# CHAPTER 3. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

For the purposes of evaluating the project under the California Environmental Quality Act (CEQA) guidelines, the "proposed project" as identified in this draft environmental impact report (EIR) is the project formally presented in LGS's application, as modified by three amendments. During preparation of the draft EIR, CPUC developed three alternatives to the original project proposal for evaluation in this EIR, all of which are technically feasible and generally acceptable to LGS. Based on the CPUC's review of the analysis of the original proposed project and project alternatives, CPUC has determined that the Composite Route Alternative is the preferred alternative. LGS submitted information on August 16, 1999, indicating that the Composite Route Alternative is also LGS's preferred route and includes the Applicant's preferred compressor location.

# 3.1 LAND USE, PLANNING, AND AGRICULTURAL RESOURCES

This section discusses the existing and proposed land uses in the project area and the relevant and applicable land use plans and policies in Sacramento and San Joaquin Counties. The section describes CPUC's analysis of the compatibility of the proposed project and project alternatives with land uses and land use plans and policies, including agricultural land uses.

## 3.1.1 ENVIRONMENTAL SETTING

Based on a review of aerial photography, field reconnaissance, and a review of planning documents, the project area is characterized by a mosaic of agricultural fields and orchards. In addition to agricultural lands, other land uses in the vicinity of the project include dairies, a fish farm, scattered light-industrial uses, single-family residences, and recreation.

### *EXISTING LAND USES*

#### Agriculture

Agriculture is the dominant land use in both Sacramento and San Joaquin Counties. Agriculture and related activities occupy 68 and 89 percent of lands within Sacramento and San Joaquin Counties, respectively (County of Sacramento, 1993; San Joaquin County, 1992). Most of the agricultural lands in the project area, in both Sacramento County and San Joaquin County, are prime agricultural lands[1] (County of Sacramento, 1993). Lands west of Interstate 5 are characterized by large-acreage farms (typically 80-acre parcels) dedicated to the production of row crops. Vineyards interspersed occasionally with orchards and dairy operations are the main agricultural activity on lands east of Interstate 5. Fallow fields and land not currently under cultivation also make up portions of the area.

The total amount of prime farmland in San Joaquin and Sacramento Counties is more than 500,000 acres, which constitutes approximately 45 percent of those counties' total agricultural land acreage and approximately 35 percent of their total land base. Total annual sales of agricultural products in the project area are approximately $1.74 billion annually (California Department of Food and Agriculture, 1999).

[1] Prime farmlands are defined in the California Government Code 51201(c) as: (1) all land that qualifies for rating as class I or class II in the U.S. Natural Resource Conservation Service's land use capability classifications; (2) land that qualifies for rating 80 through 100 in the Storie Rating Index; (3) land that supports livestock used for the production of food and fiber and has an annual carrying capacity equivalent to at least one animal-unit per acre as defined by the U.S. Department of Agriculture; (4) land planted with fruit- or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than $200 per acre; and (5) land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than $200 per acre for three of the previous five years.

## Residential, Commercial, and Industrial Land

Rural residential properties in the project area are located east of Interstate 5 and are primarily single-family homes associated with farming operations. Approximately 74 residences (dwelling units) are located within 220 yards of the centerline of the proposed pipeline alignment. (Dwelling units within 220 yards of the centerline of the proposed alignment were identified based on 1998 aerial photography and were field verified.)[2] The proposed pipeline alignment generally passes through areas consisting of dispersed rural residences. However, near the intersection of the proposed alignment and Kennefick Road, the proposed pipeline alignment passes within approximately 400 feet of an approximately 20-unit subdivision. Commercial and light industrial operations are also located in the vicinity and are generally concentrated along Interstate 5, Highway 99, and other major thoroughfares. Lind Airport, a small private facility, is located in the southwest corner of the Highway 99/Jahant Road intersection.

The Public Right-of-Way Route Alternative pipeline alignment is generally routed along public rights-of-way, including existing roads. Land uses along project area roadways typically consist of rural residential land uses and occasional light industrial and commercial operations. Along Highway 12, this alternative alignment passes through areas near river and slough crossings in the Delta that have minor concentrations of residential and commercial activity, including the community of Terminous. Approximately 140 dwelling units are located within 220 yards of this alternative alignment. (Dwelling units within 220 yards of the centerline of the pipeline alignment proposed under this alternative were identified based on 1996 aerial photography and were field verified.)

The Existing Pipeline Corridor Alternative pipeline route is along the same alignment as the Public Right-of-Way Route Alternative to the interconnect at PG&E's Las Vinas station. From that point, this alternative generally follows the existing PG&E Line 196 west through the Delta and through the southern portion of the City of Isleton along Sixth Street. This alternative alignment then turns south, through more sparsely populated areas to the PG&E Line 401 interconnect on Sherman Island. Approximately 122 dwelling units are located within 220 yards of this alternative alignment. (Dwelling units within 220 yards of the centerline of the pipeline alignment proposed under this alternative were identified based on 1996 aerial photography and were field verified.)

The Composite Route Alternative (the preferred alternative) is largely identical to the Existing Pipeline Corridor Alternative from Davis Road (just west of the Mokelumne River) to the interconnection with the PG&E Line 401 at the western end of the project. From Davis Road east, this alternative is identical to the proposed project except that it incorporates the compressor facility location at Lind Airport.

[2] Chapter 49, Part 192 of the Code of Federal Regulations describes the minimum federal safety standards for transportation of natural gas by pipeline. One of the key safety design factors is the class location, defined by the number of dwelling units, high-occupancy buildings, or open areas per mile that are located within 220 yards of the centerline of the pipeline. (See Section 3.9, "Public Health and Safety," for a more detailed explanation of class location.)

Approximately 170 dwelling units are located within 220 yards of this alternative alignment. (Dwelling units within 220 yards of the centerline of the pipeline alignment proposed under this alternative were identified based on 1996 aerial photography and were verified in the field.)

## Recreation

Most recreation in the project area is provided along the waterways of the Delta in both Sacramento and San Joaquin Counties. Recreational opportunities in the project area include boating, waterskiing, and resource-oriented recreation such as fishing and hunting. Access to these recreational activities is provided through several thousands of boat berths in the Delta. Private facilities also provide launching areas, recreational vehicle and tent camping, picnicking, restaurants, and bait and tackle shops.

The project area has few public parks catering to dryland activities; most of the land is privately owned and dedicated to agriculture (Delta Protection Commission, 1995; County of Sacramento, 1993; San Joaquin County, 1992). Brannan Island State Recreation Area and Seven Mile Slough are the public recreation facilities nearest to the project area. Brannan Island State Recreation Area provides opportunities for boat launching, camping, swimming, nature interpretation, and wind surfing. Seven Mile Slough provides boat launching facilities

### *PROPOSED LAND USES*

Few developments are proposed in the vicinity of the proposed project. Land use proposals relevant to the proposed project are discussed below.

## Sherman and Twitchell Islands

The California Department of Water Resources owns much of the land on Sherman and Twitchell Islands. The California Department of Water Resources has approved the *Proposed Sherman Island Wildlife Management Plan* (California Department of Water Resources, 1990). The objective of that plan is to:

> … implement a land use management program that effectively controls subsidence and soil erosion on Sherman Island, while also providing significant wildlife/waterfowl habitat values… . The plan is also designed to benefit wildlife species that occupy wetland, upland, and riparian habitat, and provide recreational opportunities for hunting and viewing. In addition, property acquired and habitat developed through DWR's contribution will be available for use as mitigation of impacts associated with ongoing DWR Delta water management programs.

No formal plan has been adopted for Twitchell Island, although the California Department of Water Resources has prepared a *Feasibility Assessment and Interim Plan for Management of Twitchell Island as a Waterfowl Area* (California Department of Water Resources, 1991).

The two plans for Sherman and Twitchell Islands generally indicate that the islands would be managed to provide a variety of wildlife habitats, including riparian, upland, seasonally flooded wetlands, and permanently flooded wetlands. To date, most of these islands have not been developed for habitat purposes. Current land uses on these islands include cultivated agriculture, grazing, natural gas facilities, rural residential uses, and recreational facilities.

### Staten Island

Staten Island has recently become part of the Cosumnes River Preserve. Specific plans for future habitat development on the island are not available, but continued agricultural production of annual crops to benefit wildlife is a major element of the proposal, along with the creation of seasonal wetland habitats. The primary current land use on Staten Island is annual crop production.

### City of Isleton

The City of Isleton is located immediately north of the proposed pipeline alignment. The city is considering annexing areas south of Georgiana Slough for future development. A small portion of the proposed pipeline crosses areas designated as "urban reserve" in the city's general plan update (Grunwald, 1999). The Existing Pipeline Corridor Alternative pipeline alignment passes through a portion of the city.

### Delta Wetlands Project

Delta Wetlands Properties has proposed a water storage project on four islands in the Delta. The project would involve diverting and storing water on two islands (Bacon Island and Webb Tract) and seasonally diverting water to create and enhance wetlands to manage wildlife habitat on the other two islands (Bouldin Island and Holland Tract). Delta Wetlands Properties proposed constructing recreation facilities along the perimeter levees on all four islands and operating a private airstrip on Bouldin Island, among other activities. A draft EIR/environmental impact statement (EIS) was prepared for this proposed project. No final EIR/EIS has been released. The State lead agency is the California State Water Resources Control Board and the Federal lead agency is the U.S. Army Corps of Engineers. The lead agencies are currently preparing a revised draft EIR/EIS for the project. There is currently no firm schedule for a decision on this proposal.

### CALFED

CALFED is a consortium of state and federal agencies seeking solutions to long-term Delta water supply, water quality, natural habitat, and related issues. One of the issues being considered by CALFED is the improvement of floodway capacity in the Delta. Although detailed plans are not available, CALFED is considering the possibility of dredging certain Delta channels to improve floodflow capacity. These channels would be lowered substantially below their current bottom to provide increased flow capacity. CALFED is also considering widening some Delta channels to reduce flood damage and increase channel capacity in certain areas. The proposed pipeline alignment crosses some channels under consideration for such improvements by CALFED, including the North Fork Mokelumne River and various other sloughs and channels in the eastern portion of the Delta.

## 3.1.2 REGULATORY SETTING

CPUC analyzed the proposed LGS project and associated projects for compatibility with applicable adopted state and local plans and policies, including those associated with the Delta Protection Commission, San Joaquin County, Sacramento County, and the Williamson Act.

### *DELTA PROTECTION COMMISSION*

The California State Legislature passed the Delta Planning Act in 1992. The act directs the Delta Protection Commission to prepare a comprehensive resource management plan for land uses within the primary areas of the Delta. This resource management plan (the *Land Use and Resource Management Plan for the Primary Zone of the Delta*, adopted by the Delta Protection Commission in 1995) is designed to safeguard the Delta from the threats of urban and suburban encroachment. The goals of the plan, as set out in the act, include protecting, maintaining, and, where possible, enhancing and restoring the overall quality of the Delta environment, including but not limited to agriculture, wildlife habitat, and recreational activities. The plan also recognizes the high value of the Delta as a utility corridor because of its location between major population areas, its flat terrain, and its general lack of development.

The "Primary Zone" of the Delta includes approximately 500,000 acres of waterways, levees, and farmland. The Primary Zone differs from the Secondary Zone in that it is less developed. The LGS project area is located within the Primary Zone of the Delta from approximately Interstate 5 to the intersection with the PG&E Line 401 interconnect. The components of the project located in areas under the jurisdiction of the Delta Protection Commission include the portion of the pipeline alignment generally west of Interstate 5, the PG&E Line 401 interconnect, and the metering station.

The three sections of the *Land Use and Resource Management Plan for the Primary Zone of the Delta* that are relevant to the LGS project are "Land Use," "Environment," and "Utilities and Infrastructure." The goal of the land use section of the plan is to protect the unique character and qualities of the Primary

Zone by preserving its cultural heritage and strong agricultural base. The goal of the environment section of the plan is to ensure that the highest priority land use of areas of prime soil is agriculture. The goal of the utilities and infrastructure section of the plan is to protect the Delta from the excessive construction of utilities and infrastructure facilities. Policy 1 of the utilities and infrastructure section states that "Impacts associated with construction of transmission lines and utilities can be mitigated by locating new construction … along property lines. To minimize impacts on agricultural practices, utility lines shall follow edges of fields."

### *SAN JOAQUIN COUNTY*

The portion of the project that is located within San Joaquin County falls within areas covered by the San Joaquin County General Plan and San Joaquin County Development Title. Within San Joaquin County, there are no local city or town general plans or zoning ordinances that are relevant to the project because the project area is located entirely within unincorporated areas.

San Joaquin County policies apply to lands potentially affected by the proposed project and project alternatives from the Lodi gas field in the east to the North Fork Mokelumne River in the west, where the pipeline would cross into Sacramento County. Proposed project facilities in San Joaquin County include the well pads, field pipeline, separation facility, compressor facility, transmission pipeline, and PG&E Line 196 interconnect and metering station.

The San Joaquin County General Plan, particularly the Community Development Element and the Resources Element, contain policies relevant to the project. The utility corridors section of the Community Development Element establishes guidelines to ensure that utilities are properly sited and compatible with surrounding land uses. The agricultural lands section of the Resources Element establishes guidelines to ensure that agricultural production continues to exist and operate as efficiently as possible. Policy 6 of Section IV.D.5, "Utilities Corridors," states that "The County shall encourage utilities to route their facilities along property lines and where they will not interfere with agricultural operations or other land use activities."

The county's extractive resources policy states that the county shall permit the development of its oil and natural gas resources, provided that such development ensures adequate protection to the resource and the environment, protects public health and safety, and is compatible with the current and projected uses of the land.

In addition, county policies indicate that gas well sites proposed to be developed on agriculturally zoned lands shall not be located within 1,000 feet of the boundary of property zoned for residential, interim residential, interim estate, or recreational purposes. County policies also state that no gas well shall be located within 300 feet of a structure used for human habitation.

Land uses near Lind Airport are governed by the Airport Land Use Plan (San Joaquin County Airport Land Use Commission – 1993 Amendments). The airport plan is intended to ensure that no new land use resulting in a hazard to aircraft or to the health or safety of persons on the ground is permitted within any part of the airport's area of influence. The airport plan regulates the height of new structures, trees, artificial embankments, and equipment and the land uses under the imaginary surfaces defined by Volume XI, Part 77 of the Federal Aviation Regulations. Additionally, the Federal Aviation Administration is required to review all proposed structures that would rise above a line extending from the centerline of the runway at a slope of 100 feet horizontal to 1 foot vertical. The compressor facility, as proposed, includes exhaust stacks 35 feet tall that would penetrate this imaginary surface at either the proposed or alternate location (i.e., at either site, it is closer than 3,500 feet from the runway centerline). LGS would therefore be required to file a Notice of Proposed Construction or Alteration with the Federal Aviation Administration.

## Zoning

The portion of the project area within San Joaquin County is generally designated Agriculture. This designation generally allows agricultural operations as the primary use. Resource extraction and processing are also permissible. The San Joaquin County zoning ordinance allows petroleum and natural gas extraction development and utility services such as gas transmission facilities in agricultural zones, subject to site approval.

The project area is contained entirely within the General Agriculture zone. General Agriculture is defined as "areas generally committed to agriculture with viable commercial agricultural enterprises that require large land areas to efficiently produce their crops." According to San Joaquin County Development Title Section 9-605.2, utilities are a "Permitted Use with Improvement Plan" within the General Agriculture zone.

### *SACRAMENTO COUNTY*

The portion of the project within Sacramento County falls within areas covered by the Sacramento County General Plan and Sacramento County Zoning Ordinance. The Existing Pipeline Corridor and Composite Route Alternatives pass through Isleton.

Sacramento County General Plan policies apply to lands potentially affected by the proposed project and project alternatives from the North Fork Mokelumne River in the east to the PG&E Line 401 interconnect on Sherman Island in the west. Project facilities proposed in Sacramento County include the transmission pipeline and the PG&E Line 401 interconnect and metering station.

The Sacramento County General Plan (including the Land Use, Agricultural, and Public Facilities Elements) contains policies relevant to the proposed project. The Land Use Element establishes the general

distribution and general location and extent of uses within the county, including agriculture. The Agricultural Element establishes guidelines to ensure the maintenance of the county's agricultural lands and their agricultural productivity. The goal of the county's Agricultural Element is to ensure that important farmlands are protected from conversion and encroachment and that agricultural resources are conserved.

Sacramento County General Plan Public Facilities Element Section VIII (which is specific to Energy Facilities) includes policies relevant to the siting of energy facilities within the county. The General Energy Facility Policy includes the objective to "minimize the health, safety, aesthetic, cultural, and biological impacts of energy facilities in Sacramento County." Recognizing that the priority of siting factors may vary from project to project, requiring decision makers to compromise some policies in favor of others, the Public Facilities Element stipulates that the Board of Supervisors must provide findings explaining actions contrary to policies in this section. The Public Facilities Element further provides policy direction regarding facility siting, appearance, and transmission routes that is intended to protect biological and cultural resources and human health. This section also addresses natural gas production and distribution. In addition to discussing the permitting process for new natural gas wells, specific language contained in policy PF-118 recommends that the county "[r]oute new high pressure gas mains within railway and electric transmission corridors, along collector roads, and wherever possible, within existing easements. If not feasible, these gas mains shall be placed as close to the easement as possible."

Within the City of Isleton, the Existing Pipeline Corridor and Composite Route Alternative alignments would travel along Sixth Street parallel to the existing PG&E Line 196. This area is designated as agriculture in the City of Isleton General Plan.

## Zoning

Zoning regulations generally do not apply to below ground facilities. The project area within Sacramento County is generally designated either Agricultural Cropland or Recreation. The Agricultural Cropland designation generally allows crop production as the primary use, with resource extraction and processing permissible, subject to discretionary approval by the county. The Sacramento County zoning ordinance allows for construction of gas transmission facilities within agriculturally zoned areas. The Recreation designation encompasses the waterways that traverse the project area. The Resource Conservation designation identifies areas with special resource management needs. Sherman Island is designated a Resource Conservation zone. This designation recognizes the presence of important natural resources while recognizing the validity of the agricultural land use designation. Compliance with the Resource Conservation designation relies on the voluntary support of landowners.

Within the City of Isleton, the Existing Pipeline Corridor and Composite Route Alternative pipeline alignments are within an area zoned as agriculture by the City of Isleton.

### *BRANNAN ISLAND STATE RECREATION AREA*

Land uses in the Brannan Island State Recreation Area are governed by the General Plan for Brannan Island and Franks Tract State Recreation Areas (California Department of Parks and Recreation 1988). In general, relatively few planned improvements have been implemented recently. A portion of the area potentially affected by implementation of the project alternatives is proposed for expansion of existing group camp facilities. There are no specific policies or guidelines in the general plan that relate to pipeline easements or siting of pipelines within the state recreation area.

### *WILLIAMSON ACT*

The California Land Conservation Act (Williamson Act) enables counties and cities to designate agricultural preserves (Williamson Act lands) and offer preferential taxation to agricultural landowners based on the income-producing value of their property in agricultural use, rather than on its assessed market value. In return for the preferential tax rate, the landowner is required to sign a contract with the county or city agreeing not to develop the land for a minimum period. Contracts are automatically renewed annually unless a party to the contract files for nonrenewal or petitions for cancellation.

Approximately 50 percent of the agricultural land in San Joaquin and Sacramento Counties is under Williamson Act contract. Both Sacramento and San Joaquin Counties actively encourage new contracts through public information programs (Sacramento and San Joaquin County General Plans). Lands under Williamson Act contracts must comply with regulations pertaining to parcel size, allowable development, and compatible uses. Section 9-1810.3 of the Williamson Act, "Terms of Contract," outlines allowable uses for properties under contract, including petroleum and natural gas extraction and utilities services.

## 3.1.3 SIGNIFICANCE CRITERIA

According to Appendix G of the State CEQA Guidelines, the following criteria are relevant in determining whether a project would result in a significant land use impact:

- The project would physically divide an established community.
- The project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- The project would conflict with any applicable habitat conservation plan or natural community conservation plan.

According to Appendix G of the State CEQA Guidelines, the following criteria are relevant in determining whether a project would result in a significant impact on agricultural resources:

- The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared in accordance with the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.
- The project would conflict with existing zoning for agricultural use or a Williamson Act contract.
- The project would involve other changes in the existing environment that, because of their location or nature, could result in conversion of farmland to nonagricultural use.

No guidance is provided concerning how much land must be converted before the impact is considered significant. However, the guidelines indicate that the physical qualities of the agricultural land, the extent of the conversion, the productivity of the land, and the relative effects of conversions should all be considered when determining the significance of farmland conversion impacts.

For purposes of this analysis, impacts on agricultural resources were considered significant if a substantial portion of farmland in the local region would be converted or its productivity reduced because of construction and operation of the project. The determination of what degree of conversion constitutes a "substantial portion" of farmland was based on two factors:

- the amount of prime farmland converted by the project relative to the amount in the study area; and
- the loss of production acreage relative to the total acreage in the study area.

For purposes of this land use analysis, the study area is defined as San Joaquin and Sacramento Counties.

## 3.1.4 IMPACTS OF THE PROPOSED PROJECT AND MITIGATION MEASURES

The following impact analysis addresses construction-period impacts, impacts of operation and maintenance, and impacts associated with potential incompatibility of the proposed project with applicable plans and policies. Construction-period impacts deal with changes that would occur during construction. Impacts of operation and maintenance are categorized by permanent structures or any change from construction that cannot be guaranteed to be returned back to its original state. Impacts associated with incompatibility with applicable plans and policies are determined through examination of the plans and policies of those agencies with jurisdiction over the area encompassing the proposed project.

## Impact 3.1-1: Temporary Disruption of Agricultural Production during Construction

The project would involve the construction of the following facilities:

- six well pad sites, including 10 or up to 11 gas injection/extraction wells, three observation wells, two water injection wells, and several groundwater monitoring wells, requiring approximately 2 acres for each well pad site during construction;
- pipelines between the well pad sites and the separation facility;
- the separation facility, requiring a 5-acre construction area;
- a 3-mile-long, 30-inch-diameter pipeline between the separation facility and the compressor facility;
- the compressor facility, requiring approximately 5 acres during construction;
- a 24-inch-diameter, approximately 28-mile-long pipeline from the compressor facility to the PG&E Line 401 interconnect site;
- a pipeline spur from the pipeline alignment to the PG&E Line 196 Las Vinas interim interconnect site; and
- four 1-acre construction staging areas.

Construction of the proposed project facilities could result in temporary conflicts and construction-related nuisances at construction sites, including localized construction noise, dust, and construction equipment traffic, that would temporarily inconvenience residents and business operations near project facilities. As noted above, approximately 74 residences (dwelling units) are located within 220 yards of the centerline of the proposed pipeline alignment. (Refer to Section 3.5, "Air Quality;" Section 3.6, "Transportation and Circulation;" and Section 3.10, "Noise," for a detailed discussion of these effects.)

During project construction, temporary construction easements would be necessary to install the proposed project facilities. Most of the injection/extraction well pad facilities, the observation wells, the monitoring wells, and the water injection well sites are located on lands that have not been cultivated recently although many fields in this area are being converted to vineyard. One of the proposed well pads is located in an existing vineyard. The separation facility site was recently planted in vineyard. Approximately 7 acres of vineyard would be affected temporarily at these sites.

The PG&E Las Vinas interconnect site is located on uncultivated land adjacent to an existing metering station. The PG&E Line 401 interconnect site is located in an area used primarily for grazing and is adjacent to several similar facilities. No substantial disruption of normal activities is anticipated at this site.

The pipeline facilities would generally be located in agricultural areas. The pipeline crosses lands used to grow a variety of different crops. Near the proposed separation facility and the compressor facility, much of the land is fallow or is currently vineyard. Between Interstate 5 and Highway 99, much of the land crossed by the pipeline is planted in vineyards. Some land west of Interstate 5 is also vineyards. However, toward the western end of the project area, most of the crops are truck and field crops. Construction of the pipeline would generally require a temporary 70-foot construction easement. Based on this assumption, the project would temporarily affect approximately 300 acres used for agricultural production, of which approximately 100 acres are located on parcels used for grape production (Table 3.1-1). The project proponent has attempted to minimize effects by routing the pipeline along existing farm roads, property boundaries, and other features, which would reduce the total acreage of crops affected.

The impact of construction-related land use conflicts would generally occur within an area that consists primarily of agricultural and fallow land with scattered rural residences and businesses that would be affected only temporarily during construction activities and crop production would be allowed to be reestablished on the pipeline easement after construction is completed. As a public utility, the project proponent would be required to offer appropriate compensation for land held in private ownership as part of the acquisition of utility easements. The project proponent would also be required to compensate landowners for removal of any structures, permanent crops, and agriculture-related improvements required to construct the project. In addition, the project proponent has incorporated various measures into the project (such as restoring areas affected by construction and providing compensation for the removal and disturbance of permanent crops, irrigation facilities, and trellis systems), which would be adopted and enforced by CPUC if the project is approved, that are intended to minimize and compensate for such effects (see Chapter 2, “Project and Alternatives Description”). Therefore, this impact is less than significant.

**TABLE 3.1-1**
**SUMMARY OF TEMPORARY DISTURBANCE-RELATED EFFECTS OF THE LGS PROJECT AND ALTERNATIVES**

| Characteristic | Proposed Project | Public Right-of-Way Route Alternative | Existing Pipeline Corridor Alternative | Composite Route Alternative |
|---|---|---|---|---|
| Estimated number of residences (dwelling units) within 220 yards of the centerline of the pipeline alignment | 74 | 140 | 145 | 170 |
| Approximate acreage of non-vineyard agricultural land affected | 200 | 160 | 225 | 225 |
| Approximate acreage of vineyard affected | 100 | 30 | 80 | 50 |

Although the direct impacts of construction are considered less than significant, additional conflicts could result if pipeline construction activities occur during crop harvesting. This potential conflict is primarily important to vineyard operations because of the short time frame available to successfully harvest grapes and the intensity of the harvesting effort. As identified in Section 2.4.13, "Mitigation Measures Proposed by the Applicant," LGS has committed to general measures to avoid interference with agricultural operations. However, these measures are not specific enough to provide for full mitigation of impacts. Therefore, this potential conflict is a significant impact. Implementation of Mitigation Measure 3.1-1 will reduce this impact to a less-than-significant level.

***Mitigation Measure 3.1-1: Avoid pipeline construction in vineyards during harvesting season***

If the Applicant reaches appropriate agreements with individual landowners that allow construction on individual vineyards, no additional mitigation is necessary. If no such agreement can be reached, however, the Applicant will avoid all construction activities in such vineyards during and immediately before (within 4 weeks of) the harvest season. The precise period of prohibition of construction activities will be determined by CPUC and will take into account the type of grape and seasonal weather conditions.

*Monitoring Action* — LGS will provide CPUC with copies of all agreements with landowners that permit construction in vineyards during the harvest season. CPUC will map such lands, along with lands for which no agreement exists, and monitor construction activities to ensure compliance with this measure.

*Responsibility* — CPUC

*Timing* — The agreements shall be provided to CPUC by LGS no later than July 31 of any year in which construction is scheduled to occur during harvest season.

### Impact 3.1-2: Permanent Loss of Agricultural Production Capability

Implementation of the proposed project would result in the permanent loss of agricultural production capability on a small amount of land as a result of facility construction and operation. The following permanent loss of agricultural production capability would result from development of project facilities:

- approximately 0.5 acre at the well pad sites;
- approximately 5 acres from permanent access roads to the well pad sites;
- approximately 2 acres at the separation facility site;
- approximately 5 acres at the compressor facility site; and
- approximately 2 acres at the interconnect points at PG&E's Las Vinas and Line 401 pipeline sites.

Current land uses at most of the well pads sites, access road sites, PG&E Las Vinas interconnect site, and PG&E Line 401 pipeline interconnect site are fallow agricultural land or grazing. The compressor facility is located on a parcel that is currently an orchard; the project proponent would acquire the entire site. One of the well pad sites, portions of the access roads, and the separation facility are located in existing vineyards; however, the total acreage of vineyard directly affected is small (approximately 3 acres).

The pipelines associated with the proposed project would be located in agricultural fields for the most part. Normal agricultural activities, including permanent crops, would be allowed to be reestablished over the easement once construction is complete because there is generally little need for access to maintain the pipeline. Therefore, long-term disruptions to agricultural lands resulting from pipeline construction are expected to be minimal. Because no significant impacts are anticipated, no mitigation is required.

Concerns exist regarding the potential for the pipeline to become exposed or brought nearer to the ground surface in Delta areas consisting of peat soils because of ongoing subsidence and erosion of these lands. Exposure of the pipeline or land subsidence and soil erosion that may cause the pipeline depth to be reduced could interfere with future agricultural operations in the Delta. This potential impact is addressed in Section 3.3, "Geology, Soil, and Paleontology."

In addition, concerns exist regarding the potential for interference of the pipeline with possible future agricultural operations in the project area. Many landowners are converting lands in the Lodi area to wine grape production. In recent years, it has become common practice to "deep-rip" lands before planting vineyards to enhance productivity. Deep-ripping involves dragging tines through the soil at depths of up to approximately 8 feet to improve growing conditions for grapes. Installation of the pipeline at a depth of 4 feet in lands that are suitable for grape production, but that have not already been deep ripped, could interfere with future agricultural uses. This potential for interference with agricultural uses is a significant impact. Implementation of Mitigation Measure 3.1.2 would reduce this impact to a less-than-significant level.

## *MITIGATION MEASURES*

See Section 3.3, "Geology, Soil, and Paleontology," for mitigation measures related to the potential reduction of pipeline depth in areas with peat soils.

### *Mitigation Measure 3.1-2: Bury pipelines at a depth of 8 feet in lands that are suitable for grape production but that have not already been deep-ripped, or obtain landowner agreement to bury the pipeline at a shallower depth*

The Applicant shall bury project-related pipelines at a depth of 8 feet in lands that are considered suitable for grape production but that have not previously been deep-ripped unless the Applicant reaches specific agreements with individual landowners that allow for installation of the pipeline at a shallower depth (the pipeline will be buried at least 4 feet deep). Suitability of lands for grape production will be determined in consultation with local experts, such as the University of California Cooperative Extension and local agricultural associations.

*Monitoring Action* – LGS will provide CPUC with documentation showing that lands meeting the definitions described above have been identified in consultation with the listed entities. LGS also will provide CPUC with copies of all agreements with landowners that permit shallower installation of the pipeline in such lands.

*Responsibility* – LGS and CPUC

*Timing* – Agreements will be provided to CPUC before completion of project design and engineering. Project plans and designs will be submitted to CPUC clearly showing burial depths on individual parcels before the release of bid specifications.

### Impact 3.1-3: Loss of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland

The proposed project would result in the loss of approximately 5 acres of Unique Farmland at the compressor facility site, the loss of 2 acres of Farmland of Statewide Importance at the separation facility site, and the loss of approximately 1 acre each of Prime Farmland at the PG&E Line 196 and 401 interconnect sites. In addition, approximately 5.5 acres of various farmland categories would be lost in small increments at the well pad and associated access road sites. Although such losses are generally of concern statewide, these losses are exceedingly small in the local, regional, and statewide context. More than 500,000 acres of Prime Farmland exist in San Joaquin and Sacramento Counties and the proposed project would not foster any additional development. This impact is therefore less than significant.

Construction of the pipeline would also result in temporary disruptions to Farmland of Statewide Importance and Prime Farmland. The project description (Chapter 2, "Project and Alternatives Description") includes measures to restore soils following construction, and agricultural activities would be allowed to be reestablished over the pipeline. Therefore, no long-term impacts would result. This impact is less than significant.

#### *Mitigation Measures*

None required.

### Impact 3.1-4: Compatibility with Surrounding Land Uses

The proposed project involves the construction of a pipeline and related infrastructure through a largely rural, agricultural area. The permanent above-ground facilities associated with the proposed project are of a more industrial nature. The proposed project includes measures to minimize the visual effects of these facilities through landscaping and other visual screening (Chapter 2, "Project and Alternatives Description," and Section 3.12, "Visual Resources"). Although the proposed facilities are somewhat more industrial than typical surrounding land uses, the surrounding land uses vary substantially and similar facilities exist in the area. Therefore, the construction and operation of the separation facility, compressor facility, well pads, and interconnect stations are not expected to result in land use conflicts, nor are they substantially incompatible with surrounding land uses. The separator facility is adjacent to an existing dairy operation and a newly planted vineyard along Jahant Road; the interconnect sites are adjacent to similar existing facilities; the well pad sites would be relatively small and there are existing similar facilities in the vicinity. In addition, the well pad sites would be consistent with San Joaquin County policies that

require such facilities to be located at least 300 feet from existing residences. The compressor facility is located near Highway 99 and adjacent to a propane storage and distribution facility.

Approximately 74 residences (dwelling units) are located within 220 yards of the centerline of the proposed pipeline alignment. One key criterion for routing the pipeline was to minimize proximity to residential uses in order to minimize construction effects. Other siting criteria included minimizing land use conflicts and safety issues. Because the pipeline is generally fairly distant from most residences (approximately 300 feet), is not located on densely developed parcels, and would not substantially restrict future agricultural operations, no significant land use conflicts are expected. Potential safety issues are discussed in Section 3.9, "Public Health and Safety."

***Mitigation Measures***

None required.

### Impact 3.1-5: Potential Inconsistency with Plans and Policies

The proposed project is generally consistent with general plan designations and local zoning ordinances. Gas extraction and development facilities are generally considered by San Joaquin and Sacramento Counties to be compatible with agriculture. Several additional policies of San Joaquin County, Sacramento County, and the Delta Protection Commission are relevant to the proposed project. As described above, many of these policies suggest that utility facilities should, to the extent feasible, be routed adjacent to existing facilities or other existing rights-of-way to minimize the number of utility disruptions and should be routed near or along the edges of fields and property lines rather than bisecting agricultural fields. The proposed pipeline alignment is generally consistent with these policies east of Interstate 5. Although there are some minor instances of the alignment crossing fields, the pipeline alignment generally is located on the edges of fields and between fields along farm roads and other existing corridors, thereby minimizing conflicts with these policies. West of Interstate 5, however, the proposed pipeline alignment crosses through numerous fields and generally does not follow field edges or existing rights-of-way because fields are often oriented in a direction different than the pipeline route and because few east-west-oriented rights-of-way are present in the project area. This segment of the pipeline alignment constitutes approximately 12-14 miles of the total pipeline alignment. Although the project proponent is pursuing the acquisition of agreements for easements from property owners and some of these agreements may result in relocation of the alignment to field or property boundaries, it is unlikely that a substantial change in the alignment will be made and, given the orientation of fields in the Delta region, it is unlikely that substantial consistency with San Joaquin County, Sacramento County, and Delta Protection Commission policies can be achieved. This impact is significant and unavoidable.

The proposed pipeline alignment may also result in minor conflicts with the California Department of Water Resources' plans for habitat enhancement on Sherman and Twitchell Islands because it would pass through areas proposed for revegetation or habitat improvements diagonally rather than along existing field edges or right-of-way or utility corridors. However, these plans have not been implemented and there is no

clear evidence that the existence of an underground pipeline would be substantially inconsistent with these plans if they are implemented in the future. This impact is less than significant.

The proposed location of the compressor facility (at the orchard site) under the proposed project would conflict with the airport land use plan. The land use plan specifically prohibits "electrical and natural gas generation and switching" and "natural gas and petroleum pipelines" in the lands underlying the "Approach and Transitional Surfaces." It is assumed for this analysis that the compressor facility would be classified as a natural gas switching facility. The approach zone is subdivided into a runway protection zone, an inner approach and climbout zone, and an outer approach and climbout zone.

The following proposed features appear to conflict with the airport land use plan:

- Most of the compressor facility site is located under the transitional surface or the inner approach and climbout zone of the approach surface.
- Approximately 1,000 feet of the pipeline would be under the inner approach and climbout zone of the approach surface.
- Approximately 1,200 feet of the pipeline would be under the transitional surface.
- The pipeline would pass approximately 2,300 feet past the end of the runway centerline.

Although there is some uncertainty regarding interpretation of the airport land use plan and the applicability of the airport land use plan to the Lodi Gas Storage Project, these conflicts with the adopted plan are considered significant. Implementation of Mitigation Measure 3.1-3 would reduce this impact to a less-than-significant level.

### *Mitigation Measures*

No mitigation, other than adopting a project alternative, is available to reduce the inconsistency of the proposed pipeline alignment with local and Delta Protection Commission policies to a less-than-significant level.

### *Mitigation Measure 3.1-3: Obtain determination that the project is consistent with or amend the airport land use plan*

The Applicant should request that the Airport Land Use Commission review the proposed project and determine whether the project is consistent with the airport land use plan. If it is determined to be inconsistent, the Applicant should request that the Airport Land Use Commission amend the plan to allow the project. If the proposed project is found to be inconsistent with the airport land use plan and the Airport Land Use Commission determines that the plan should not be amended to allow the proposed project, the project facilities should be relocated to another site that is compatible with the airport land use

plan. Required relocation of these facilities would require a review of the revised project under CEQA by the CPUC, possibly leading to an addendum to this EIR or a supplemental EIR.

*Monitoring Action* – CPUC will monitor the Applicant's application to the Airport Land Use Commission.

*Responsibility* – CPUC and the Airport Land Use Commission

*Timing* – The proposed use must be approved by the Airport Land Use Commission before bid documents for construction of the project are issued.

### Impact 3.1-6: Potential Conflicts with Lands under Williamson Act Contracts

Lands currently under Williamson Act contracts exist within the areas affected by the proposed project. As described in Chapter 2, "Project and Alternatives Description," LGS would be required to comply with state and local notification requirements for construction of facilities across lands under Williamson Act contracts. Generally, pipeline facilities are consistent uses on lands under Williamson Act contracts. Construction and operation of the project facilities are not expected to foster development within the study area and would not accelerate nonrenewal or termination of existing Williamson Act contracts. This impact is less than significant.

#### *Mitigation Measures*

None required.

### Impact 3.1-7: Consistency with Proposed Land Uses

The proposed pipeline alignment would pass through areas for which future changes in land use are being planned, as described above. However, none of these plans or proposals have been formally adopted or approved. Plans for changes to land use on Staten Island as part of the Cosumnes River Preserve are also not available. Although the City of Isleton has included areas south of Georgianna Slough in its recent General Plan Update as "urban reserve," these lands are not annexed to the city and no detailed plans for future development have been prepared. Based on available information, it is not clear that the proposed project would conflict with future land uses in the project area. CALFED's concepts for modifications to levees, levee setbacks, and channel dredging have not been developed at a level of detail sufficient to address in an impact analysis, and the proposed alignment would not cross lands under consideration for the Delta Wetlands water storage project.

Although several land use proposals exist along the proposed pipeline alignment and the proposed project pipeline route could possibly be inconsistent with such proposals should they be implemented in the future, none have progressed to a stage where a detailed or even conceptual impact evaluation can be made.

Because most of these proposals have not been formalized or adopted, potential inconsistency with future potential land uses is a less-than-significant impact. In addition, there is no clear indication that the construction and operation of a buried pipeline would be substantially inconsistent with these proposals should they be implemented in the future.

***Mitigation Measures***

None required.

## 3.1.5 IMPACTS OF THE PUBLIC RIGHT-OF-WAY ROUTE ALTERNATIVE AND MITIGATION MEASURES

The following analysis addresses the land use impacts of the Public Right-of-Way Route Alternative. The analysis focuses on differences between the proposed project and the alternative and relies on much of the analysis of the proposed project. Generally, this alternative is likely to have impacts similar to the proposed project, but these impacts would occur at different locations and may be somewhat greater or less than those of the proposed project.

### Impact 3.1-8: Temporary Disruption of Agricultural Production during Construction

The Public Right-of-Way Route Alternative would involve the construction of facilities essentially identical to those described for the proposed project. The primary differences would be that, under this alternative, the compressor facility would be located west of Interstate 5 and south of Lind Airport, and the pipeline alignment would be routed generally along existing public rights-of-way and other easements rather than generally through agricultural fields. The compressor facility would be located on a 10-acre site south of the airport that is currently fallow. Temporary land use effects associated with the remaining facilities (i.e., well pads, separation facility, and interconnect sites) would be identical to those described previously for the proposed project and are less than significant.

Construction of the pipeline associated with this alternative would result in temporary conflicts and construction-related nuisances at construction sites, including construction nuisances such as noise, dust, and construction equipment traffic, that would temporarily inconvenience residents and business operations. Approximately 140 residences (dwelling units) are located within 220 yards of the Public Right-of-Way Route Alternative pipeline alignment. (Refer to Section 3.5, “Air Quality;” Section 3.6, “Transportation and Circulation;” and Section 3.10, “Noise,” for a discussion of these impacts.) Because under this alternative the pipeline alignment is routed along roads for a greater distance, it is closer to a greater number of residences and would result in more substantial impacts than would the proposed project.

Overall, this alternative pipeline alignment would result in substantially reduced effects on agricultural production during construction. Most construction activities would be limited to public rights-of-way or would occur on the edges of fields, along existing farm roads, or adjacent to existing drainage facilities. Some construction activities may need to take place on private land because some of the public rights-of-way are too narrow to allow for all necessary construction activities. For example, along Highway 12, it is assumed that the pipeline would be placed outside the current Caltrans right-of-way because Caltrans typically discourages longitudinal easements and because Caltrans is studying the widening of Highway 12. In some locations, drainage or irrigation facilities are immediately adjacent to the highway and the pipeline would be placed along the edge of adjacent field. Under this alternative, approximately 160 acres of agricultural lands would be temporarily affected, of which approximately 30 acres are vineyard (Table 3.1-1). However, many fields adjacent to public rights-of-way are bordered by farm roads or turning rows and impacts would be minimized. The general mitigation measures proposed by the Applicant for the proposed project (Chapter 2, "Project and Alternatives Description") would also be applied to this alternative by the CPUC and LGS would, by law, be required to compensate landowners for the acquisition of easements and related effects. Therefore, the impact of construction-related land use conflicts would be less than significant.

Short segments of this alternative pipeline alignment pass through vineyards. Although the effect on vineyards during harvesting season would be substantially reduced under this alternative as compared to the proposed project, this impact is also significant for the Public Right-of-Way Route Alternative. Implementation of Mitigation Measure 3.1-1 would reduce this impact to a less-than-significant level.

***Mitigation Measure 3.1-1: Avoid construction in vineyards during harvesting season***

Implementation of Mitigation Measure 3.1-1, described above, would reduce the impact of this alternative on vineyard operations to a less-than-significant level.

## Impact 3.1-9: Permanent Loss of Agricultural Production Capability

The permanent impact of this alternative on agricultural production would be essentially identical to that described for the proposed project. The primary difference between the proposed project and the Public Right-of-Way Route Alternative is that the compressor facility would be located at the airport site and would affect fallow land rather than a 5-acre orchard. Crops would be allowed to be reestablished above the pipeline and LGS would be required to compensate landowners for any acquisition or loss of real property and agricultural productivity. As determined for the proposed project, this impact would be minor and less than significant.

Concerns regarding the potential for the pipeline to disrupt agricultural activities because of ground subsidence and soil erosion are similar to those discussed previously for the proposed project; however, concerns would be reduced because the pipeline would generally run parallel to existing roads and rights-

of-way in the Delta region. This potential impact is addressed in Section 3.3, "Geology, Soil, and Paleontology."

This alternative would also potentially interfere with future production of grapes on lands that are not in grape production and that have not been previously deep ripped. This impact is significant. Implementation of Mitigation Measure 3.1-2 would reduce this impact to a less-than-significant level.

### *Mitigation Measures*

See Section 3.3, "Geology, Soil, and Paleontology," for mitigation measures related to the potential reduction of pipeline depth in areas of peat soils.

### *Mitigation Measure 3.1-2: Bury pipelines at a depth of 8 feet in lands suitable for grape production that have not already been deep-ripped, or obtain landowner agreement to bury the pipeline at a shallower depth*

Implementation of Mitigation Measure 3.1-2, described above, would reduce the impact of this alternative on agricultural production to a less-than-significant level.

## Impact 3.1-10: Loss of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland

The impact of this alternative would be similar to that of the proposed project. The primary difference is that under this alternative, the compressor facility would result in the loss of 10 acres of Prime Farmland (compared to 5 acres of Unique Farmland for the proposed project). This impact is considered less than significant for the same reasons described for the proposed project and is reduced compared to that of the proposed project.

### *Mitigation Measures*

None required.

## Impact 3.1-11: Compatibility with Surrounding Land Uses

Although minor differences exist in the location of the compressor facility and pipeline alignment, the impact of this alternative with regard to surrounding land use compatibility would be essentially identical to that described for the proposed project. This impact is less than significant. The pipeline alignment under this alternative would be closer to a greater number of residences than the proposed project (140 compared to 74). Potential safety issues are discussed in Section 3.9, "Public Health and Safety."

This alternative would follow Highway 12 through the Delta for approximately 8 miles and would pass through the community of Terminous along a frontage road immediately south of Highway 12. The river

crossing would be directionally drilled. Substantial temporary construction effects to users and residents of Terminous could result. This impact is significant because of the relatively high density of residents at this location. Implementation of Mitigation Measure 3.1-4 would reduce this impact to a less-than-significant level.

This alternative would also be routed through Brannan Island State Recreation Area parallel to an existing gas pipeline through the park. Recreation facilities in the area include day use and overnight camping accommodations oriented toward water-based recreation. This alternative pipeline alignment would be directionally drilled under Three Mile Slough. Because the alternative pipeline alignment would parallel an existing pipeline easement, long-term land use conflicts would be less than significant. However, during construction, disruption of facilities such as park roadways and day use areas could occur and the directional drilling activities could cause relatively lengthy disturbance to park users. This impact is significant. Implementation of Mitigation Measure 3.1-5 would reduce this impact to a less-than-significant level.

### *Mitigation Measure 3.1-4: Minimize effects to the community of Terminous*

To minimize effects of pipeline construction on residents of and visitors to Terminous, directional drilling equipment will be located at the west end of the direction drilling site on Bouldin Island. Construction activities adjacent to Terminous shall be limited to the hours between 7:00 a.m. and 7:00 p.m., Monday through Saturday. Access to Terminous shall be maintained at all times and no disruption to local roadways or streets will be allowed. Construction on the east end of the directional drilling site will occupy the minimum area necessary to complete project activities.

*Monitoring Action* — Construction activities will be monitored to ensure that the terms of this measure are fully implemented.

*Responsibility* — CPUC

*Timing* — Monitoring should occur at least weekly during directional drilling activities near the community of Terminous.

### *Mitigation Measure 3.1-5: Minimize effects on Brannan Island State Recreation Area facilities*

To minimize effects of pipeline construction on the facilities and users of Brannan Island State Recreation Area, directional drilling equipment will be located at the south end of the direction drilling site on Sherman Island. If construction occurs during the heavy-use period of May 1 through September 30, construction activities within the park shall be limited to the hours between 8:00 a.m. and 5:00 p.m., Monday through Friday, unless permission is granted by the park superintendent to construct at different hours. No construction shall occur on federal holidays. All park facilities shall be avoided and no disruption to park

roadways will be allowed. Within the park, the construction area will be fenced to prevent access by park users to construction sites. Construction within the park will occupy the minimum area necessary to complete project activities.

*Monitoring Action* — Construction activities will be monitored to ensure that the terms of this measure are fully implemented.

*Responsibility* — CPUC

*Timing* — Monitoring should occur at least weekly during directional drilling activities in Brannan Island State Recreation Area.

### Impact 3.1-12: Potential Inconsistency with Plans and Policies

The impact of this alternative with regard to inconsistency with plans and policies is substantially reduced compared to that of the proposed project. The Public Right-of-Way Route Alternative pipeline alignment has been designed to be consistent with the policies of San Joaquin County, Sacramento County, and the Delta Protection Commission regarding siting of utility facilities along property boundaries, field edges, and existing rights-of-way and easements to the greatest extent feasible.

This alternative would have reduced potential for concerns regarding conflict with the California Department of Water Resources' habitat development plans for Sherman and Twitchell Islands because this alignment would avoid Twitchell Island and minimize issues on Sherman Island by following an existing pipeline corridor. No significant inconsistency with the general plan for Brannan Island State Recreation Area has been identified.

Although some inconsistency with planning policies remains, this impact is less than significant.

The location of the compressor facility under this alternative (at the airport site) would conflict with the airport land use plan. The land use plan specifically prohibits "electrical and natural gas generation and switching" and "natural gas and petroleum pipelines" in the lands underlying the "Approach and Transitional Surfaces." It is assumed for this analysis that the compressor facility would be classified as a natural gas switching facility. The approach zone is subdivided into a runway protection zone, an inner approach and climbout zone, and an outer approach and climbout zone.

The following features of this alternative appear to conflict with the airport land use plan:

- A portion (0.5 acre) of the compressor facility site is located under the transitional zone.
- Approximately 1,200 feet of the pipeline would be under the inner approach and climbout zone of the approach surface.
- Approximately 1,750 feet of the pipeline would be under the transitional surface.
- The pipeline would pass within approximately 1,700 feet of the runway centerline.
- The compressor facility would be approximately 1,150 feet from the runway centerline.

Although there is some uncertainty regarding interpretation of the airport land use plan and the applicability of the airport land use plan to the Lodi Gas Storage Project, these conflicts with the adopted plan are considered significant. Implementation of Mitigation Measure 3.1-3 would reduce this impact to a less-than-significant level.

### *Mitigation Measure 3.1-3: Obtain determination that the project is consistent with or amend the airport land use plan*

Implementation of Mitigation Measure 3.1-3, described above, would reduce the impact of inconsistency with the airport land use plan to a less-than-significant level.

## Impact 3.1-13: Potential Conflicts with Lands under Williamson Act Contracts

The impact of potential conflicts with Williamson Act contracts under this alternative would be similar to, but less than, that described under the proposed project. Because this alternative pipeline alignment would be located within existing rights-of-way for a substantial distance, fewer lands under Williamson Act contracts would be affected. This impact is less than significant.

### *Mitigation Measures*

None required.

## Impact 3.1-14: Consistency with Proposed Land Uses

The impact of this alternative regarding consistency with proposed land uses would be similar to that described for the proposed project. Although some inconsistencies with proposed or potential land uses may exist, these future plans are generally speculative and are not sufficiently developed to allow a meaningful impact evaluation. The primary differences between the proposed project and alternative

pipeline alignment with respect to proposed land uses is that this alternative avoids Staten Island and, therefore, any potential future conflicts with preserve actions. It also crosses Bouldin Island, one of the islands proposed for creation of seasonal habitat for the Delta Wetlands project, parallel to Highway 12. Location of a gas pipeline is not considered an inconsistent use with habitat enhancement and the alignment of the pipeline adjacent to Highway 12, which will remain at its existing location under the habitat proposal, would further reduce any potential inconsistencies. In addition, the Delta Wetlands project has not been approved and is continuing to undergo environmental review. This potential conflict is a less-than-significant impact.

***Mitigation Measures***

None required.

## 3.1.6 IMPACTS OF THE EXISTING PIPELINE CORRIDOR ALTERNATIVE AND MITIGATION MEASURES

The following analysis addresses the land use impacts of the Existing Pipeline Corridor Alternative. This analysis also focuses on differences between the proposed project and this alternative and relies on much of the analysis of the proposed project and the Public Right-of-Way Route Alternative.

### Impact 3.1-15: Temporary Disruption of Agricultural Production during Construction

The Existing Pipeline Corridor Alternative would involve the construction of facilities essentially identical to those described for the proposed project. The primary differences would be that, under this alternative, the compressor facility would be located west of Interstate 5 and south of Lind Airport, and the pipeline alignment would be routed generally along existing public rights-of-way in the eastern portion of the project and along existing pipeline corridors through the Delta. The compressor facility would be located on a 10-acre site south of the airport that is currently fallow. Temporary land use effects associated with the remaining facilities (i.e., well pads, separation facility, and interconnect sites) would be identical to those described previously for the proposed project and are less than significant.

Construction of the pipeline associated with this alternative would result in temporary conflicts and construction-related nuisances at construction sites, including construction nuisances such as noise, dust, and construction equipment traffic, that would temporarily inconvenience residents and business operations. Approximately 145 residences (dwelling units) are located within 220 yards of the Existing Pipeline Corridor Alternative pipeline alignment. (Refer to Section 3.5, “Air Quality;” Section 3.6, “Transportation and Circulation;” and Section 3.10, “Noise,” for a discussion of these impacts.)

Overall, this alternative pipeline alignment would result in slightly reduced effects on agricultural production during construction compared to those of the proposed project because within the eastern

portion of the pipeline facilities, most construction activities would be limited to public rights-of-way or would occur on the edges of fields, along existing farm roads, or adjacent to existing drainage facilities. Where the pipeline alignment is routed within road rights-of-way, some construction activities may need to take place on private land because some of the public rights-of-way are too narrow or unsafe to allow for all necessary construction activities. In addition, a major portion of the pipeline under this alternative would be located within fields and adjacent to the existing PG&E Lines 196 and 195 across Staten, Tyler, Brannan, and Sherman Islands. Under this alternative, approximately 225 acres of agricultural lands would be temporarily affected by construction, of which approximately 80 acres are vineyard (Table 3.1-1). The general mitigation measures proposed by the Applicant for the proposed project (Chapter 2, "Project and Alternatives Description") would also be applied to this alternative by the CPUC, and LGS would, by law, be required to compensate landowners for the acquisition of easements and related effects. Therefore, the impact of construction-related disruptions on agricultural production would be less than significant.

Short segments of the alternative pipeline alignment pass through vineyards. Although the effect on vineyards would be substantially reduced under this alternative compared to those of the proposed project, this impact is also significant for the Existing Pipeline Corridor Alternative. Implementation of Mitigation Measure 3.1-1 would reduce this impact to a less-than-significant level.

***Mitigation Measure 3.1-1: Avoid construction in vineyards during harvesting season***

Implementation of Mitigation Measure 3.1-1, described above, would reduce the impact of this alternative on vineyard operations to a less-than-significant level.

### Impact 3.1-16: Permanent Loss of Agricultural Production Capability

This impact would be identical to that described for the Public Right-of-Way Route Alternative above and is less than significant.

Concerns regarding the potential for the pipeline to disrupt agricultural activities because of ground subsidence and soil erosion are similar to those discussed previously for the proposed project; however, concerns would be reduced because the pipeline would generally run parallel to existing roads and existing pipeline rights-of-way in the Delta region, thereby reducing potential conflicts. This potential impact is addresses in Section 3.3, "Geology, Soil, and Paleontology."

This alternative also would potentially interfere with future production of grapes on lands that are not in grape production and that have not been previously deep-ripped. This impact is significant. Implementation of Mitigation Measure 3.1-2 would reduce this impact to a less-than-significant level.

### *Mitigation Measures*

See Section 3.3, "Geology, Soil, and Paleontology," for mitigation measures related to the potential reduction of pipeline depth in areas of peat soils.

### *Mitigation Measure 3.1-2: Bury pipelines at a depth of 8 feet in lands suitable for grape production that have not already been deep-ripped, or obtain landowner agreement to bury the pipeline at a shallower depth*

Implementation of Mitigation Measure 3.1-2, described above, would reduce the impact of this alternative on agricultural production to a less-than-significant level.

## Impact 3.1-17: Loss of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland

The impact of this alternative would be similar to that of the proposed project. The primary difference is that under this alternative, the compressor facility would result in the loss of 10 acres of Prime Farmland (compared to 5 acres of Unique Farmland for the proposed project). This impact is considered less than significant for the same reasons described for the proposed project and is reduced compared to that of the proposed project.

### *Mitigation Measures*

None required.

## Impact 3.1-18: Compatibility with Surrounding Land Uses

Although minor differences exist in the location of the compressor facility and pipeline alignment, the impact of this alternative with regard to surrounding land use compatibility would be essentially identical to that described for the proposed project. This impact is less than significant. The alternative pipeline alignment would be closer to a greater number of residences than the proposed project (122 compared to 74). Potential safety issues are discussed in Section 3.9, "Public Health and Safety."

This alternative would pass through the southern portion of the City of Isleton generally along an existing pipeline easement and street. Near the southern end of the City, the route passes through a residential yard and beneath several established trees. Potential impacts to this residence are considered significant. Implementation of Mitigation Measure 3.1-6 would reduce this impact to a less-than-significant level.

This alternative would also be routed through Brannan Island State Recreation Area parallel to an existing gas pipeline through the park along the same alignment discussed for the Public Right-of-Way Route Alternative above, resulting in identical potential impacts. This impact is significant under this alternative

as well. Implementation of Mitigation Measure 3.1-5 would reduce this impact to a less-than-significant level.

### *Mitigation Measure 3.1-6: Minimize effects to residential property in the city of Isleton*

To minimize the impacts of pipeline construction on the residence located at the southern end of Sixth Street, the pipeline alignment should be directionally drilled or bored and hammered underneath the subject property to ensure that trees and structures are not affected.

*Monitoring Action* — Construction activities will be monitored to ensure that the terms of this measure are fully implemented.

*Responsibility* — CPUC

*Timing* — Monitoring should occur at least twice during construction activities at this site.

### *Mitigation Measure 3.1-5: Minimize effects on Brannan Island State Recreation Area facilities*

Implementation of Mitigation Measure 3.1-5, described above, would reduce this impact to a less-than-significant level.

## Impact 3.1-19: Potential Inconsistency with Plans and Policies

The impact of this alternative with regard to inconsistency with plans and policies is substantially reduced compared to that of the proposed project. The Existing Pipeline Corridor Alternative pipeline alignment has been designed to be consistent with the policies of San Joaquin County, Sacramento County, and the Delta Protection Commission regarding siting of utility easements to the greatest extent feasible.

As with the Public Right-of-Way Route Alternative, this alternative would have a reduced potential for concerns regarding conflicts with the California Department of Water Resources' habitat development plans for Sherman and Twitchell Islands because this alignment would avoid Twitchell Island and minimize issues on Sherman Island by following an existing pipeline corridor. No significant inconsistency with the general plan for Brannan Island State Recreation Area has been identified.

Although some inconsistency with planning policies remain, this impact is less than significant.

The location of the compressor facility under this alternative would conflict with the airport land use plan. The land use plan specifically prohibits "electrical and natural gas generation and switching" and "natural gas and petroleum pipelines" in the lands underlying the "Approach and Transitional Surfaces." It is assumed for this analysis that the compressor facility would be classified as a natural gas switching

facility. The approach zone is subdivided into a runway protection zone, an inner approach and climbout zone, and an outer approach and climbout zone.
The following features of this alternative appear to conflict with the airport land use plan:

- A portion (0.5 acre) of the compressor facility site is located under the transitional zone.
- Approximately 1,200 feet of the pipeline would be under the inner approach and climbout zone of the approach surface.
- Approximately 1,750 feet of the pipeline would be under the transitional surface.
- The pipeline would pass within approximately 1,700 feet of the runway centerline.
- The compressor facility would be approximately 1,150 feet from the runway centerline.

Although there is some uncertainty regarding interpretation of the airport land use plan and the applicability of the airport land use plan to the Lodi Gas Storage Project, these conflicts with the adopted plan are considered significant. Implementation of Mitigation Measure 3.1-3 would reduce this impact to a less-than-significant level.

### *Mitigation Measure 3.1-3: Obtain determination that the project is consistent with or amend the airport land use plan*

Implementation of Mitigation Measure 3.1-3, described above, would reduce the impact of inconsistency with the airport land use plan to a less-than-significant level.

## Impact 3.1-20: Potential Conflicts with Lands under Williamson Act Contracts

The impact of potential conflicts with Williamson Act contracts under this alternative would be similar to, but less than, that described under the proposed project. Because this alternative pipeline alignment would be located within existing rights-of-way and adjacent to existing pipeline corridors for a substantial distance, fewer lands Williamson Act contracts would be affected, or they would be affected less substantially. This impact is less than significant.

### *Mitigation Measures*

None required.

### Impact 3.1-21: Consistency with Proposed Land Uses

The impact of this alternative regarding consistency with proposed land uses would be similar to that described for the proposed project. Although some inconsistencies with proposed or potential land uses may exist, these future plans are generally speculative and are not sufficiently developed to allow a meaningful impact evaluation. The primary differences between the proposed project and this alternative pipeline alignment with respect to proposed land uses is that the alternative crosses Staten Island parallel to an existing gas pipeline alignment, and thereby reduces potential future conflicts with preserve actions. In addition, this alternative passes through areas in the City of Isleton, which is currently updating its general plan. No inconsistency between this alternative and the general plan update have been identified because this alternative follows existing utility corridors and would have a minimal effect on lands under the jurisdiction of the City of Isleton. This impact is less than significant.

***Mitigation Measures***

None required.

## 3.1.7 IMPACTS OF THE COMPOSITE ROUTE ALTERNATIVE AND MITIGATION MEASURES

The following analysis addresses the land use impacts of the Composite Route Alternative. This analysis also focuses on differences between the proposed project and this alternative and relies on much of the analysis of the other alternatives.

### Impact 3.1-22: Temporary Disruption of Agricultural Production during Construction

The Composite Route Alternative would involve the construction of facilities essentially identical to those described for the proposed project. The primary differences would be that, under this alternative, the compressor facility would be located west of Interstate 5 and south of Lind Airport, and the pipeline alignment would be routed generally along existing public rights-of-way in the eastern portion of the project and along existing pipeline corridors through the Delta. The compressor facility would be located on a 10-acre site south of the airport that is currently fallow. Temporary land use effects associated with the remaining facilities (i.e., well pads, separation facility, and interconnect sites) would be identical to those described previously for the proposed project and are less than significant.

Construction of the pipeline associated with this alternative would result in temporary conflicts and construction-related nuisances at construction sites, including noise, dust, and construction equipment traffic, that would temporarily inconvenience residents and business operations. Approximately 170 residences (dwelling units) are located within 220 yards of the Composite Route Alternative pipeline

alignment. (For a discussion of these impacts, refer to Section 3.5, "Air Quality;" Section 3.6, "Transportation and Circulation;" and Section 3.10, "Noise.")

Overall, this alternative pipeline alignment would result in slightly reduced effects on agricultural production during construction compared to those of the proposed project because within the eastern portion of the pipeline facilities, most construction activities would be limited to public rights-of-way or would occur on the edges of fields, along existing farm roads, or adjacent to existing drainage facilities. Where the pipeline alignment is routed within road rights-of-way, some construction activities may need to take place on private land because some of the public rights-of-way are too narrow or unsafe to allow for all necessary construction activities. In addition, a major portion of the pipeline under this alternative would be located in fields and adjacent to the existing PG&E Lines 196 and 195 across Staten, Tyler, Brannan, and Sherman Islands. Under this alternative, approximately 225 acres of agricultural lands would be temporarily affected by construction, of which approximately 50 acres are vineyard (Table 3.1-1). The general mitigation measures proposed by the Applicant for the proposed project (Chapter 2, "Project and Alternatives Description") also would be applied to this alternative by the CPUC, and LGS would, by law, be required to compensate landowners for the acquisition of easements and related effects. Therefore, the impact of construction-related disruptions on agricultural production would be less than significant.

Short segments of the alternative pipeline alignment pass through vineyards. Although the effect on vineyards would be substantially reduced under this alternative compared to the proposed project, this impact is also significant under the Composite Route Alternative. Implementation of Mitigation Measure 3.1-1 would reduce this impact to a less-than-significant level.

***Mitigation Measure 3.1-1: Avoid construction in vineyards during harvesting season***

Implementation of Mitigation Measure 3.1-1, described above, would reduce the impact of this alternative on vineyard operations to a less-than-significant level.

### Impact 3.1-23: Permanent Loss of Agricultural Production Capability

This impact would be identical to that described for the Public Right-of-Way Route Alternative above and is less than significant.

Concerns regarding the potential for the pipeline to disrupt agricultural activities because of ground subsidence and soil erosion are similar to those discussed previously for the proposed project; however, concerns would be reduced because the pipeline would generally run parallel to existing roads and existing pipeline rights-of-way in the Delta region, thereby reducing potential conflicts. This potential impact is addresses in Section 3.3, "Geology, Soil, and Paleontology."

This alternative also would potentially interfere with future production of grapes on lands that are not in grape production and that have not been previously deep-ripped. This impact is significant. Implementation of Mitigation Measure 3.1-2 would reduce this impact to a less-than-significant level.

### *Mitigation Measures*

See Section 3.3, "Geology, Soil, and Paleontology," for mitigation measures related to the potential reduction of pipeline depth in areas of peat soils.

### *Mitigation Measure 3.1-2: Bury pipelines at a depth of 8 feet in lands suitable for grape production that have not already been deep-ripped, or obtain landowner agreement to bury the pipeline at a shallower depth*

Implementation of Mitigation Measure 3.1-2, described above, would reduce the impact of this alternative on agricultural production to a less-than-significant level.

## Impact 3.1-24: Loss of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland

The impact of this alternative would be similar to that of the proposed project. The primary difference is that under this alternative, the compressor facility would result in the loss of 10 acres of Prime Farmland (compared to 5 acres of Unique Farmland for the proposed project). This impact is considered less than significant for the same reasons described for the proposed project and would be reduced compared to the proposed project.

### *Mitigation Measures*

None required.

## Impact 3.1-25: Compatibility with Surrounding Land Uses

Although minor differences exist in the location of the compressor facility and pipeline alignment, the impact of this alternative with regard to surrounding land use compatibility would be essentially identical to that described for the proposed project. This impact is less than significant. The alternative pipeline alignment would be closer to a greater number of residences than under the proposed project (170 compared to 74). Potential safety issues are discussed in Section 3.9, "Public Health and Safety."

This alternative would be routed through Brannan Island State Recreation Area parallel to an existing gas pipeline through the park, along the same alignment discussed for the Public Right-of-Way Route Alternative above, resulting in identical potential impacts. This impact is also significant under this alternative. Implementation of Mitigation Measure 3.1-5 would reduce this impact to a less-than-significant level.

This alternative also would pass through the southern portion of the City of Isleton, generally along an existing pipeline easement and street. Near the southern end of the city, the route passes through a residential yard and beneath several established trees. Potential impacts on this residence are considered significant. Implementation of Mitigation Measure 3.1-6 would reduce this impact to a less-than-significant level.

### *Mitigation Measure 3.1-5: Minimize effects on Brannan Island State Recreation Area facilities*

Implementation of Mitigation Measure 3.1-5, described above, would reduce this impact to a less-than-significant level.

### *Mitigation Measure 3.1-6: Minimize effects to residential property in the City of Isleton*

Implementation of Mitigation Measure 3.1.6, described above, would reduce impacts within the City of Isleton to a less-than-significant level.

## Impact 3.1-26: Potential Inconsistency with Plans and Policies

The impact of this alternative regarding inconsistency with plans and policies is substantially reduced compared to the proposed project. The Composite Route Alternative pipeline alignment has been designed to be consistent with the policies of San Joaquin County, Sacramento County, and the Delta Protection Commission to the greatest extent feasible regarding siting of utility easements.

As with the Public Right-of-Way Route Alternative, this alternative would have a reduced potential for concerns regarding conflicts with the California Department of Water Resources' habitat development plans for Sherman and Twitchell Islands because this alignment would avoid Twitchell Island and minimize issues on Sherman Island by following an existing pipeline corridor. No significant inconsistency with the general plan for Brannan Island State Recreation Area has been identified.

Although some inconsistency with planning policies remain, this impact is less than significant.

The location of the compressor facility (at the airport site) under this alternative would conflict with the airport land use plan. The land use plan specifically prohibits "electrical and natural gas generation and switching" and "natural gas and petroleum pipelines" in the lands underlying the "Approach and Transitional Surfaces." It is assumed for this analysis that the compressor facility would be classified as a natural gas switching facility. The approach zone is subdivided into a runway protection zone, an inner approach and climbout zone, and an outer approach and climbout zone.

The following features of this alternative appear to conflict with the airport land use plan:

- A portion (0.5 acre) of the compressor facility site is located under the transitional zone.
- Approximately 1,200 feet of the pipeline would be under the inner approach and climbout zone of the approach surface.
- Approximately 1,750 feet of the pipeline would be under the transitional surface.
- The pipeline would pass within approximately 1,700 feet of the runway centerline.
- The compressor facility would be approximately 1,150 feet from the runway centerline.

Although there is some uncertainty regarding interpretation of the airport land use plan and the applicability of the airport land use plan to the Lodi Gas Storage Project, these conflicts with the adopted plan are considered significant. Implementation of Mitigation Measure 3.1-3 would reduce this impact to a less-than-significant level.

### *Mitigation Measure 3.1-3: Obtain determination that the project is consistent with or amend the airport land use plan*

Implementation of Mitigation Measure 3.1-3, described above, would reduce the impact of inconsistency with the airport land use plan to a less-than-significant level.

## Impact 3.1-27: Potential Conflicts with Lands under Williamson Act Contracts

The impact of potential conflicts with Williamson Act contracts under this alternative would be similar to, but less than, that described for the proposed project. Because this alternative pipeline alignment would be located within existing rights-of-way and adjacent to existing pipeline corridors for a substantial distance, fewer lands under Williamson Act contracts would be affected, or they would be affected less substantially. This impact is less than significant.

### *Mitigation Measures*

None required.

## Impact 3.1-28: Consistency with Proposed Land Uses

The impact of this alternative regarding consistency with proposed land uses would be similar to that described for the proposed project. Although some inconsistencies with proposed or potential land uses may exist, these future plans are generally speculative and are not sufficiently developed to allow a

meaningful impact evaluation. The primary differences between the proposed project and this alternative pipeline alignment with respect to proposed land uses is that the alternative crosses Staten Island parallel to an existing gas pipeline alignment and thereby reduces potential future conflicts with preserve actions. In addition, this alternative passes through areas in the City of Isleton, which is currently updating its general plan. No inconsistency between this alternative and the general plan update have been identified because this alternative follows existing utility corridors and would have a minimal effect on lands under the jurisdiction of the City of Isleton. This impact is less than significant.

***Mitigation Measures***

None required.

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