8.9 Agriculture and Soils

This section describes potential environmental effects on soils and agricultural from construction and operation of the CPP. Potential impacts are assessed for the Project Site, as well as the proposed gas pipeline originating at the Carson Ice-Gen Plant. Section 8.9.1 describes federal, state, and local laws ordinances, regulations and standards applicable to construction in agriculture and soils. Section 8.9.2 describes the affected environment, while Section 8.9.3 describes effects of construction and operation. Section 8.9.4 describes the effects of air emissions on soil and vegetation. Section 8.9.5 describes mitigation measures related to soil erosion. Section 8.9.6 provides agencies involved and agency contacts, while Section 8.9.7 describes permitting requirements and schedule. Section 8.9.8 lists references used to prepare this section.

8.9.1 Applicable Laws, Ordinances, Regulations, and Standards

This agriculture and soils section includes information necessary to satisfy the data requirements for certification. Federal, state, and local LORS applicable to agriculture and soils are discussed in the following sections and summarized in Table 8.9-1.

TABLE 8.9-1
Laws, Ordinances, Regulations, and Standards Applicable to Agriculture and Soils

LORS	Applicability	AFC Conformance Section
Federal		
Clean Water Act	Controls erosion of soil and disruption or displacement of surface soil	Section 8.9.3 and sections pertaining to stormwater management (see Section 8.14)
California		
California Environmental Quality Act	Assessment of impact on prime agricultural land	Section 8.9.3
Porter-Cologne Water Quality Control Act of 1972	Controls erosion of soil and disruption or displacement of surface soil	Section 8.9.3 and sections pertaining to stormwater management (Section 8.14)
Local		
City of Sacramento: Title 15 Grading, Erosion, and Sediment Control	Soil conservation during grading and excavation	Section 8.9.3 and sections pertaining to stormwater management (Section 8.14)
Sacramento County	Storm drainage, grading, and erosion control	Section 8.9.3 and sections pertaining to stormwater management (Section 8.14)

8.9.1.1 Federal

Federal LORS include the Clean Water Act (CWA), which authorizes the U.S. Environmental Protection Agency (USEPA) to regulate the discharge of wastewater and stormwater into surface waters through issuance of NPDES permits. In California, Regional Water Quality Control Boards (RWQCB) provide state-level implementation of these

permits, although USEPA retains jurisdiction. The CWA's principal impact on the CPP relates to soil erosion during construction, including the preparation and execution of erosion control plans and associated measures. A construction stormwater NPDES permit would be required for CPP.

8.9.1.2 State

Implementation of the Porter-Cologne Water Quality Control Act by Regional Water Quality Control Boards regulates surface water discharge in California. The RWQCB may become involved in this respect if soil erosion threatens water quality. CEQA requires assessment of project impacts to prime agricultural lands.

8.9.1.3 Local

The City of Sacramento enforces ordinances and exemptions for grading, erosion, and sediment control under Chapter 15.88 of Title 15 (Building and construction), including a grading permit (15.88.300). Part of the proposed gas pipeline runs through the City of Sacramento. The purpose of 15.88 is:

"The grading ordinance is enacted for the purpose of regulating grading on property within the city limits of the city to safeguard life, limb, health, property and the public welfare; to avoid pollution of watercourses with nutrients, sediments, or other materials generated or caused by surface water runoff; to comply with the city's NPDES Permit No. CA0082597, provision D2, issued by the California Regional Water Quality Control Board; and to ensure that the intended use of a graded site within the city limits is consistent with the city general plan, any specific plans adopted thereto and all applicable city ordinances and regulations. The grading ordinance is intended to control all aspects of grading operations within the city limits of the city."

Sacramento County also requires permits for construction, which include plans for storm drainage, stormwater pollution prevention, and erosion control. These are part of the land improvement and site improvement review process.

8.9.2 Affected Environment

The Project Site is located on a 30-acre parcel in south Sacramento County, in the northeast quadrant of Section 29, T6N, R8E (Goose Creek Quadrangle) (Figure 8.6-2). The site is bordered to the south by Clay East Road. The 30-acre parcel, located at an average elevation of 150 feet above mean sea level, slopes toward the north, exhibiting less than 10 feet of elevation change. Rancho Seco Reservoir is located three-quarters of a mile to the southeast, while Clay Creek flows west 0.25 mile north of the site.

Soils are mapped and described as "mapping units" at a level of detail sufficient for soil management, development, or other assessments. The location and properties of the soil mapping units on the Project Site were identified from the *Soil Survey of Sacramento County, California*, prepared by the Natural Resources Conservation Service (NRCS, 1993). Soil map units are described at the series or phase level, which are abstract distinctions based on physical and chemical characteristics by which soils are classified. Soils maps are useful tools to predict general description of soil properties at a given site. Soil data reviewed for the Project Site and adjacent areas are summarized and presented subsequently.

- Soil survey maps for the Project Site and surrounding area shown on Figure 8.9-1a through 8.9-1e, as well as descriptive information, are taken from the *Soil Survey of Sacramento County, California* (NCRS, 1993).
- Table 8.9-2A summarizes the characteristics of the soil mapping units identified on or near the project site boundaries. Descriptions include parent material, landscape locations, and slopes as well as physical properties, such as depth, texture, drainage class, and permeability. Erosion hazard and revegetation potential as well as land capability classifications are also included.
- Table 8.9-2B illustrates "Important Farmlands" based on the definition of the California Department of Conservation (CDC, 2000), where the smallest level of resolution is 10 acres. Farmland mapping classifications are as follows: Prime Farmland (P); Farmland of Statewide Importance (S); Unique Farmland (U); Farmland of Local Importance (L); Grazing Land (G); Urban and Built-Up Land (D); Other Land (X); and Water (W). These farmland mapping designations may overlap several soil mapping units.

8.9.2.1 Agricultural Use Around the Proposed Site

The types of land use surrounding the project site are described and mapped in Section 8.4, Land Use. Currently, the project site and surrounding area are used for agricultural purposes, primarily grazing, which is consistent with the farmland classification (see Figure 8.9-2). No prime farmland on the project site or adjacent areas would be lost due to construction and operation of CPP.

8.9.2.2 Agricultural Use Along Gas Pipeline

The gas pipeline route originating at the Carson Ice-Gen Plant was selected to minimize disruption of roads and agricultural uses. The proposed gas pipeline route will run along roads or railroad right-of-ways, and under limited agricultural areas to minimize impacts. In different segments, the proposed route parallels the Union Pacific Railroad, Franklin Boulevard, Eschinger Road, Arno Road, Valensin Road, Twin Cities Road, and Clay East Road.

Typical agricultural uses along the pipeline corridor include vineyards, pasture (grazing land) and row crops. Construction, consisting of trenching or horizontal directional drilling would be followed by restoration of the natural contours, soil replacement, and revegetation where appropriate. In areas where agricultural land is crossed, the land would be restored to agricultural production after pipeline installation.

TABLE 8.9-2A
Soil Mapping Units and Properties[a]

Map Symbol	Soil Series	Slope Class (%)[b]	Landscape Locations	Soil Depth	Texture	Parent Material
207	Sailboat silt loam	Nearly level (0 to 2)	Natural levees on low flood plains	Very deep	Silt loam (0 to 28 in.) Clay loam (28 to 34 in.) Loam (34 to 62 in.)	Alluvium from mixed rock sources
158	Hicksville loam	Nearly level (0 to 2)	Low stream terraces and alluvial flats	Deep to very deep	Loam (0 to 13 in.) Clay loam (13 to 31 in.) Sandy clay (31 to 65 in.)	Alluvium derived from mixed rock sources
198	Redding gravelly loam	Nearly level to gently sloping (0 to 8)	Dissected high terraces and terrace remnants	Moderately deep	Gravelly loam (0 to 7 in.) Loam (7 to 13 in.) Gravelly loam (13 to 20 in.) Gravelly clay (20 to 28 in.) Cemented duripan (28-66 in.)	Gravelly or cobbly alluvium from mixed rock sources
238	Xerarents-San Joaquin complex	Level (artificially planed)	Low terraces	Moderately deep to very deep	Loam (0 to 33 in.) Clay loam (33 to 40 in.) Duripan (40 to 45 in.) Siltstone (45 to 60 in.)	Fill material mixed by grading, leveling, and excavation
217 and 218	San Joaquin-Galt complex	Nearly level (0 to 3)	Low terraces	Moderately deep	See 151 and 214	See 151 and 214
111	Bruella sandy loam	Nearly level (0 to 2)	Intermediate terrace remnants	Very deep	Sandy loam (0 to 18 in.) Sandy clay loam (18 to 61 in.)	Alluvium derived from granitic rocks
117 and 120	Columbia sandy loam	Nearly level (0 to 2)	Narrow low flood plains along rivers and streams	Very deep	Sandy loam (0 to 18 in.) Sand (18 to 24 in.) Silt loam (24 to 33 in.) Loam (33 to 36 in.) Sand (36 to 43 in.) Clay (43 to 64 in.)	Somewhat poorly drained alluvium derived from mixed rock sources
114	Clear Lake clay	Nearly level (0 to 2)	Basins and along drainage ways	Very deep	Clay (0 to 34 in.) Clay loam (34 to 48 in.) Duripan (48 to 64 in.)	Poorly drained, fine-texture alluvium derived from mixed rock sources
172	Liveoak sandy clay loam	Nearly level (0 to 2)	Narrow, high flood plains	Very deep	Sandy clay loam (0 to 33 in.) Sandy loam (33 to 60 in.)	Alluvium derived from granitic rocks

TABLE 8.9-2A
Soil Mapping Units and Properties[a]

Map Symbol	Soil Series	Slope Class (%)[b]	Landscape Locations	Soil Depth	Texture	Parent Material
176	Madera-Galt complex	Nearly level (0 to 2)	Low areas on low terraces	Moderately deep	See 174 and 151	See 174 and 151
151 and 152	Galt clay	Nearly level (0 to 2)	Cut areas on low terraces	Shallow to moderately deep	Clay (0 to 20 in.) Duripan (20 to 36 in.) Loam (36 to 55 in.) Duripan (55 to 69 in.)	Alluvium from mixed rock sources
174	Madera loam	Nearly level (0 to 2)	Low terraces adjacent to flood plains	Moderately deep	Loam (0 to 15 in.) Clay (15 to 29 in.) Duripan (29 to 60 in.)	Alluvium weathered from granitic material
121	Columbia sandy loam	Nearly level (0 to 2)	Low flood plains along rivers and streams	Very deep	Sandy loam (0 to 18 in.) Sand (18 to 24 in.) Silt loam (24 to 33 in.) Loam (33 to 36 in.) Sand (36 to 43 in.) Clay (43 to 64 in.)	Somewhat poorly drained alluvium from mixed rock sources
126	Corning-Redding complex	Strongly sloping to moderately steep (8 to 30)	Dissected high terraces and high terrace remnants	See 125	See 125	See 125
213	San Joaquin silt loam – leveled	Nearly level (0 to 1)	Low terraces	Moderately deep	Silt loam (0 to 23 in.) Clay loam (23 to 28 in.) Duripan (28 to 54 in.) Loam (54 to 60 in.)	Alluvium from granitic rock sources
214	San Joaquin silt loam	Nearly level to gently sloping (0 to 8)	Low terraces	Moderately deep	See 213	See 213
137	Durixeralfs	Nearly level (0 to 2)	Low terraces or cut areas with surface removed	Shallow to moderately deep	Clay (0 to 20 in.) Duripan (20 to 36 in.) Loam (36 to 55 in.) Duripan (55 to 69 in.)	Alluvium derived from granitic and other mixed rock sources

TABLE 8.9-2A
Soil Mapping Units and Properties[a]

Map Symbol	Soil Series	Slope Class (%)[b]	Landscape Locations	Soil Depth	Texture	Parent Material
157	Hedge loam	Nearly level (0 to 2)	Low terraces, flood plains, drainageways	Moderately deep	Loam (0 to 23 in.) Clay loam (23 to 31 in.) Loam (31 to 38 in.) Cemented duripan (38 to 44 in.) Sandy loam (44 to 60 in.)	Alluvium derived from granitic rock sources
125	Corning complex	Nearly level to moderately steep (0 to 30)	High terraces and terrace remnants	Very deep	Gravelly sandy loam (0 to 2 in.) Gravelly fine sandy loam (2 to 7 in.) Loam (7 to 20 in.) Clay (20 to 32 in.) Gravelly sandy clay loam (32 to 39 in.) Gravelly coarse sandy loam (39 to 48 in.)	Gravelly alluvium from mixed rock sources
156	Hadselville-Pentz complex	Nearly level to moderately steep (2 to 30)	Hills with mound-intermound microrelief	Very shallow	Sandy loam (0 to 7 in.) Andesitic sandstone (7 to 20 in.)	Weakly consolidated basic andesitic tuffaceous sediments

[a] All data from Soil Survey of Sacramento County, California (NRCS, 1993).
[b] Qualitative designations from *Soil Survey Manual*, U.S. Department of Agriculture (USDA, 1993).

TABLE 8.9-2B
Soil Mapping Units and Properties[a]

Map Symbol	Drainage	Permeability (in/hr)[b]	Water Erosion Hazard	Runoff Rate	Revegetation Potential[c]	Storie Index	Land Capability Class[d]	Soil Map Units Within Farmland Resource Type[e]	Prime Farmland[e]
207	Somewhat poorly drained	0 to 16 in: Moderate 16 to 34 in: Moderately slow 34 to 62 in: Moderate	Slight	Slow	Good	76	N: IIIC, I: I	G	N
158	Moderately well drained	0 to 13 in: Moderate 13 to 43 in: Moderately slow 43 to 64 in: Moderate	Slight	Slow	Good	61	N: IIIs, I: IIIs	P, U, G	Y
198	Moderately well drained	0 to 7 in: Moderate 7 to 20 in: Moderately slow	Slight or moderate	Slow to medium	Fair	16	N: IVe, I: IVe	P, U, G	Y
238	Well drained	NA	Slight or none	Very slow	NA	36	N: IIIs, I: IIIs	G, L	N
217 and 218	Moderately well drained	0 to 15 in: Moderate 15 to 20 in: Very slow 20 to 46 in: NA 46 to 60 in: Slow	Slight or none	Very slow	Good	23	N: IIIs, I: IIIs	P, S, U, L	Y
111	Well drained	0 to 18 in: Moderately rapid 18 to 61 in: Moderately slow	Slight or none	Slow	Good	68	N: IIIc-1, I: I	P	Y
117 and 120	Somewhat poorly drained	0 to 43 in: Moderately rapid 43 to 64 in: Slow	Slight or none	Slow or very slow	Good	77	N: IIIs-3, I: IIs-3	P	Y
114	Poorly drained	0 to 43 in: Slow 43 to 61 in: Moderately slow	Slight	Slow	Good	22	N: IVw-2, I: IVw-2	G, S	N

TABLE 8.9-2B
Soil Mapping Units and Properties[a]

Map Symbol	Drainage	Permeability (in/hr)[b]	Water Erosion Hazard	Runoff Rate	Revegetation Potential[c]	Storie Index	Land Capability Class[d]	Soil Map Units Within Farmland Resource Type[e]	Prime Farmland[e]
172	Well drained	0 to 48 in: Moderate 48 to 60 in: Moderately rapid	Slight	Slow	Good	64	N: IIw-2, I: IIw-2	P	Y
176	See 174 and 152	See 174 and 152	Slight	Ponded	Fair	18	N: IVs	G	N
152	Moderately well drained	0 to 32 in: Slow 32 to 60 in: NA	Slight or none	Very slow	Good	15	N: IIIs, I: IIIs	G	N
174	Moderately well drained	0 to 15 in: Moderate 15 to 29 in: Very slow 29 to 60 in: NA	Slight	Slow	Fair	20	N: IVs-3, I: IVs-3	G	N
121	Somewhat poorly drained	0 to 43 in: Moderately rapid 43 to 64 in: Slow	Slight or None	Slow or very slow	Good	65	N: Iiw-2, I: IIw-2	P	Y
126	See 125	See 125	Moderate to severe	Medium or rapid	Fair	See 125	See 125	G	N
213	Moderately well drained	0 to 23 in: Moderate 23 to 28 in: Very slow 28 to 54 in: NA 54 to 60 in: Slow	Slight	Very slow	Good	28	N: IIIs, I: IIIs	P, S, L, U	Y
214	Moderately well drained	See 213	See 213	Slow	Good	See 213	See 213	L, G	N
137	Moderately well drained	NA	Slight or none	Very slow	NA	12	N-IVs, I-IVs	S, U, L, G	N
157	Moderately well drained	0 to 23 in: Moderate 23 to 31 in: Moderately slow 31 to 38 in: Moderate 38 to 44 in: NA 44 to 60 in: Moderate	Slight	Slow	Good	30	N: IIIs, I: IIIs	G	N

TABLE 8.9-2B
Soil Mapping Units and Properties[a]

Map Symbol	Drainage	Permeability (in/hr)[b]	Water Erosion Hazard	Runoff Rate	Revegetation Potential[c]	Storie Index	Land Capability Class[d]	Soil Map Units Within Farmland Resource Type[e]	Prime Farmland[e]
125	Well drained or moderately well drained	0 to 28 in: Moderate 28 to 47 in: Very slow 47 to 62 in: Slow	Moderate to severe	Medium	Fair	36	N: IIIe, I: IIe	G	
156	Moderately well drained	0 to 7 in: Moderately rapid	Slight to moderate	Medium	Very poor	61	N: VIs	G, U, P	Y

[a] All data from *Soil Survey of Sacramento County, California* (NRCS, 1993*)*.
[b] Permeability ratings (units in inches per hour): Very slow — < 0.06, slow – 0.06 to 0.20, moderately slow – 0.20 to 0.60, moderate – 0.60 to 2.00, moderately rapid – 2.00 to 6.00, rapid – 6.00 to 20.00, and very rapid — > 20.00.
[c] Based on the potential for establishment of wild herbaceous plants.
[d] Land capability class designations: I – arable land with few or no limitations to productivity; II – arable land with limitations such as drainage, salinity, structure or slope; III – severely limited arable land with restricted range of suitable crops; IV – very severe limitations requiring careful management and plant selection; V – No erosion hazard but only suitable for pasture, range, woodland, or wildlife; VI – suitable for pasture, range, woodland, or wildlife, but severe problems with slope or soil; VII – Similar to Class VI, but very severe limitations, some of which are uncorrectable; and, VIII – only suitable for wildlife or recreation. Land capability subclass designations: e – risk of erosion; w – wetness, drainage, or flooding problems; s – rooting zone limitations; and c – climatic limitations.
[e] Soil ratings based on the type of parent material and degree of subsoil development, surface texture, slope and management factors.

8.9.2.3 Prime Farmlands

Farmlands of state or local importance, prime status, grazing land, or urban development are shown in Table 8.9-2B. Soil mapping unit farmland designations are derived from the Farmland Mapping and Monitoring Program (FMMP) administered by the Division of Land Resource Protection of the CDC. Prime farmland is designated by the NRCS as available land and soil that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.

Table 8.9-2B shows prime farmlands are found on Hicksville loam, Redding gravelly loam, San Joaquin-Galt complex, San Joaquin silt loam, Columbia sandy loam, Bruella sandy loam, and Live Oak sandy clay loam Hadselville-Pentz complex. Prime farmlands comprise a relatively small proportion of the farmland types crossed by the proposed gas pipeline. Siting the gas pipeline along roads minimizes crossing prime agricultural land. Most farmland along the proposed gas pipeline route and project site is farmland of statewide importance and grazing land.

8.9.3 Environmental Consequences

8.9.3.1 Construction Effects on Soil Erosion and Vegetation Establishment

Construction of the CPP and associated gas pipeline include building facilities, parking and road laydown areas, trenching and directional drilling, land grading, and other activities. The quantity of soil excavated and replaced during construction (i.e., area of disturbance) of the pipeline and project site is 54,000 and 16,000 cubic yards (cy), respectively. Construction effects on soils may include increased erosion, compaction loss of soil productivity, and disturbance of saturated soils. Soil erosion results in the loss of topsoil and can contribute to the sediment load of surface waters. The degree to which soil erosion related to construction occurs depends on soil erodibility (see Table 8.9-2B), proximity of construction to surface water, construction timing and method, and implementation of best management practices for erosion control.

Water erosion hazard ratings for soils at the project site and along the proposed gas pipeline route are provided in Table 8.9-2B. Most soils are mapped as level or gently sloping (<2.0 percent), suggesting that the project site slopes should not be a major erosion enhancement factor. Erosion hazards typically range from none to moderate, indicating that standard Best Management Practices (BMP) for controlling erosion and sediment loss (e.g., straw bales, mulch cover, watering exposed soil surfaces to minimize dust, silt fences, etc.) will be sufficient to control soil erosion during construction.

Soil revegetation potential, defined in this analysis as the potential for establishment of wild herbaceous cover, is rated good for most soil mapping units at the project site and proposed pipeline route. Thus, there should not be limitations for re-establishment of vegetation following completion of construction.

8.9.3.2 Other Significant Soil Characteristics

In areas where there is a shallow water table (e.g., in fluvial areas with soils such as Columbia or Galt series), construction would be scheduled to minimize contact with groundwater. Topsoil removed during construction would be used to restore proper soil stratigraphy, landscaping and revegetation or other enhancement of surface characteristics.

Several soil mapping units include soils with layers that exhibit shrink-swell properties. Expansion of soils during wetting and contraction during drying can be problematic for any construction. Soils of this nature excavated during pipeline installation or other construction at the project site may not be suitable for backfill replacement, particularly near linear facilities.

8.9.3.3 Operation

Operation of the gas-fired power plant and gas pipeline should not have an impact on adjacent soils. Vehicle traffic during operation of the facility will be limited to paved road surfaces associated with the site. Maintenance of linear facilities on site or the gas pipeline would likely result in insignificant impacts to agriculture, particularly as a substantial portion of the proposed pipeline route follows roads and railways.

8.9.4 The Effects of Generating Facility Emissions on Soil-Vegetation Systems

Emissions from the generating facility, particularly NO_x from fossil fuel combustion or cooling tower drift, have resulted in public concern in some areas of California. These issues are relevant in naturally oligotrophic (nutrient poor) environments that are sensitive to small additions of nutrients or salts, such as serpentine habitats. However, neither the project site nor proposed gas pipeline route is near these habitat types. Rather, the area is largely agricultural and small increases of nutrients would be insignificant compared to the quantity of fertilizer, manure, herbicides, and insecticides that are typically used or present in production agriculture.

8.9.5 Mitigation Measures and Monitoring

As stated above, erosion control measures BMPs would be required during construction to maintain water quality, preserve topsoil, prevent loss of productivity, and maintain air quality. Temporary erosion control measures may be implemented before and removed after construction activities. These may include revegetation, slope stabilization, dust suppression with periodic applications of water or surface sealants, berms, sediment barriers, or straw cover. Vegetation is the ideal method of erosion control because it holds soil in place and maintains the aesthetic value of the landscape. It also reduces raindrop energy and runoff by canopy interception and filtering, and increases infiltration capacity.

Following any deep excavations, stockpiled soils would be replaced to minimize soil loss from the construction area. Standard erosion measures, such as silt fences and straw bales, should be sufficient to minimize off-site runoff and erosion. Dust control measures, such as water applications, will be used to minimize soil loss from wind erosion.

Sediment barriers, such as straw bales or silt fences, help to slow runoff velocity and trap sediment. These structures are typically placed downslope of the disturbed areas or along streets and property lines. The number and exact placement of these barriers depends on the sediment load and length of slope.

Sediment barriers are particularly important near sensitive receptors, such as streams, creeks, wetlands, irrigation ditches or canals, or storm drains, to prevent sediment loss to surface water. Larger scale erosion control, such as drainage diversions, runoff retention basins, or sediment traps associated with the gas pipeline, will most likely be unnecessary due to the level topography and relatively cohesive soils of the area. Rerouting an ephemeral stream on the northeast corner of the Project Site will require more substantial earth moving at the site. Depending on the timing of the project and hydrology, appropriate measures will be required to ensure that stream rerouting does not result in soil erosion. This includes implementation of BMPs to prevent erosion during construction. Because the affected soils are mapped as rangeland, no prime farmland or farmland of state or local importance will be affected. However, re-engineering of the stream channel may require establishment of suitable soil conditions for riparian habitat. Section 8.14 provides additional information on channel rerouting.

Long-term erosion control will likely include revegetation with a combination of species that includes those adapted for rapid establishment as well as native perennials. Landscaping may also be planned for various areas around the facility. Landowners with properties affected by construction would be notified of construction or operation activities. Furthermore, vehicle traffic would be allowed only on designated areas and with the permission of landowners. Overall, vehicle traffic will be minimized to avoid excessive soil compaction.

Following construction, the Project Site and pipeline route will be monitoring to ensure that temporary or permanent erosion control measures are performing satisfactorily. This includes evaluation of sediment losses from construction to surface waters or irrigation ditches, monitoring of revegetation progress, integrity of sediment control structures, etc.

8.9.6 Involved Agencies and Agency Contacts

Several agencies have jurisdiction to issue permits and approvals or enforce identified laws with respect to farmland protection and soil erosion control. These include the NRCS, CDC, and the state and regional water quality control boards. The agencies and their contacts are shown in Table 8.9-3.

8.9.7 Permits Required and Permit Schedule

Construction of the gas pipeline and Project Site will require a grading and erosion permit from Sacramento County 30 days before construction. In Sacramento County, this is administered under a land improvement and site improvement review. For the City of Sacramento, an erosion and sediment control plan must be submitted as part of the Title 15 Building and Construction permitting process (specifically, Grading, Erosion, and Sediment Control). Sufficient time for review of erosion control plans and associated documentation should be allowed. An NPDES permit may also be required, with the application submitted 120 days before construction.

TABLE 8.9-3
Agency Contacts for CPP Agriculture and Soils

Item	Agency	Contact	Title	Telephone
Defines, identifies, and maps prime farmlands	California Department of Conservation— 801 K Street, MS 13-71 Sacramento, CA 95814-3528	Greg Posley	Program Manager	(916) 324-0859
Issues permits for construction stormwater under NPDES	Regional Water Quality Control Board—Sacramento 3443 Routier Road, Sacramento, CA 95827	Leo Sarmiento	Water Quality Engineer	(916) 225-3049
Grading and soil erosion permits	City of Sacramento— 1231 I Street, Rm 200 Sacramento, CA 95814	Mark Diley	Civil Engineer	(916) 264-7619
Grading and soil erosion permits	Sacramento County Planning and Community Development— 827 7th Street, Room 230 Sacramento, CA 95814	Norman Novak	Principal Engineering Technician	(916) 874-6873

8.9.8 References

California Department of Conservation (CDC). 2000. Farmland Mapping and Monitoring Program Maps for Sacramento County California. Division of Land Resource Protection, Sacramento, CA.

Natural Resources Conservation Service (NRCS). 1993. *Soil Survey of Sacramento County, California*.

United States Department of Agriculture (USDA). 1993. *Handbook 18*. Soil Survey Manual. Soil Survey Division Staff. Washington, D.C.

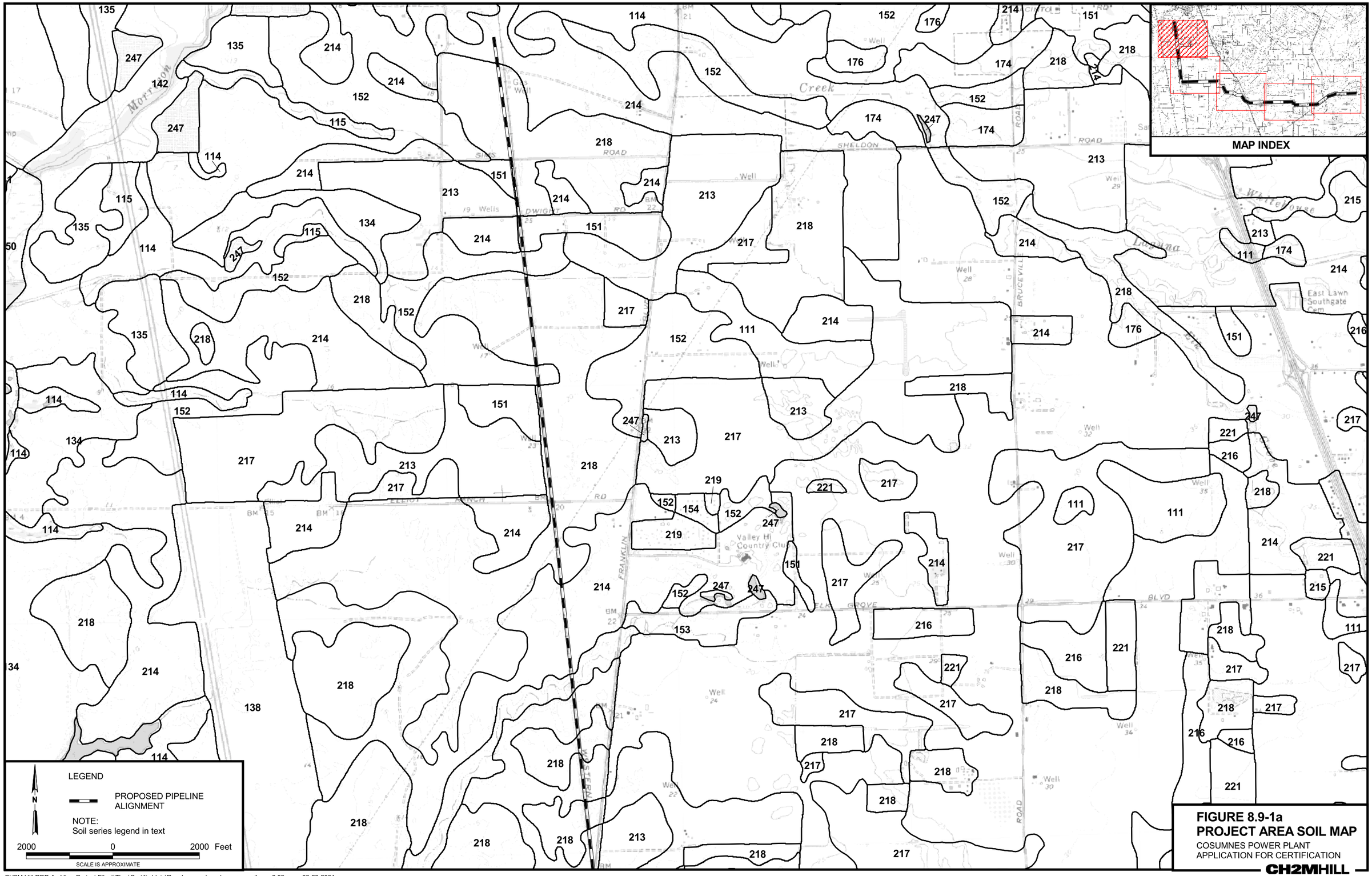

FIGURE 8.9-1a
PROJECT AREA SOIL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION
CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_soil.apr 8:09 a.m. 08-23-2001

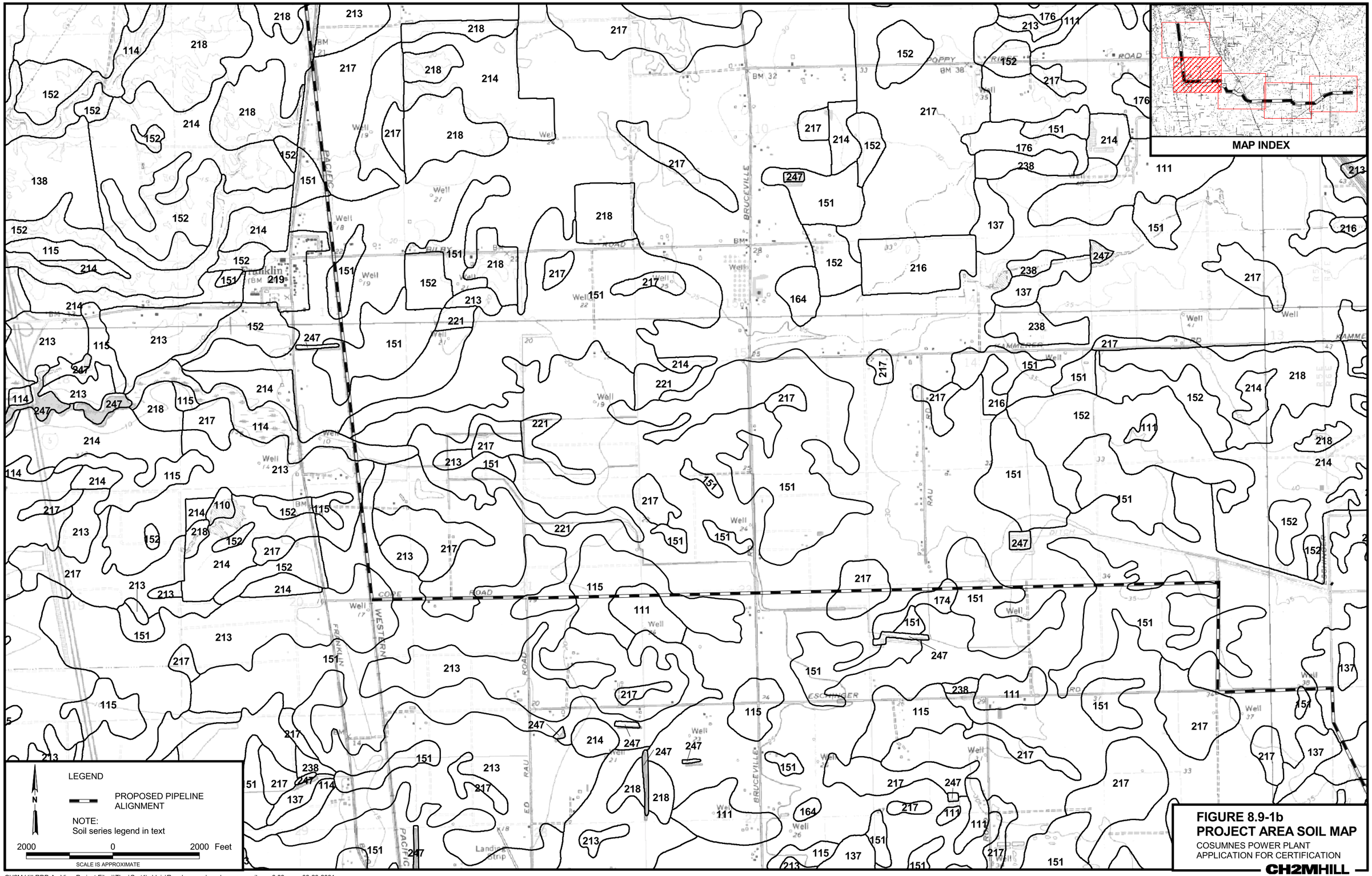

FIGURE 8.9-1b
PROJECT AREA SOIL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION
CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_soil.apr 8:09 a.m. 08-23-2001

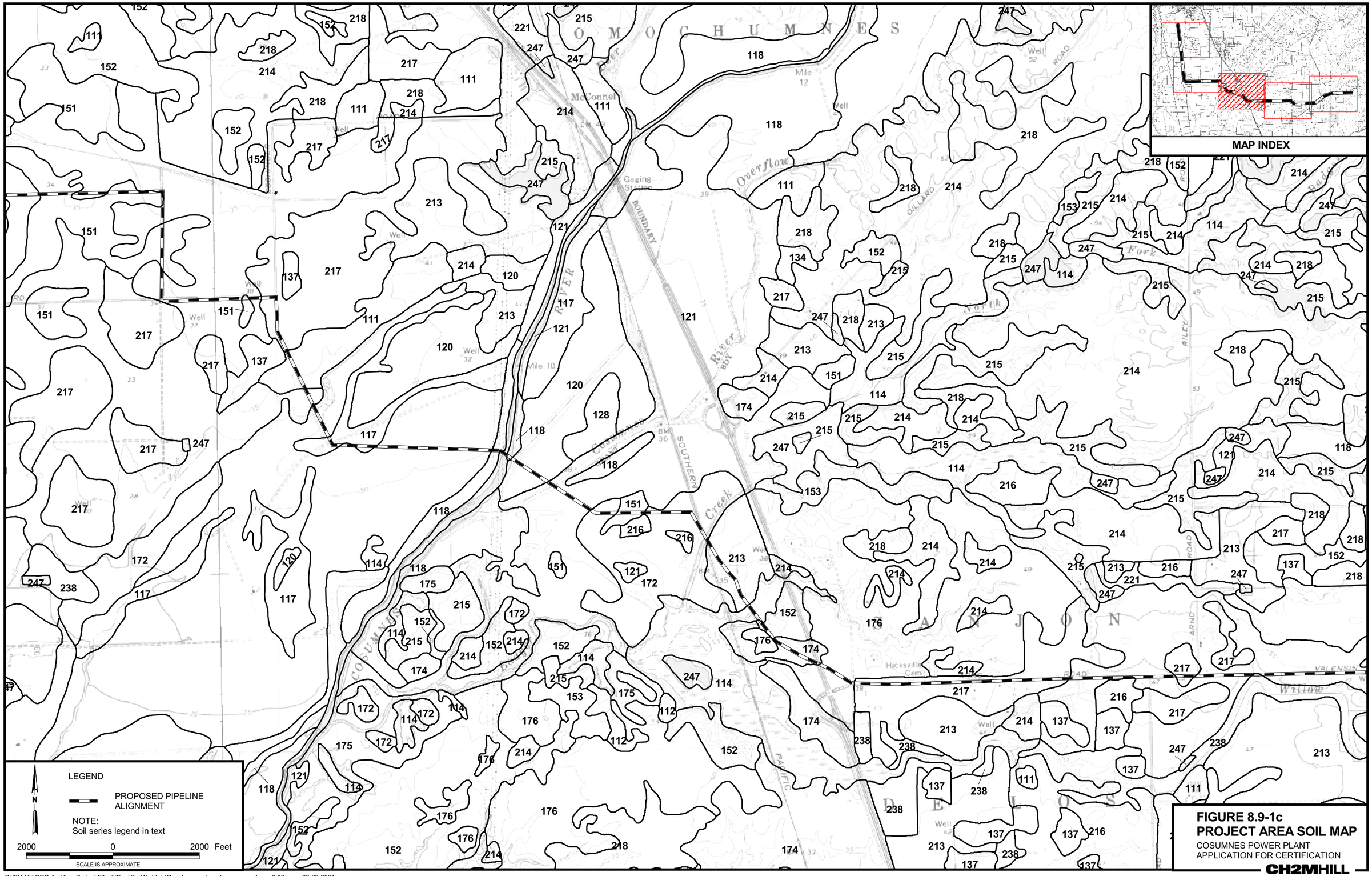

FIGURE 8.9-1c
PROJECT AREA SOIL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION

CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_soil.apr 8:08 a.m. 08-23-2001

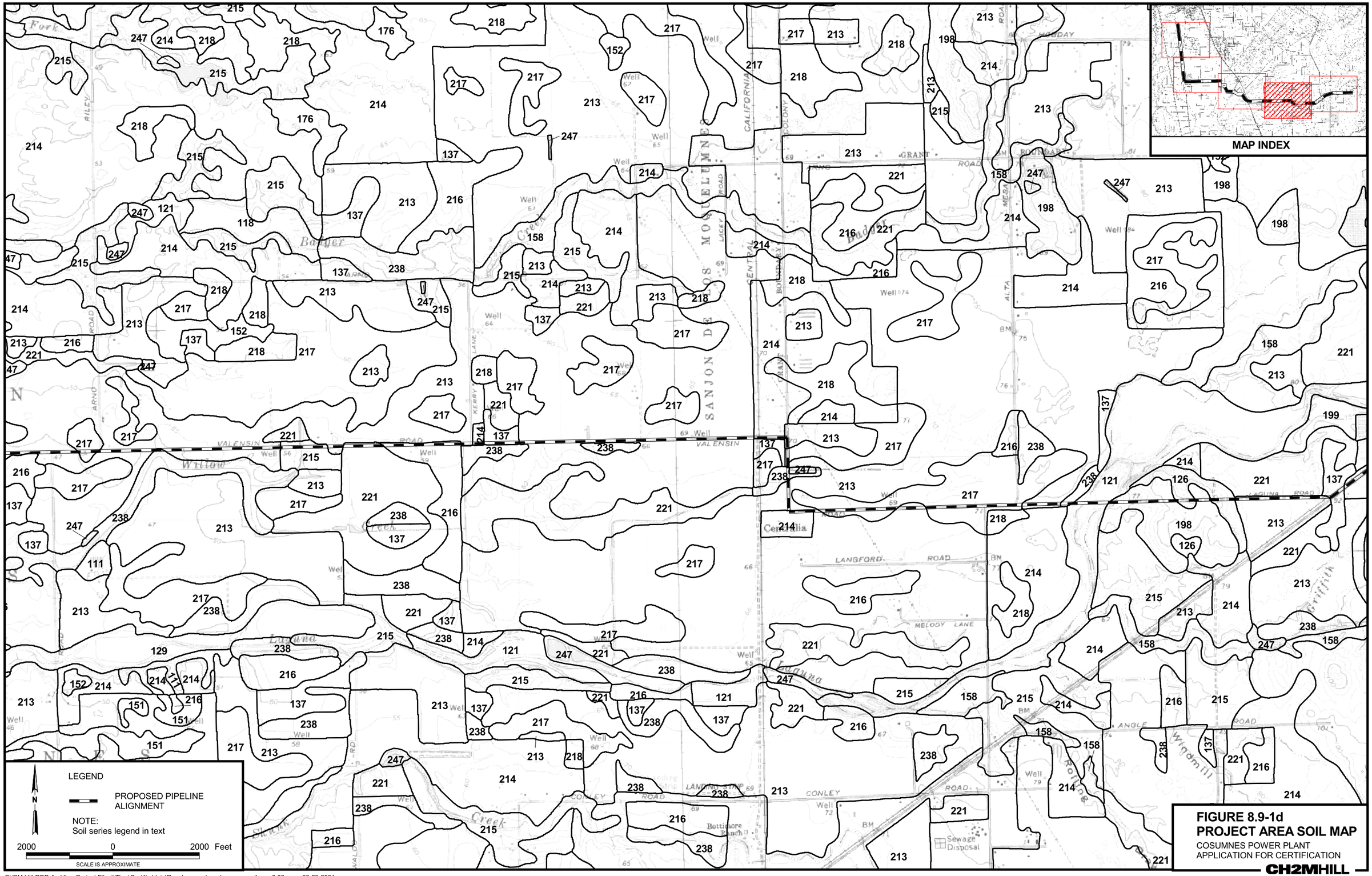

FIGURE 8.9-1d
PROJECT AREA SOIL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION
CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_soil.apr 8:08 a.m. 08-23-2001

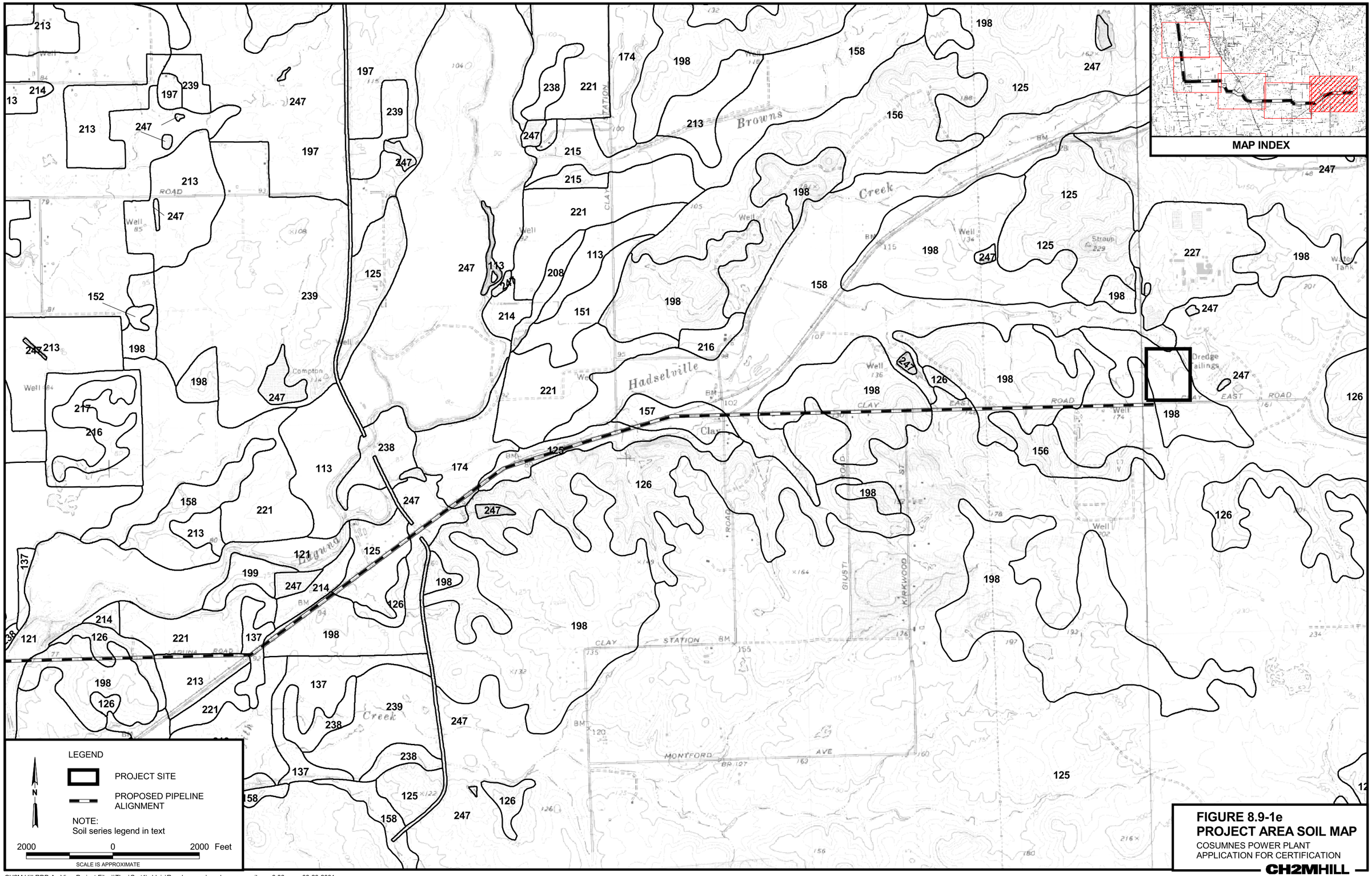

FIGURE 8.9-1e
PROJECT AREA SOIL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION
CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_soil.apr 8:06 a.m. 08-23-2001

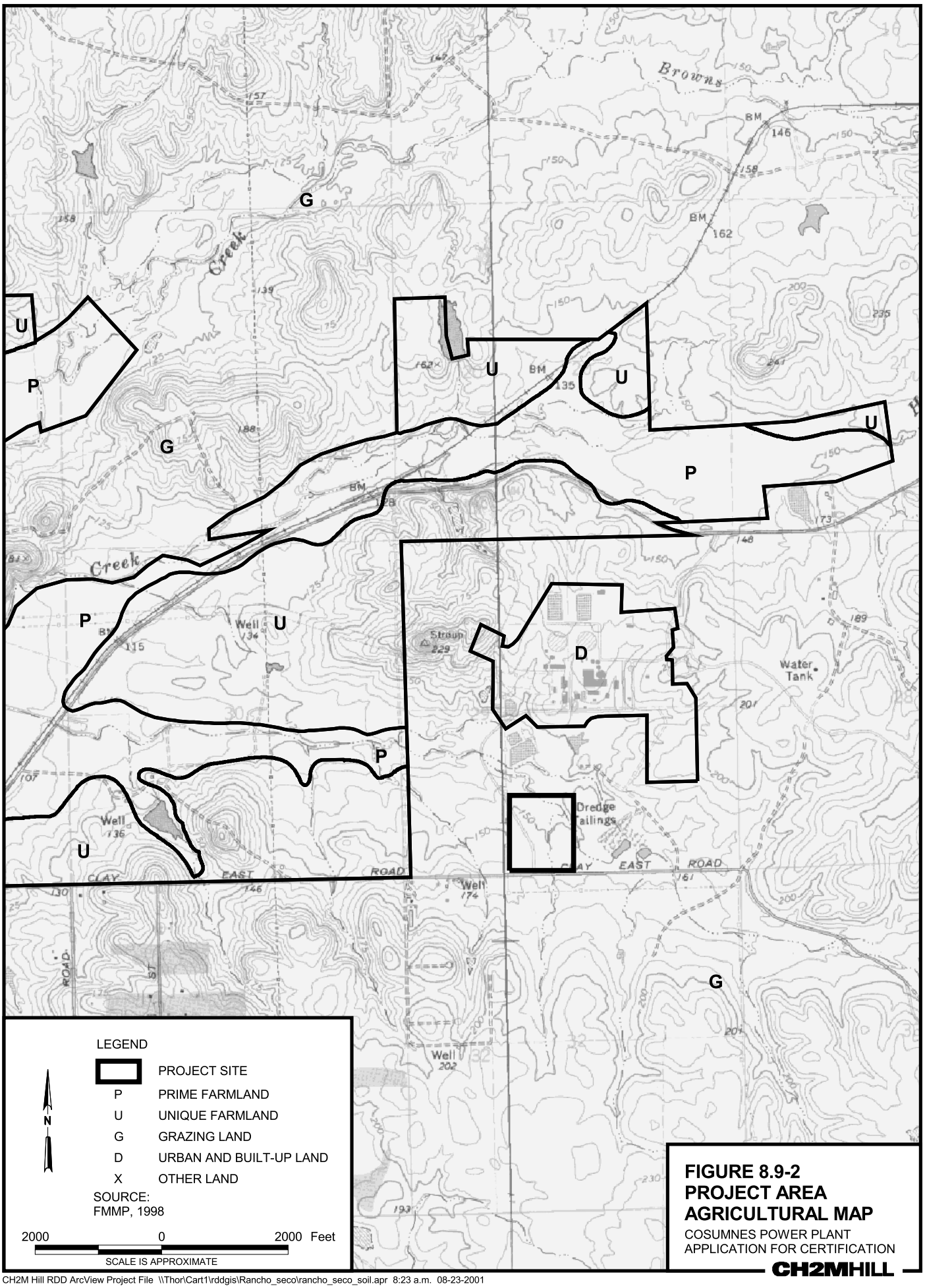

FIGURE 8.9-2
PROJECT AREA
AGRICULTURAL MAP

COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION

CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_soil.apr 8:23 a.m. 08-23-2001

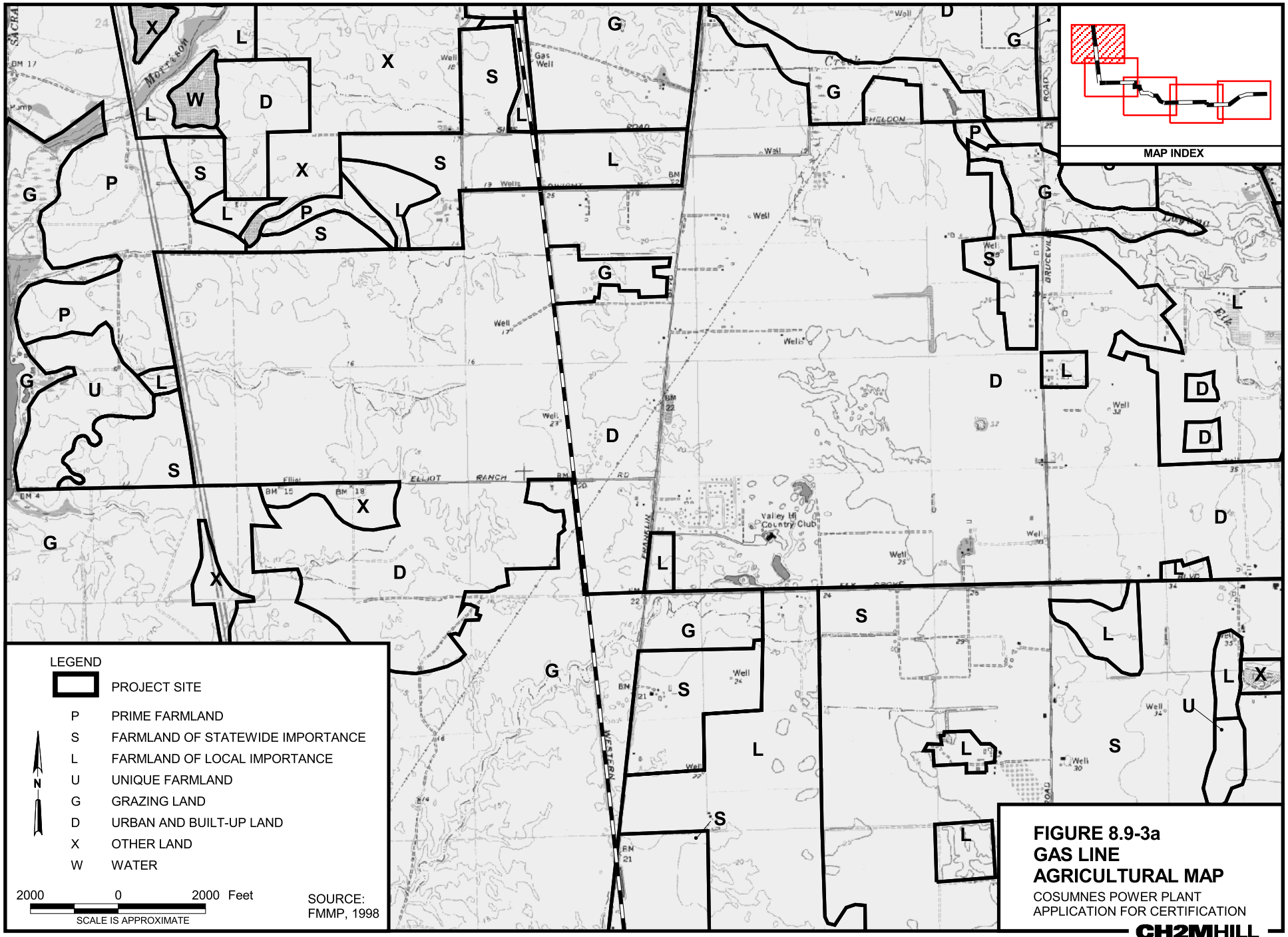

FIGURE 8.9-3a
GAS LINE
AGRICULTURAL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION
CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_farm.apr 4:18 p.m. 10-19-2001

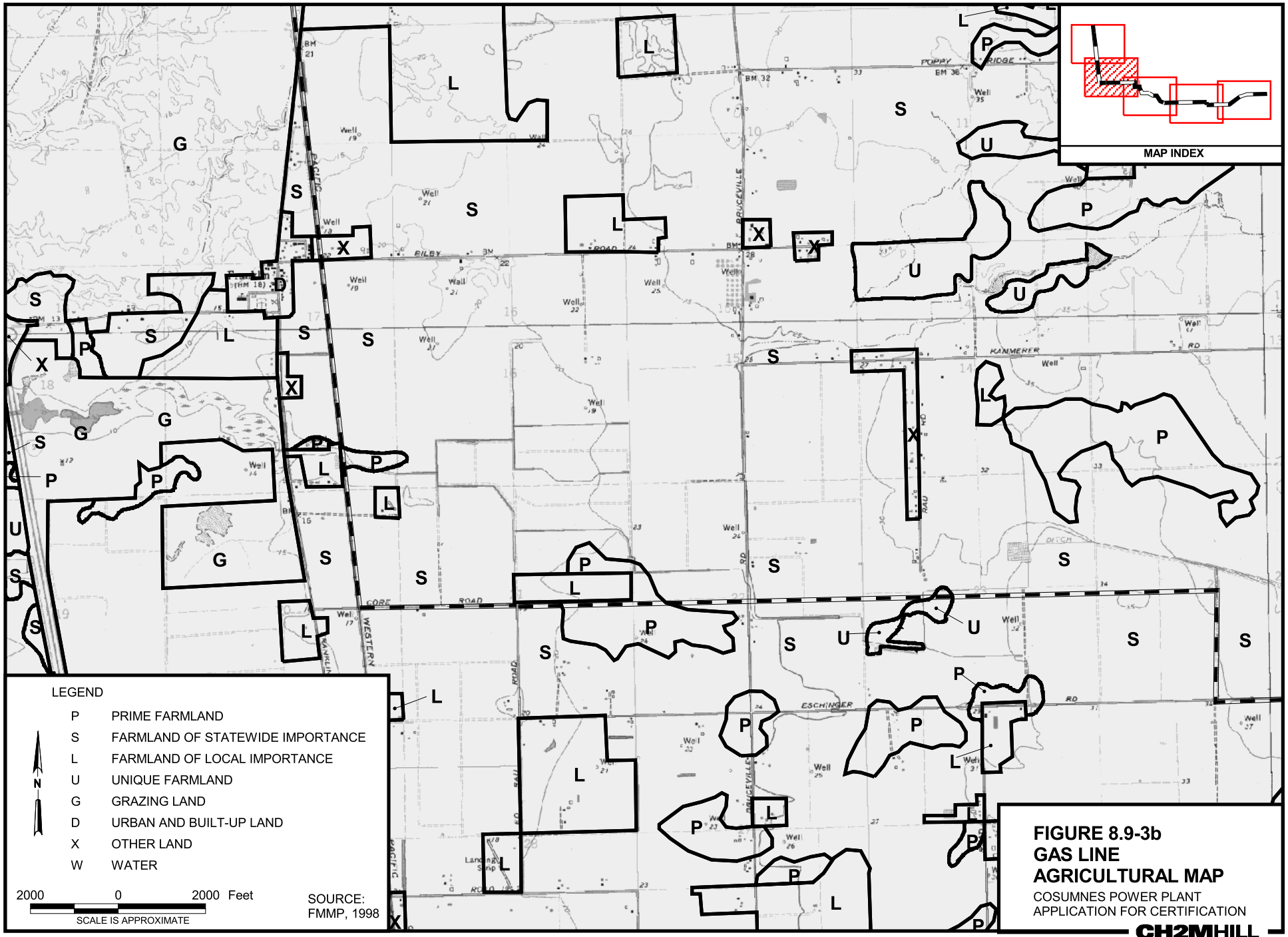

FIGURE 8.9-3b
GAS LINE
AGRICULTURAL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION
CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_farm.apr 4:06 p.m. 10-19-2001

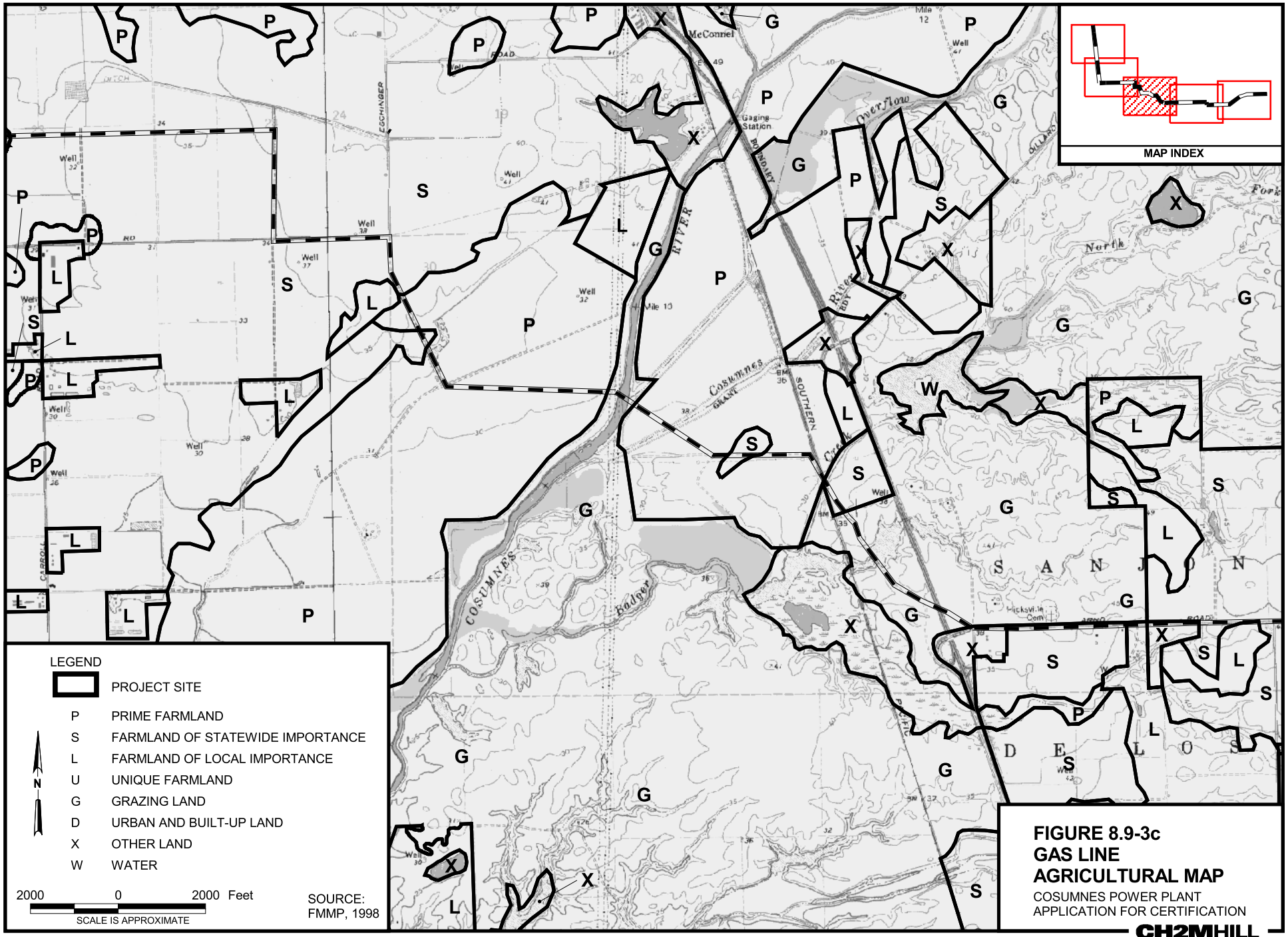

FIGURE 8.9-3c
GAS LINE
AGRICULTURAL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION

CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_farm.apr 8:19 a.m. 10-22-2001

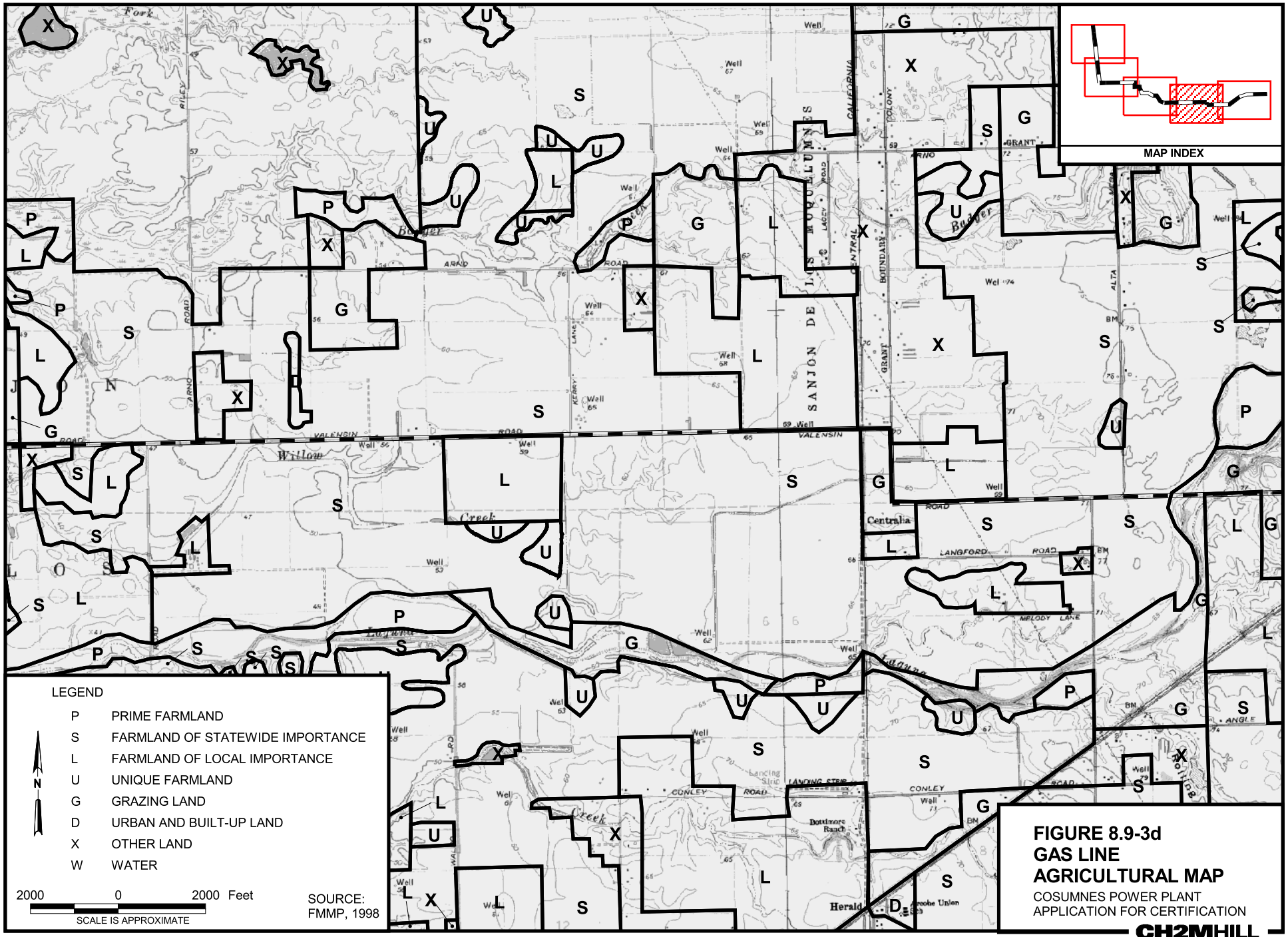

FIGURE 8.9-3d
GAS LINE
AGRICULTURAL MAP

COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION

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CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_farm.apr 3:36 p.m. 10-19-2001

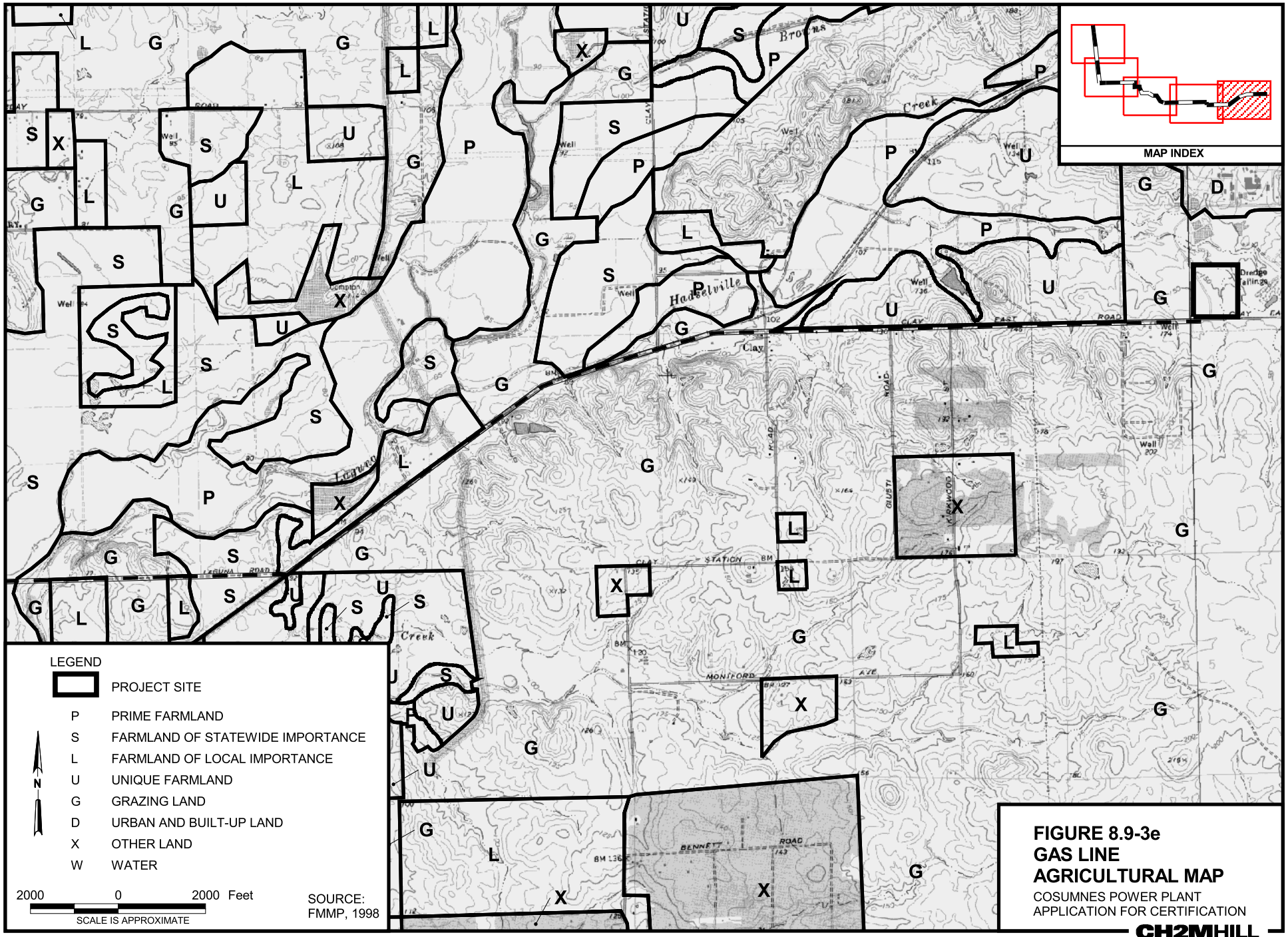

FIGURE 8.9-3e
GAS LINE
AGRICULTURAL MAP
COSUMNES POWER PLANT
APPLICATION FOR CERTIFICATION

CH2MHILL

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\Rancho_seco\rancho_seco_farm.apr 4:18 p.m. 10-19-2001