C).

Mesic – mean annual soil temperature is between 47°F (8°C) and 59°F (15°C) and the difference between mean summer and mean winter soil temperature is more than 9°F (5°C).

Thermic – mean annual soil temperature is between 59°F (15°C) and 72°F (22°C), and the difference between mean summer and mean winter soil temperature is more than 9°F (5°C).

Hyperthermic – mean annual soil temperature is greater than 72°F (22°C) and the difference between mean winter and mean summer temperature is more than 9°F (5°C).

Pergelic – mean annual soil temperature is lower than 32°F (0°C). Permafrost is present.

Cryic – mean annual temperature is higher than 32°F (0°C) but lower than 47°F (8°C) and the difference between mean summer and mean winter soil temperature is more than 9°F (5°C).

Soil salinity may be expressed in terms of the electrical conductivity of the water in contact with the soil.

mmhos/cm – a unit of electrical conductivity, which is a measure of the salinity of soil. Soil acid-alkali balance is expressed in terms of pH.

pH – a numerical measure of acidity or hydrogen ion activity. Neutral is pH 7.0. All pH values below 7.0 are acid, and all above 7.0 are alkaline.