

D.12 Transportation and Traffic

Section D.12.1 provides a summary of existing major study area roadways, transit and rail service, airports, and bicycle facilities. Section D.12.2 describes the regulatory setting for transportation and traffic. Section D.12.3 provides analysis of transportation and traffic impacts resulting from the Proposed Project and discusses mitigation for these impacts. Section D.12.4 includes an analysis of the project alternatives and Section D.12.5 provides mitigation monitoring, compliance, and reporting information. Section D.12.6 lists the references cited in this section.

D.12.1 Environmental Setting for the Proposed Project

The study area for this analysis includes roadways directly affected by the Proposed Project and alternatives. Existing roadway classifications are based on a review of the Circulation Element found in the General Plan of the City of Sacramento (1988).

D.12.1.1 Existing Roadway Network

Table D.12-1 lists the freeways, roadways, and arterials in the project study area and includes general roadway classifications, number of lanes, and average daily traffic (ADT) volumes.

Table D.12-1
Roadways within the Vicinity of the Proposed Project

Roadway	Jurisdiction	Classification	Lanes	Data Year	Average Daily Traffic ¹
<i>Wellhead Site</i>					
Power Inn Road	City of Sacramento	Arterial	4	2006	30,415
Junipero Street	City of Sacramento	Industrial Street	2	—	—
<i>Compressor Station</i>					
Fruitridge Road	City of Sacramento	Arterial	4	2004	20,958
Foodlink Street	City of Sacramento	Driveway	2	N/A	N/A
Caroline Drive	City of Sacramento	Access Road	2	N/A	N/A
<i>Pipeline Construction</i>					
Elder Creek Road	City of Sacramento	Arterial	2-4	2004	15,495
Power Inn Road	City of Sacramento	Arterial	4	2006	30,415
Berry Avenue	City of Sacramento	Collector	2	2005	4,377
Fruitridge Road	City of Sacramento	Arterial	4	2004	20,958

¹Information received from the City of Sacramento Department of Transportation's Traffic Counts Database (2008).
Note: "—" indicates that no traffic counts are available for this roadway. N/A indicates not applicable.

D.12.1.2 Transit and Rail Service

Public transit services in the vicinity of the project area consist of bus and light rail passenger trains. These services are primarily provided by Sacramento Regional Transit (SACRT) in the City of Sacramento. SACRT manages the Regional Transit (RT) bus services and light rail routes that serve downtown Sacramento and surrounding communities and cities. Regional passenger rail services are provided by Amtrak. Freight rail service in the City of Sacramento is provided by Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe Railroad (BNSF). Segment one of the proposed pipeline would traverse the UPRR line near Elder Creek Road (slightly north of the “Point B” horizontal directional drill (HDD) entry) in the City of Sacramento. The UPRR line would not be traversed at any other location along the proposed pipeline alignment.

Descriptions of the transit and rail services that may be affected by the Proposed Project are provided below.

Bus

SACRT operates bus transit systems in the project area. SACRT operates buses in the vicinity of the wellhead and compressor station sites in the City of Sacramento. From the proposed wellhead site to the proposed compressor station, an underground pipeline (segment one) would travel between the two components. From the wellhead site northward approximately 1,800 feet of pipeline would be located adjacent to the Power Inn Road right-of-way (ROW) within the existing power line ROW. There are no bus routes adjacent to segment one along Power Inn Road (SACRT 2008). From the compressor station, a pipeline (segment two) would travel north underground adjacent to Caroline Drive and the UPRR ROW, and would tie in to the Sacramento Municipal Utilities District (SMUD) 700 Line located beneath Fruitridge Road. Bus Route 61 travels along Fruitridge Road and a bus stop is located on the south side of the road just west of the UPRR (SACRT 2008). Table D.12-2 identifies the two bus routes that are located in the vicinity of the proposed Sacramento Natural Gas Storage (SNGS) Facility. The tie-in at Fruitridge Road would be located within the City of Sacramento street ROW.

Table D.12-2
Bus Routes within the Vicinity of the Proposed Project

Route Number	Jurisdiction	Location
<i>Wellhead Site, Compressor Station, and Pipeline Construction (services provided by SACRT)</i>		
8	City of Sacramento	Power Inn Road from the Power Inn Station to Elder Creek Road
61	City of Sacramento	Fruitridge Road from Florin Perkins Road to Power Inn Road

Source: SACRT System Map (2008).

Light Rail

SACRT operates two light rail lines (designated as “Blue” and “Gold”) that serve the Sacramento region. The Blue Line extends from the North Highlands area of northeastern Sacramento southwest through North Sacramento and downtown and continues south ultimately to the Meadowview area of Sacramento. The proposed SNGS Facility would not cross any portion of the Blue Line.

The gold line provides service between the downtown area of Sacramento and the City of Folsom. The gold line includes stops near University of California (UC) Davis Hospital, Rancho Cordova, Gold River, and Folsom. While the proposed SNGS Facility would not cross any portion of the gold line, Table D.12-3 identifies the station nearest to the Proposed Project.

Table D.12-3
Light Rail Line within the Vicinity of the Proposed Project

Route	Jurisdiction	Location
<i>Wellhead Site, Compressor Station, and Pipeline Construction (service provided by SACRT)</i>		
Gold	City of Sacramento	Power Inn Station at Power Inn Road (near Jackson Road)

Source: SACRT 2008.

Rail

UPRR’s main line operating in the Sacramento area is located adjacent pipeline segments one and two and near the wellhead and compressor station sites. The line runs nearly diagonal to Power Inn Road, traverses Elder Creek Road, and continues in a northwesterly direction. The proposed compressor station lies just east of the line, which continues towards the intersection of Power Inn Road and Fruitridge Road. The line eventually passes under the Interstate 50 (I-50) freeway.

Freight service in Sacramento is provided by UPRR and BNSF. BNSF has track rights along the main UPRR line through Sacramento. According to Union Pacific, 20 or more trains travel along this track daily. Amtrak provides passenger rail service (along its San Joaquin route) in the project area utilizing UPRR tracks (UPRR Real Estate Development Division, pers. comm., 2008).

D.12.1.3 Air Transportation

One airport is located in the vicinity of the Proposed Project: the Sacramento International Airport. The Sacramento International Airport is located at 6900 Airport Road, approximately 20 miles from the wellhead and compressor station sites. Sacramento International Airport includes two terminals providing international and domestic flights aboard airlines including American,

Continental, Delta, Aloha, Hawaiian, Southwest, and U.S. Airways (Sacramento, County of 2008).

D.12.1.4 Bicycle Facilities

A number of roadways located within the Proposed Project area include a designated bicycle lane. Bike lanes are defined as striped lanes for one-way bike travel identified by special signs, lane striping, and other pavement markings (Sacramento, City of 1988). The roadways around the wellhead site and compressor station include designated bike lanes.

Table D.12-4 lists the bicycle routes within the project area that would be potentially affected by the proposed SNGS Facility around the wellhead site and compressor station. These bicycle routes were identified through a review of the City of Sacramento Bikeway Map (2007) and *The 2010 Sacramento City/County Bikeway Master Plan* (Sacramento, City of 1993–1995).

Table D.12-4
Bicycle Routes within the SNGS Facility Area

Jurisdiction	Location
<i>Wellhead Site, Compressor Station, and Pipeline Construction</i>	
City of Sacramento	Bicycle lane along Power Inn Road
City of Sacramento	Bicycle lane along Fruitridge Road

Sources: City of Sacramento Bikeway Map (2007).
 The 2010 Sacramento City/County Bikeway Master Plan (Sacramento, City of 1993–1995).

D.12.1.5 Planned Roadway Improvement Projects

Construction of the proposed SNGS Facility would take place in the 2010 timeframe. During this time period, roadway improvements in the general vicinity may occur simultaneously. In order to identify potential conflicts with planned roadway improvements, a list of major construction projects by the California Department of Transportation (Caltrans), Capital Improvement Programs of the affected cities and counties, and other planning documents were reviewed. In addition, information was obtained from personal communication with traffic engineers and planners at the City of Sacramento.

In the City of Sacramento, segment one of the proposed pipeline would cross beneath Morrison Creek, the adjacent UPRR ROW, and Elder Creek Road using HDD and under Berry Avenue using conventional trenching techniques. Segment two of the proposed pipeline would tie in to the existing SMUD 700 pipeline located beneath Fruitridge Road. Based on discussion with city staff, no improvement projects are planned in the vicinity of the project area (P. Sanchez, pers. comm., 2008).

D.12.2 Applicable Regulations, Plans, and Standards

The following federal, state/regional, and local plans and policies seek to preserve level of service (LOS) operations for traffic in the vicinity of the project area.

State/Regional

Caltrans is the state agency tasked with improving and maintaining roads in the State of California. In areas with designated State Routes (SRs), the state has the responsibility to maintain these roadways while the local jurisdiction is responsible for maintaining local roads. Local jurisdictions work with Caltrans to designate transportation network requirements and critical areas in need of improvement.

The Proposed Project is located in Caltrans District 3, which includes Sacramento County. This district is responsible for planning, designing, and maintaining state highways in the Sacramento Valley and northern Sierra counties including I-5 and I-80, U.S. 50, and SR-99. District 3 partners with the Sacramento Area Council of Governments (SACOG) within the project area.

Local

County of Sacramento General Plan

Sacramento County regulates traffic through the implementation of the objectives and policies contained in the Circulation Element of the county's General Plan (1993). The following policies and goals are applicable to the Proposed Project (Sacramento, County of 1993):

CI-22 New development that results in levels of service that are worse than those standards in CI-22 or the 1993 LOS, whichever is worse, shall not be approved unless traffic impacts are mitigated. Such mitigation may be in the form of:

- Capacity improvements to either the roadway system, the transit system, or both
- Demand reduction measures included in the project design, or operation, or both.

City of Sacramento General Plan

The City of Sacramento regulates traffic through the implementation of the objectives and policies contained in the Circulation Element of the city's General Plan (1988). The following policies and goals are applicable to the Proposed Project (Sacramento, City of 1988):

- **Streets and Roads, Goal C, Policy 1.** Continue wherever possible to design streets and to approve development application in such a manner as to minimize vehicular volumes and parking problems in residential neighborhoods.

- **Streets and Roads, Goal D, Policy 1.** Work towards achieving an overall Level of Service C on the city's local and major street systems.

D.12.3 Environmental Impacts and Mitigation Measures for the Proposed Project

A natural gas wellhead, compressor station, underground pipelines, and pipeline connection are more likely to affect transportation facilities during construction than during operation because there is typically only a minimal amount of surface activity required to operate these project components. During operation, the project would be supported by three full-time employees who would be located at the compressor station site, which will result in minimal surface road activity. In addition, once the project is in operation it will require minimal service deliveries. Consequently, the transportation analysis is devoted to the potential impacts during the construction phase.

D.12.3.1 Definition and Use of Significance Criteria

The significance criteria are based on the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and a review of environmental documentation for other utility projects in California. Traffic/transportation impacts would be significant if one or more of the following conditions resulted from construction:

- The installation of the natural gas pipeline within, adjacent to, or across a roadway would reduce the number of, or the available width of, one or more travel lanes during the peak traffic periods, resulting in a temporary disruption to traffic flow and/or increased traffic congestion.
- A major roadway (arterial or collector classification) would be closed to through traffic as a result of construction activities and there would be no suitable alternative route available.
- Construction activities would restrict access to or from adjacent land uses and there would be no suitable alternative access.
- Construction activities would restrict the movements of emergency vehicles (police cars, fire trucks, ambulances, and paramedic units) and there would be no reasonable alternative access routes available.
- An increase in vehicle trips associated with construction workers or equipment would result in an unacceptable reduction in level of service on roadways in the project vicinity, as defined by each affected jurisdiction.
- Construction activities would disrupt bus or rail transit service and there would be no suitable alternative routes or stops.

- Construction activities within, adjacent to, or across a railroad ROW would result in a temporary disruption of rail traffic.
- Construction activities would impede pedestrian movements or bike trails in the construction area and there would be no suitable alternative pedestrian/bicycle access routes.
- Construction activities or staging activities would increase the demand for and/or reduce the supply of parking spaces and there would be no provisions for accommodating the resulting parking deficiencies.
- Construction activities would conflict with planned transportation projects in the project area.
- An increase in roadway wear in the vicinity of the construction zone would occur as a result of heavy truck or construction equipment movements, resulting in a noticeable deterioration of roadway surface.
- Construction activities of the project would result in safety problems for vehicular traffic, pedestrians, transit operations, or trains.

D.12.3.2 Applicant Proposed Measures

Table D.12-5 discusses the applicant proposed measures (APMs) proposed by SNGS, LLC to reduce project impacts related to transportation and traffic.

Table D.12-5
Applicant Proposed Measures for
Transportation and Traffic

APM No.	Description
11	<p>Construction Traffic Safety Measures</p> <p>SNGS, LLC will prepare a traffic control plan to minimize short-term construction-related impacts on local traffic. The plan will be submitted for review and approval by the City of Sacramento Department of Transportation and will include the following:</p> <ul style="list-style-type: none"> • A diagram showing the location of the proposed work area • A diagram showing the locations of areas where public ROW may be closed or obstructed • A diagram showing the placement of traffic control devices • The proposed phasing of traffic control • Times when traffic control will be in effect • Times when demolition/construction activities will prohibit access to private property from a public ROW • A statement that the applicant shall comply with the City of Sacramento's noise ordinance during the performance of all work • A statement that the applicant understands that the plan may be modified by the director at any time in order to eliminate or avoid traffic conditions that are hazardous to the safety of the public.

Table D.12-5 (Continued)

APM No.	Description
	The plan will clearly define the location, timing, and types of interferences that could block public ROW and emergency access. The plan also allows the Department of Transportation Director or Director of Utilities to modify, suspend, or stop the plan if a potential public safety hazard would result.

D.12.3.3 Transportation and Traffic Impact Analysis

Construction of the Proposed Project components would result in additional traffic on local roadways, which would likely inconvenience residents and businesses. The extent of the public roadways affected by project construction would be limited to those roadways adjacent to the wellhead site, compressor station, and pipeline construction. The roadways that may be affected by project construction are listed in Table D.12-1 and are shown on Figure B-3.

Impact T-1: Road and Lane Closure

Wellhead Site

Construction of the wellhead site would take approximately 3 months to complete. Access to the site would be from the south via a gate located on Junipero Street. According to SNGS, LLC, a maximum of 30 workers would be present on site at any one time during construction. All heavy equipment associated with construction and well drilling at the wellhead site would be brought in from the south via SR-99 and surface streets or from the north via the El Dorado Freeway (U.S. 50) and surface streets. During drilling activities, routine deliveries of piping would be required in order to advance the drill to the desired depth of 3,800 feet. All piping would be stored on site. Potential access routes include Power Inn Road from the north and Stockton Boulevard, Florin Road, and Power Inn Road from the south. Construction of the wellhead site would result in a less-than-significant impact as activities are not expected to require road or lane closures (Class III). Refer to Section D.1 for classification of impact significance. Construction and staging areas would be located on private property and clearly identified. As stated above, access to the site would be from the south through a gate located on Junipero Street.

Compressor Station

Construction of the compressor station would take approximately 6 to 8 months to complete. Access from the site would likely be from Fruitridge Road at the Depot Park entrance and then Saipan Street to the north or Caroline Drive to the west. According to SNGS, LLC, a maximum of 40 workers would be present on site at any one time during construction activities. Construction activities for the compressor station would involve clearing, grading, and rocking of the site; building foundations and installing the perimeter fencing; erecting structures to house the compressors and associated facilities; installing equipment and piping; and cleaning the site.

Excavation would be required at the site but, because all excavated soils would be compacted in place, a haul route for excess soils is not required. Similar to the wellhead site, construction of the compressor station would result in a less-than-significant impact (Class III) as activities are not expected to require road or lane closures. Construction and staging areas would be located on private property and clearly identified. Construction vehicles and personnel would enter Depot Park via Fruitridge Road and then access the project site via Caroline Drive.

Pipeline Segments 1 and 2

Natural gas transmission pipelines would be installed adjacent to roadways in the City of Sacramento in undisturbed areas using conventional trenching techniques. Along Power Inn Road, the pipeline would be aligned in the public ROW within a temporary construction easement measuring 75 feet wide. From there, the pipeline would advance north within the existing power line easement under Berry Avenue. The alignment then heads due east approximately 600 feet south of Elder Creek Road for a distance of approximately 1,950 feet. At this point, the alignment turns due north again and traverses approximately 3,000 feet before entering the compressor station. SNGS, LLC would use HDD technology to cross beneath Morrison Creek, the adjacent UPRR ROW, and Elder Creek Road. Conventional trenching techniques would be used under Berry Avenue. Except along the railroads and in areas that support sensitive resources, the construction easement would be 70 feet wide. According to SNGS, LLC, a maximum of 20 workers would be present along the pipeline construction route at any one time.

Construction of pipeline segment one would run from the wellhead site to the compressor site and then connect to SMUD Line 700 south of Fruitridge Road in the public ROW. The public ROW along affected roadways (Power Inn Road, Caroline Drive, and Fruitridge Road) would be graded to provide a level construction site. These roadways would see an increase in traffic due to construction vehicles and the delivery of piping to the ROW. Piping would be stored on site and, according to SNGS, LLC, lowered into place shortly thereafter (trenches would not remain open for more than 72 hours). Although excavated soils would be used in backfilling, the disposal of a small amount of excess soil may be required off site (a haul plan would identify the disposal location and route).

During HDD drilling operations for pipeline segment one, the drill rig would be set up in temporary workspace measuring 100 feet by 200 feet on the south side of Elder Creek Road, west of the UPRR tracks. Since drilling would occur beneath City of Sacramento streets, it is not expected that these activities would impact surface roadway operations or conditions. However, the HDD process requires routine applications of drill mud to advance the piping string and return soil cuttings to a temporary aboveground storage site. Both the drill mud and the soil cuttings would be disposed of off site via a dump truck or flatbed truck.

Construction of pipeline segment one would occur within temporary and existing easements located adjacent to City of Sacramento roadways and private property. The activities associated with pipeline segment one construction are not generally expected to require road or lane closures due to the locations and construction methods proposed. However, hauling and delivery of oversized loads may occasionally require temporary lane closure along the proposed pipeline alignment route to minimize potential impacts with regular traffic. Construction of pipeline segment two and the proposed tie-in with SMUD Line 700 beneath Fruitridge Road would likely require lane closure(s) on eastbound Fruitridge Road. Temporary lane closures and associated safety concerns, increased traffic levels, and constrained circulation associated with temporary road closures is considered a significant impact (Class II), and would be mitigated to less than significant with implementation of Mitigation Measures T-1a and T-1b.

Mitigation Measures for Impact T-1: Temporary Road and Lane Closures

T-1a Prepare Traffic Control Plan. Prior to the start of construction, SNGS, LLC shall submit a Traffic Control Plan (TCP) to the City of Sacramento and the Sacramento Fire Department (SFD). The city has jurisdiction over public roads that will be affected by underground construction activities as part of the required traffic encroachment permits. The public roadways that may be affected by construction activities are Power Inn Road, Junipero Street, Caroline Drive, and Fruitridge Road. The TCP shall define the locations of all roads that will need to be temporarily closed due to construction activities, including hauling of oversized loads by trucks, and trenching activities (pursuant to Sacramento Municipal Code (SMC) Section 12.16.020, temporary street closures require a permit from the city manager (Sacramento, City of 2000)). Input and approval from the City of Sacramento and SFD shall be obtained and copies of approval letters from each jurisdiction must be provided to the California Public Utilities Commission (CPUC) prior to the start of construction within the jurisdiction. The TCP shall define the use of flag persons, warning signs, lights, barricades, and cones according to standard guidelines outlined in the Caltrans *Construction Manual* (2007), the *Standard Specifications for Public Works Construction* (Public Works Standards 2006), and the *Work Area Traffic Control Handbook* (WATCH) (American Public Works Association 2006). Documentation of the approval of these plans and the issuance of encroachment permits (if applicable) shall be provided to the CPUC prior to the start of construction activities that require temporary closure of a public roadway.

T-1b Restrict Lane Closures. SNGS, LLC shall restrict all necessary lane closures or obstructions on major roadways associated with underground construction activities to off-peak periods in urbanized areas to mitigate traffic congestion and delays. Lane closures in urbanized areas must not occur between 6:00 a.m. and 9:30 a.m. and between 3:30 p.m. and 6:30 p.m., or as directed in writing by the affected public agencies. Where

feasible, nighttime construction with steel plates covering trenches during the day will be implemented, subject to the approval of agencies having jurisdiction over such measures. All trenching activities within the City of Sacramento shall comply with SMC Section 12.12.070 requirements that, “no trench shall be opened in any street for the purpose of laying pipes, conduits, or ducts more than four hundred (400) feet in advance of the pipe, conduit, or ducts being placed in the trench, except when the prior written consent of the director has been obtained” (Sacramento, City of 2000).

Impact T-2: Construction-Generated Traffic

Table B-3, in Section B, provides an estimate of construction vehicle usage required for construction of the Proposed Project. As shown in Table B-3, construction of the wellhead site, compressor station, and pipeline trenching would generate additional traffic on the regional and local roadways serving the area. The primary traffic flow to and from the project component sites during construction would result from daily worker commute trips. Additional traffic would be generated from project equipment deliveries and hauling materials, such as piping, concrete, clean fill, excavation soils, and gravel, which would increase the existing traffic volumes in the project area. During construction activities, between 150 and 200 total employees would be required along pipeline segments one and two, at the wellhead site, and at the compressor site. Approximately 70% of the construction workforce (105 to 140 employees) is expected to be local, which increases the opportunity for carpooling.

All construction equipment, vehicles, personnel, and material staging areas would be accommodated within the construction limits of the wellhead and compressor station sites and within the identified temporary and permanent easement limits of the proposed pipeline route. Access to and from the construction sites would occur along local access routes, including SR-99, U.S. 50, Fruitridge Road, and Power Inn Road. The anticipated construction-related traffic would create a short-term and limited impact (Class II) on traffic volumes and may change traffic patterns such as to affect the LOS or volume-to-capacity ratio on the study area roadways. Mitigation Measure T-2 and APM 11, which require SNGS, LLC to prepare a traffic control plan, will ensure that traffic congestion and delays due to project-related construction traffic are mitigated to a level that is less than significant.

Mitigation Measure for Impact T-2: Construction-Related Traffic

T-2 Traffic Control Plan to Reduce Construction-Related Traffic. The Traffic Control Plan described in Mitigation Measure T-1a shall also provide measures to ensure that traffic congestion and delay resulting from project construction are minimized by incorporating features such as:

- **Staggered Shift Hours.** During the peak period of construction activity, construction shifts shall be staggered to the degree possible, such that employee arrivals and departures from the site will avoid local roadway peak hours (7:30–8:30 a.m. and 4:30–5:30 p.m.) in the project vicinity. In order to minimize potential impacts to Fruitridge Road during the proposed tie-in to SMUD Line 700, construction activities shall occur during off-peak nighttime hours. Trench plates shall be used to facilitate daytime traffic operations; however, pursuant to SMC §12.20.040, trench plates shall not be utilized for more than 3 calendar days in any location.
- **Truck Scheduling.** Construction-related truck traffic shall be scheduled to avoid travel during peak periods of traffic on the surrounding roadways. Similarly, delivery of required piping and construction materials shall be coordinated to avoid delivery during peak periods of traffic.

Impact T-3: Physical Impacts to Roads and Sidewalks

Equipment used to construct the various components of the Proposed Project are designed for urban construction and are not expected to cause any physical damage to public roadways or sidewalks. However, as stated prior, the ROW along Power Inn Road, Caroline Drive, and Fruitridge Road would be graded to provide a level work area to install the proposed pipeline sections. Additionally, there is potential for damage along the pipeline route and at other project component sites due to heavy construction vehicle use. Also, trenching activities to connect the proposed pipeline (segment two) to SMUD Line 700 would damage Fruitridge Road and the adjacent sidewalk. Therefore, Mitigation Measure T-3 is provided to ensure that physical impacts to roads and sidewalks are mitigated to less than significant (Class II).

Mitigation Measure for Impact T-3: Physical Impacts to Roads and Sidewalks

T-3 Repair Damaged Roadways and Sidewalks. If damage to roads, sidewalks, and/or medians occurs, SNGS, LLC shall coordinate repairs with the affected public agencies to ensure that any damage is adequately repaired. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Care shall be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. Said measures shall be incorporated in an access agreement/easement with the applicable governing agency prior to construction.

Underground trenching activities in roadways shall require returning the affected roadways to previous conditions pursuant to the affected jurisdiction's encroachment permits and franchise agreements.

Impact T-4: Impact of Construction on Transit and Rail Operations

Construction of approximately 1,800 feet of pipeline segment one would occur adjacent to the Power Inn Road ROW and no lane closures will be necessary. There are no bus routes adjacent to segment one along Power Inn Road; therefore, no impacts to transit during construction activities would occur. Heading northward toward the compressor station site, the proposed underground pipeline would cross beneath railroad tracks of the UPRR. SNGS, LLC would use HDD methods to direct the pipeline under Elder Creek Road and the UPRR tracks, which would eliminate conflicts and disruption to rail operations. Therefore, no impacts to rail operations during construction activities are expected to occur. The tie-in at Fruitridge Road would be located within the City of Sacramento street ROW and may require a lane closure, which could result in a temporary impact to traffic that could affect Bus Route 61. Because this is a temporary construction impact and would not require rerouting of Bus Route 61, it is considered less than significant (Class III).

Impact T-5: Interference with Pedestrian/Bicycle Circulation and Safety

As shown in Table D.12-4, pedestrian and bicycle circulation could be affected along Power Inn Road and Fruitridge Road by construction activities if pedestrians and bicyclists were unable to pass through the construction zones or if established pedestrian and bike routes are blocked. Additionally, since there may be disruption to bicycle routes or paths, sidewalks and shoulders, pedestrians and bicyclists may enter the affected streets and highways and risk a vehicular-related accident. Open trenches along the pipeline corridor could present safety issues to pedestrians and bicyclists. This is considered a significant impact (Class II) and would be mitigated to less-than-significant levels with implementation of Mitigation Measure T-5.

Mitigation Measure for Impact T-5: Construction Would Interfere with Pedestrian/Bicycle Circulation and Safety

T-5 Pedestrian and Bicycle Safety. Where construction would result in temporary closures of sidewalks and other pedestrian facilities, SNGS, LLC shall provide temporary pedestrian access through alternative routes avoiding the construction areas. Affected pedestrian facilities and the alternative facilities or detours to be provided shall be identified in the TCP. Where construction activity will result in bike route or bike path closures, appropriate detours and signs shall be provided. Where construction will affect bicycle travel on streets without bicycle facilities or in areas where pedestrians could

enter, requirements for barricades to prevent entry or for plates to cover trenches will be used in accordance with the permit requirements of the local jurisdiction.

Impact T-6: Interference with Emergency Response

Pipeline construction activities (as well as construction activities at the wellhead site and compressor station) could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles due to brief roadway closures (discussed in Impact T-1). This is considered a significant impact (Class II), and would be mitigated to a less-than-significant level with implementation of Mitigation Measure T-6.

Mitigation Measure for Impact T-6: Construction Would Interfere with Emergency Response

T-6 Ensure Emergency Response Access. SNGS, LLC shall coordinate in advance with local jurisdictions to avoid restricting movements of emergency vehicles. SNGS, LLC shall request that police departments, fire departments, ambulance services, and paramedic services be notified in advance by each jurisdiction of the proposed location, nature, timing, and duration of the construction activities and advised of any access restriction that could negatively affect their emergency response times. If necessary, SNGS, LLC shall assist local jurisdictions to ensure that such emergency services are informed of the previously mentioned kinds of logistics related to construction activities. If project construction would block access to nearby property, provisions shall be ready at these locations at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes, in conjunction with local agencies. The TCP (Mitigation Measure T-1a) will include details regarding coordination of emergency services and will identify procedures to ensure effectiveness of emergency services along project area roadways.

Impact T-7: Construction Would Cause Temporary Loss of Parking

All construction vehicles and equipment would be staged within the proposed wellhead site, compressor station, or within the public ROW (within temporary construction easements and permanent power line easements) along the proposed pipeline alignment route depending upon location of construction activities. No loss of public parking would occur.

Private property along the pipeline construction route east of Power Inn Road appears to be a manufacturing distribution center that includes a storage and loading yard for large delivery trucks (approximately 48 feet long) and storage area for trailers. During construction, parking spaces in the storage and loading yard would be temporarily lost but would ultimately be

restored upon completion of construction. Therefore, due to the temporary nature of construction, the loss of parking is considered a less-than-significant impact (Class III).

Impact T-8: Conflict with Planned Roadway Improvement Projects

As discussed in Section D.12.1.5, the Proposed Project would not occur in the vicinity of any planned roadway improvement projects. According to potentially affected jurisdictions, no roadway projects are planned near the wellhead site, compressor station, or pipeline construction route. While the Proposed Project would introduce new permanent pipelines into the ROW of Power Inn Road and Fruitridge Road, these pipelines would be located at a depth that would not conflict with planned or future roadway improvement projects. Additionally, as discussed in Section D.12.1.5, there are no planned roadway improvement projects identified by the City of Sacramento for Power Inn Road or Fruitridge Road. As such, there are no expected impacts to planned roadway improvement projects.

Impact T-9: Restricted Access to Properties

When construction occurs in the outer lane and/or shoulders of roads, access to driveways could temporarily be blocked by the construction zone, thereby affecting access and parking for the adjacent residences, institutions, businesses, and other uses. Restricted access could occur along Power Inn Road and Fruitridge Road. Impacts associated with restricted access to properties during pipeline construction (segments one and two) are considered significant (Class II) and will be mitigated to a less-than-significant level with implementation of Mitigation Measures T-1a, T-9a, and T-9b.

Mitigation Measures for Impact T-9: Restricted Access to Properties

T-9a Notification of Potential Obstructions. SNGS, LLC shall notify affected parties of potential obstructions and will make provisions for alternative access. Alternative access provisions will be provided by SNGS, LLC where feasible, with guide signs to inform the affected parties and the public. SNGS, LLC shall give written notification to all landowners along the ROW of the construction schedule and shall explain the exact location and duration of construction activities proposed for the wellhead site, compressor station, and pipeline alignment route and construction activities within each street (i.e., which lanes will be temporarily closed, at what times of the day, and on what dates). SNGS, LLC shall identify locations of any potential access obstruction and shall make alternative access provisions. Written notification shall include telephone numbers for SNGS, LLC's public relations liaison and shall encourage affected parties to voice their concerns with SNGS, LLC prior to the start of construction activities so that individual problems and solutions may be identified. Alternative access provisions shall include SNGS, LLC-provided signage and if necessary, alternative parking as provided

and approved by local agencies, as well as open trenches to be covered during periods of inactivity with steel plates to provide maximum weight allowance for anticipated traffic.

T-9b Scheduling and Notification. SNGS, LLC shall schedule construction so that at least one access driveway of affected businesses is left unblocked during all business hours or hours of use. This scheduling shall be provided by SNGS, LLC to the affected tenants so they can inform employees.

D.12.4 Project Alternatives

D.12.4.1 Gas Field Alternatives

Freeport Gas Field

Environmental Setting

The Freeport Gas Field alternative site is located approximately 5 miles southwest of the Florin Gas Field on agricultural land located on the suburban fringe of Elk Grove and is partially located underneath a wastewater treatment plant. If developed, the Freeport Gas Field would have an ultimate natural gas storage capacity of 1 billion cubic feet (bcf). Since this alternative would be located adjacent to a suburban community, the existing traffic conditions would be slightly less than those of the Proposed Project, which would occur in an urban area.

Environmental Impacts and Mitigation Measures

Similar to the Proposed Project, this alternative would involve constructing facilities including injection/withdrawal wells, a compressor station, and connecting pipeline(s). This alternative would construct 1 mile of pipeline travelling through a largely rural area in order to reach tie-ins. Generally, the traffic impacts for this alternative gas field location would be slightly less than those discussed for the Proposed Project. Potential for roadway and lane closures (Impact T-1) and construction traffic (Impact T-2) would require mitigation similar to that of the Proposed Project. With implementation of Mitigation Measures T-1 and T-2, impacts would be reduced to less than significant (Class II). Impacts to roads from trenching activities would require mitigation to return them to their pre-construction state (Impact T-3). With implementation of Mitigation Measure T-3, impacts would be reduced to less than significant (Class II). Because this alternative would include a shorter pipeline alignment route, the potential for road closures is slightly less than that of the Proposed Project. Because it is located in a rural area, this alternative would have no impact on transit and rail operations (Impact T-4). Pedestrian and bicycle circulation (Impact T-5) would not be impacted because rural roads adjacent to pipeline construction would generally be void of sidewalks and bike lanes; therefore, no impact would occur. This alternative would require mitigation to ensure that emergency services (Impact T-6) could operate efficiently on roadways in the project vicinity. With implementation of Mitigation

Measure T-6, impacts would be reduced to less than significant (Class II). Due to its location, the pipeline would not be located adjacent to many residences and businesses; therefore, no impact would occur as a result of a loss of parking (Impact T-7). Similar to the Proposed Project, pipeline construction would not conflict with any planned roadway improvements (Impact T-8); therefore, no impact would occur. Pipeline construction would, however, result in access restrictions around the project area (Impact T-9). With implementation of Mitigation Measure T-9, impacts would be reduced to less than significant (Class II).

Comparison to the Proposed Project

Transportation and traffic impacts resulting from the development and construction of the Freeport Gas Field alternative would be slightly less than those associated with the Proposed Project.

Snodgrass Slough Gas Field

Environmental Setting

The Snodgrass Slough Gas Field alternative site is a former gas field that is located approximately 20 miles southwest of the Florin Gas Field on agricultural land adjacent to the Reclamation District 551 Borrow Canal. Additionally, the Snodgrass Slough Gas Field is located 3 miles east of the Sacramento River and California State Highway 160 and 4 miles north of the nearest population center, Walnut Grove. If developed, the Snodgrass Slough Gas Field would have an ultimate natural gas storage capacity of 2 bcf. Since this alternative would be located in a largely agricultural area, the existing traffic conditions would be slightly less than those of the Proposed Project occurring in an urban area.

Environmental Impacts and Mitigation Measures

Similar to the Proposed Project, this alternative would involve constructing facilities including injection/withdrawal wells, a compressor station, and connecting pipeline(s). However, due to its location, nearly 5 miles of pipeline would be required for the transmission of natural gas from the extraction point to tie-ins with PG&E and SMUD pipelines. Additionally, pipeline construction would require HDD to cross beneath the Snodgrass Slough, I-5, and UPRR. Generally, the traffic impacts for this alternative gas field location would be less than those discussed for the Proposed Project. Potential for roadway and lane closures (Impact T-1) and construction traffic (Impact T-2) would require mitigation similar to that of the Proposed Project. With implementation of Mitigation Measures T-1 and T-2, impacts would be reduced to less than significant (Class II). Impacts to roads from trenching activities would require mitigation to return them to their pre-construction state (Impact T-3). With implementation of Mitigation Measure T-3, impacts would be reduced to less than significant (Class II). Because this alternative would include a longer pipeline alignment route, the potential for road closures is

slightly greater than that of the Proposed Project. Due to its rural location and proposed use of HDD, the potential for transit and rail impacts (Impact T-4) resulting from pipeline construction is less than that of the Proposed Project (no impact). Similarly, pedestrian and bicycle circulation (Impact T-5) would not be impacted because rural roads adjacent to pipeline construction would generally be void of sidewalks and bike lanes; therefore, no impact would occur. This alternative would require mitigation to ensure that emergency services (Impact T-6) could operate efficiently on roadways in the project vicinity. With implementation of Mitigation Measure T-6, impacts would be reduced to less than significant (Class II). Under this alternative, no loss of parking is anticipated (Impact T-7) and, similar to the Proposed Project, pipeline construction would not conflict with any planned roadway improvements (Impact T-8). Therefore, no impacts would occur due to a loss of parking or to planned roadway improvements. Pipeline construction would, however, result in access restrictions around the project area (Impact T-9). With implementation of Mitigation Measure T-9, impacts would be reduced to less than significant (Class II).

Comparison to the Proposed Project

Transportation and traffic impacts resulting from the development and construction of the Snodgrass Slough Gas Field alternative would be slightly less than those associated with the Proposed Project.

Thornton Gas Field

Environmental Setting

The Thornton Gas Field alternative site is located approximately 20 miles south of the Florin Gas Field on agricultural land south of the Cosumnes River Preserve. Additionally, the Thornton Gas Field is located 1.5 miles east of I-5 and 1 mile north of the town of Thornton. If developed, the Thornton Gas Field would have an ultimate natural gas storage capacity of 7.5 bcf. Since this alternative would be located in a largely agricultural area, the existing traffic conditions would be significantly less than those of the Proposed Project, which would occur in an urban area.

Environmental Impacts and Mitigation Measures

Similar to the Proposed Project, this alternative would involve constructing facilities including injection/withdrawal wells, a compressor station, and connecting pipeline(s). This alternative would construct nearly 7 miles of pipeline travelling through a largely rural area in order to reach tie-ins. Generally, the traffic impacts for this alternative gas field location would be slightly less than those discussed for the Proposed Project. Potential for roadway and lane closures (Impact T-1) and construction traffic (Impact T-2) would require mitigation similar to that of the Proposed Project. With implementation of Mitigation Measures T-1 and T-2, impacts would be reduced to less than significant (Class II). Impacts to roads from trenching activities would

require mitigation to return them to their pre-construction state (Impact T-3). With implementation of Mitigation Measure T-3, impacts would be reduced to less than significant (Class II). Because this alternative would include a longer pipeline alignment route to reach the tie-in, the potential for road closures is slightly greater since a greater distance of roadway would be potentially impacted. Because it is located in a rural area, this alternative would likely have no impact on transit and rail operations (Impact T-4). Pedestrian and bicycle circulation (Impact T-5) would not be impacted since rural roads adjacent to pipeline construction would generally be without sidewalks and bike lanes; therefore, no impact would occur. This alternative would require mitigation to ensure that emergency services (Impact T-6) could operate efficiently on roadways in the project vicinity. With implementation of Mitigation Measure T-6, impacts would be reduced to less than significant (Class II). Due to its rural location, the pipeline would not be located adjacent to many residences and businesses; therefore, no impact would occur as a result of a loss of parking (Impact T-7). Similar to the Proposed Project, pipeline construction would not conflict with any planned roadway improvements (Impact T-8); therefore, no impact would occur. Pipeline construction would likely result in access restrictions around the project area (Impact T-9). With implementation of Mitigation Measure T-9, impacts would be reduced to less than significant (Class II).

Comparison to the Proposed Project

Transportation and traffic impacts resulting from the development and construction of the Thornton Gas Field alternative would be slightly less than those associated with the Proposed Project.

D.12.4.2 Project Design Alternatives

Alternative Wellhead Site to Compressor Station Pipeline Route 1

Environmental Setting

This alternative would use the same construction locations for the wellhead site, compressor station, and SMUD Line 700 tie-in. Only the pipeline route would differ from the Proposed Project. From the northwest corner of the wellhead site, this alternative would head due east to the UPRR tracks. This alternative would parallel Junipero Street and would cross an active industrial-use yard. It would then parallel the UPRR tracks, running northwest to Elder Creek Road. This route would be approximately 7,800 feet long. This alternative would be approximately 450 feet longer than the Proposed Project.

Environmental Impacts and Mitigation Measures

Generally, the traffic impacts for this alternative pipeline route would be substantially less than those discussed for the Proposed Project. Potential for roadway and lane closures (Impact T-1)

would not be likely since the pipeline would be re-routed through an active industrial-use yard. Similar mitigation would be required for this alternative in order to avoid construction-related traffic (Impact T-2). With implementation of Mitigation Measure T-2, impacts would be reduced to less than significant (Class II). Impacts to roads from construction vehicles would require mitigation to return them to their pre-construction state (Impact T-3). With implementation of Mitigation Measure T-3, impacts would be reduced to less than significant (Class II). Because this alternative pipeline route would not be located in the ROW of public roadways and would only run parallel to UPRR tracks, there would likely be no impact on transit and rail operations (Impact T-4). However, as with the Proposed Project, construction of the tie-in at Fruitridge Road would occur under this alternative, which would result in a less-than-significant impact to transit uses along this roadway (Class III). Pedestrian and bicycle circulation (Impact T-5) would not be impacted since pipeline construction would not occur in the ROW of public roadways. This alternative would likely not require mitigation for impacts to emergency services (Impact T-6) since pipeline construction would not be located adjacent to roads and thus would not impact operating conditions. Because this alternative would cross through an active industrial use yard, some parking would likely be lost during construction (Impact T-7); however, since this would be a temporary impact it would be less than significant (Class III). Similar to the Proposed Project, pipeline construction would not conflict with any planned roadway improvements (Impact T-8); therefore, no impact would occur. However, pipeline construction would likely result in access restrictions around the project area (Impact T-9). With implementation of Mitigation Measure T-9, impacts would be reduced to less than significant (Class II).

Comparison to the Proposed Project

Transportation and traffic impacts resulting from the design of Alternative Wellhead Site to Compressor Station Pipeline Route 1 would be less than those associated with the Proposed Project.

Alternative Wellhead Site to Compressor Station Pipeline Route 2

Environmental Setting

This alternative would use the same construction locations for the wellhead site, compressor station, and SMUD Line 700 tie-in. Only the pipeline route would differ from the Proposed Project. From the northwest corner of the wellhead site, this alignment would run approximately 600 feet north within the utility alignment to Berry Avenue, and would then parallel the UPRR tracks northwest to Elder Creek Road. This alignment would be approximately 7,700 feet long. This alternative would be approximately 350 feet longer than the Proposed Project.

Environmental Impacts and Mitigation Measures

Generally, the traffic impacts for this alternative gas field location would be similar to those discussed for the Proposed Project. Potential for roadway and lane closures (Impact T-1) and construction traffic (Impact T-2) would require mitigation similar to that of the Proposed Project. With implementation of Mitigation Measures T-1 and T-2, impacts would be reduced to less than significant (Class II). Impacts to roads from construction vehicles would require mitigation to return them to their pre-construction state (Impact T-3). With implementation of Mitigation Measure T-3, impacts would be reduced to less than significant (Class II). This pipeline route would travel north from the wellhead site adjacent to Power Inn Road; however, as with the Proposed Project, no impacts to transit operations would occur (Impact T-4). As with the Proposed Project, construction of the tie-in at Fruitridge Road would occur under this alternative, which would result in a less-than-significant impact to transit uses along this roadway (Class III). Similarly, pedestrian and bicycle circulation (Impact T-5) would be impacted since pipeline construction would occur in the ROW of a public roadway. This alternative would likely require mitigation for potential impacts to emergency services (Impact T-6). With implementation of Mitigation Measures T-5 and T-6, these impacts would be reduced to less than significant (Class II). Although this alternative would travel east along Berry Avenue, it would still cross through the active industrial use yard and some parking would likely be lost during construction (Impact T-7); however, since this would be a temporary impact, it would be less than significant (Class III). Similar to the Proposed Project, pipeline construction would not conflict with any planned roadway improvements (Impact T-8) but pipeline construction would result in access restrictions around the project area (Impact T-9). With implementation of Mitigation Measure T-9, impacts would be reduced to less than significant (Class II).

Comparison to the Proposed Project

Transportation and traffic impacts resulting from the design of Alternative Wellhead Site to Compressor Station Pipeline Route 2 would be similar to those associated with the Proposed Project.

Alternative Wellhead Site to Compressor Station Pipeline Route 3

Environmental Setting

This alternative would use the same construction locations for the wellhead site, compressor station, and SMUD Line 700 tie-in. Only the pipeline route would differ from the Proposed Project. From the northwest corner of the wellhead site, this alignment would run north approximately 1,650 feet within an existing utility alignment, and then approximately 650 feet north along Power Inn Road to Elder Creek Road. From that intersection, the pipeline would be installed within Elder Creek Road, for approximately 1,800 feet, to the intersection with the

UPRR tracks. This alternative would be approximately 7,100 feet long. This alternative would be approximately 250 feet shorter in length compared to the Proposed Project.

Environmental Impacts and Mitigation Measures

Generally, the traffic impacts for this alternative gas field location would be similar to those discussed for the Proposed Project. Potential for roadway and lane closures (Impact T-1) and construction traffic (Impact T-2) would require mitigation similar to that of the Proposed Project. With implementation of Mitigation Measures T-1 and T-2, impacts would be reduced to less than significant (Class II). Impacts to roads from construction vehicles would require mitigation to return them to their pre-construction state (Impact T-3). With implementation of Mitigation Measure T-3, impacts would be reduced to less than significant (Class II). This pipeline route would travel north from the wellhead site adjacent to Power Inn Road to Elder Creek Road; however, as with the Proposed Project, no impacts to transit operations would occur (Impact T-4). As with the Proposed Project, construction of the tie-in at Fruitridge Road would occur under this alternative, which would result in a less-than-significant impact to transit uses along this roadway (Class III). Similarly, pedestrian and bicycle circulation (Impact T-5) would be impacted since pipeline construction would occur in the ROW of a public roadway. This alternative would likely require mitigation for potential impacts to emergency services (Impact T-6). With implementation of Mitigation Measures T-5 and T-6, these impacts would be reduced to less than significant (Class II). As with the Proposed Project, this alternative would still cross through the active industrial use yard and some parking would likely be lost during construction (Impact T-7); however, since this would be a temporary impact, it would be less than significant (Class III). Similar to the Proposed Project, pipeline construction would not conflict with any planned roadway improvements (Impact T-8); however, pipeline construction would result in access restrictions around the project area (Impact T-9). With implementation of Mitigation Measure T-9, impacts would be reduced to less than significant (Class II).

Comparison to the Proposed Project

Transportation and traffic impacts resulting from the design of Alternative Wellhead Site to Compressor Station Pipeline Route 3 would be similar to those associated with the Proposed Project.

D.12.4.3 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, none of the facilities or pipelines associated with the project or the alternatives analyzed in this EIR would be constructed by SNGS, LLC; therefore, none of the impacts in this section would occur. The project components of the SNGS Facility, including the wellhead site, compressor station, and associated pipelines, would not be built, thereby reducing

the potential ability to meet the demand for natural-gas-generated electricity in the Sacramento area.

D.12.5 Mitigation Monitoring, Compliance, and Reporting

Table G-1 describes the mitigation monitoring, compliance, and reporting program for transportation and traffic.

D.12.6 References

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