Santa Barbara County
Line 901-903 Pipeline Replacement - Project Description (V2)

The proposed *Project* is a request of SCS Engineers (SCS), agent for the applicant, Plains Pipeline, L.P. (Plains) for approval of a Development Plan, Conditional Use Permit, and a Coastal Development Permit for the replacement of existing pipelines known as Line 901 and Line 903 with the replacement Line 901R and Line 903R pipelines (*Project*). The proposed *Project* consists of the installation and operation of approximately 123.4 miles of replacement pipelines, as well as the installation of supporting access roads, valves, and pump stations. The proposed *Project* spans multiple local, state, and federal jurisdictions as summarized in Tables 1 and 2 below.

Table 1- Pipeline Jurisdictional Summary by County

Jurisdiction	Pipeline Mileage (Miles)
Santa Barbara County	*72.6*
San Luis Obispo County	*37.1*
Kern County	*13.7*
Total	***123.4***

Table 2- Pipeline Jurisdictional Summary by Agency

Jurisdiction	Location	Pipeline Mileage (Miles)
California Coastal Zone	--	*14.6*
California State Parks	*Gaviota State Park*	*4.0*
California Department of Fish and Wildlife	*Carrizo Plains Ecological Reserve*	*4.5*
United States Bureau of Land Management	*Carrizo Plain National Monument*	*3.6*
United States Fish and Wildlife Service	*Bitter Creek Wildlife Refuge*	*2.3*
United States Forest Service	*Los Padres National Forest*	*6.3*

1. *All Coastal Zone jurisdiction is located within Santa Barbara County.*
2. *All agencies listed in Table 2 are within each of the County jurisdictions in Table 1.*

As it pertains to lands within the unincorporated areas of Santa Barbara County exclusively, this application involves one hundred and fifty-five (155) parcels of land, as described in Attachment A.5 (Parcel Index). The proposed *Project* is located in the First, Third, and Fifth Supervisorial Districts of Santa Barbara County. The proposed *Project* related parcels are located within the Agricultural I, Agricultural II, Coastal-Dependent Industry, Coastal-Related Industry, and Recreation zone districts.

Existing Pipeline Facilities

The existing Line 901 pipeline is twenty-four (24) inches in diameter and is designed to transport crude oil approximately 10.9 miles from the Las Flores Pump Station within the Santa Ynez Unit (SYU), west along the Gaviota Coast, terminating at the existing Gaviota Pump Station. Line 901 has a maximum permitted throughput capacity of 150,000-barrels per day. The existing Line 903 pipeline is thirty (30) inches in diameter and is designed to transport crude oil approximately 113.5 miles north to the Sisquoc Pump Station, then east through the Los Padres National Forest (LPNF) and Cuyama Valley, delivering crude oil to the existing Pentland Delivery Point in the San Joaquin Valley. Line 903 has a maximum permitted throughput capacity of 300,000-barrels per day. This existing pipeline system also provides a connection to the Phillips 66 Sisquoc Pipeline at the existing Sisquoc Pump Station, which can transport crude oil west to the Phillips 66 Santa Maria Refinery. The existing facilities include the Los Flores Pump Station, Gaviota Pump Station, Sisquoc Pump Station, Pentland Delivery Point, and intervening ten (10) valve stations. Most existing valve stations and all existing pump station sites will be retained and incorporated into the replacement pipeline system as described in greater detail below.

Baseline Pipeline Operations

The existing Line 901 and Line 903 pipelines commenced operations in 1994 and 1991 respectively. Since May 2015, Line 901 and 903 have been continuously tested, maintained, and/or repaired in preparation for a potential return to service. Crude shipment averaged 43,189 barrels per day over a period spanning 2000-2016. During the recent operating period, approximately ten (10) full-time equivalent employees operated and maintained the pipeline system. Additionally, periodic maintenance and repairs to the pipeline system required the occasional deployment of construction crews, heavy construction equipment, and vacuum trucks. Proposed operation of the replacement pipeline system will remain consistent with historical levels, including volumes of crude transport and number of permanent employees.

Existing Pipeline Abandonment

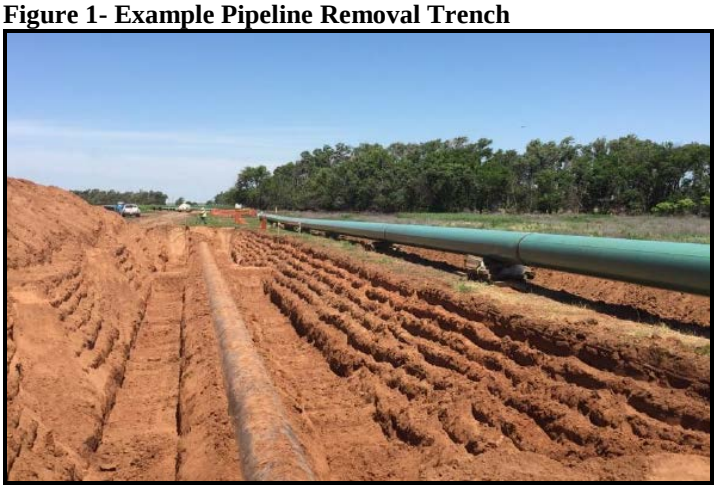
Where technically feasible and allowed by agreement with private landowners and permits issued by public agencies, and subject to engineering requirements, the 122.9 miles of existing Line 901 and 903 pipeline segments will be abandoned in-place. In most instances the abandonment of the existing pipelines in-place would minimize total below grade excavation during construction. In accordance with industry standards and pursuant to applicable regulations, this abandonment process would include the following primary actions:

- Buried pipeline sections will be flushed/cleaned of any fluids.
- Depending upon terrain conditions, small sections of buried pipeline will be exposed in intervals varying from one-half (0.5) to two (2) miles for access purposes.
- The buried pipelines will be filled with a material such as slurry, foam, nitrogen, or an inert substance and exposed ends will be welded closed with steel plates.
- Unless otherwise noted in the equipment list, existing aboveground equipment such as facility piping, pig launchers, and pig receivers will be removed.
- All excavations will be backfilled, recompacted as appropriate for their location, and revegetated/recontoured to return to existing prior conditions as much as possible.
- Buried sections of pipeline will be recorded such that future land owners/users are able to identify their location.

Existing Pipeline Removal

Where required by agreement with private landowners, permit conditions, or for technical reasons, some pipeline segments may be removed. For example, approximately 117 parcels of the total 257 parcels which are currently transected by the existing pipelines have a right-of-way clause which gives the property owner the option of requiring pipeline removal instead of abandonment in-place. Should all such property owners invoke that option, approximately 77.8 miles of pipeline would be removed. The lateral extent of vegetation and top soil disturbance associated with pipeline removal is not expected to exceed the limits of the *Temporary Construction Corridor* needed for replacement pipeline installation. However, removal of the existing pipelines, versus abandonment in-place, would result in a larger subsurface grading volume as such removal requires the excavation of a benched trench over the entire pipeline length as described in further detail below and shown in Figure 1. Whereas abandonment in-place only requires ground disturbance in proximity to the removal of aboveground facilities and the exposure of the buried pipeline at approximate intervals of every one-half (0.5) to two (2) miles. Removal of the existing pipelines could result in additional excavation beyond which would be required if abandonment in-place was allowed.

Figure 1- Example Pipeline Removal Trench



In accordance with industry standards and pursuant to applicable regulations, this removal process would include the following primary actions:

- Buried pipeline sections will be flushed/cleaned of any remaining fluids.
- All major vegetation would be cleared at the minimum width necessary but not to exceed the *Temporary Construction Corridor*. Mature trees will be protected as feasible.
- A typical benched or sloped trench approximately thirty (30) feet in width would be excavated over the top of the pipeline segment; topsoil would be separated and stockpiled.
- Sidebooms, trackhoes, trucks, and various construction fleet vehicles would be utilized to cut, lift, and remove sections of pipe.
- The trench would be backfilled with native soil and/or clean fill material and top soil will be replaced. The disturbed area will be recontoured and revegetated to as close to prior surrounding conditions as possible.

- Large woody vegetation such as oak trees may not be replanted if such vegetation would be likely to disrupt the operation and/or maintenance of the replacement pipeline system.
- Unless otherwise noted in the equipment list, existing aboveground equipment such as valves, facility piping, pig launchers, and pig receivers will be removed.
- Two (2) existing valve stations will no longer be needed. Due to the reroute of the pipeline corridor around the western limits of the City of Buellton, existing Valve station 1-300 will be deconstructed and the surface conditions recontoured and revegetated to as close to prior surrounding conditions as possible. Valve station 3-1200 will be replaced by the new Russell Ranch Pump Station.

Proposed Pipeline Route and Construction of Line 901R and Line 903R

The *Project* includes the installation of approximately 123.4 miles of replacement pipeline and associated equipment (refer to Attachments B.4 and B.5). The proposed route of the replacement pipeline system has been designed primarily to follow the existing Line 901 and Line 903 corridor, for various beneficial reasons including but not limited to:

- Line 901 and 903 underwent extensive environmental review in the late 1980s and their current locations were identified as the environmentally superior alternative based upon the need to avoid or mitigate impacts to various environmental resources (topography, viewshed, watersheds, etc.), which remain largely unchanged over the subsequent thirty-five (35) years.
- The original construction of Lines 901 and 903 disturbed a corridor approximately 100-feet in width, resulting in the removal of mature vegetation such as oak trees and minor alterations to existing landforms which are now part of the baseline environmental conditions throughout the region.
- Ongoing operation and maintenance of Lines 901 and 903 have kept the existing pipeline right-of-way relatively devoid of mature vegetation, manmade structures, and other obstructions.
- In some instances, the existing pipelines and casing can be utilized to facilitate installation of the replacement pipelines with associated reductions in grading/trenching disturbance.
- The existing pipeline routes through topographically steep terrain were often the safest feasible location for pipeline construction.
- Private landowners and public agencies have made long-term property development and planning decisions based upon the location of the existing pipelines.

There are limited instances where the replacement Line 901R and Line 903R routes differ from the existing pipeline corridor. One major planned deviation from the existing corridor, totaling approximately 2.5 miles of new pipeline corridor, is currently proposed in order to reroute the new pipeline around the densely populated western expansion of the City of Buellton. Two smaller deviations are proposed to further limit impacts to environmental resources totaling approximately 1,794 feet in length.

Temporary Construction Corridor disturbance would generally be 100-feet in width as depicted in Figure 2 below. In certain instances, the *Temporary Construction Corridor* narrows to less than 100-feet in width to avoid environmental impacts such as oak tree removal. Conversely, in certain instances the *Temporary Construction Corridor* exceeds 100-feet in width to provide work space and secondary staging areas within proximity of the pipeline. Such secondary staging areas have been strategically located to minimize habitat disturbance as depicted in Figure 3.

Figure 2- Typical *Temporary Construction Corridor*

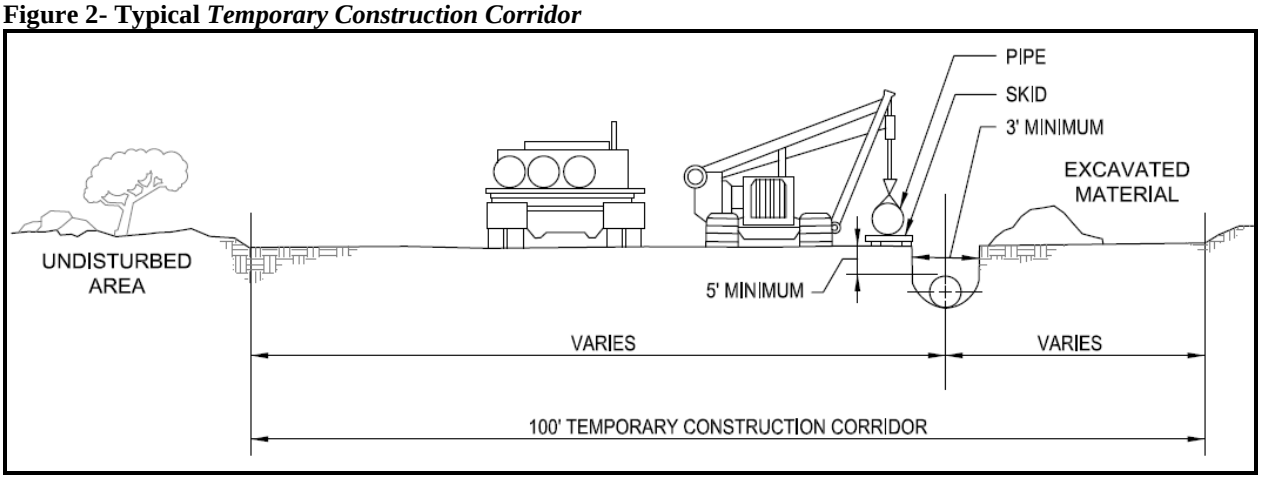
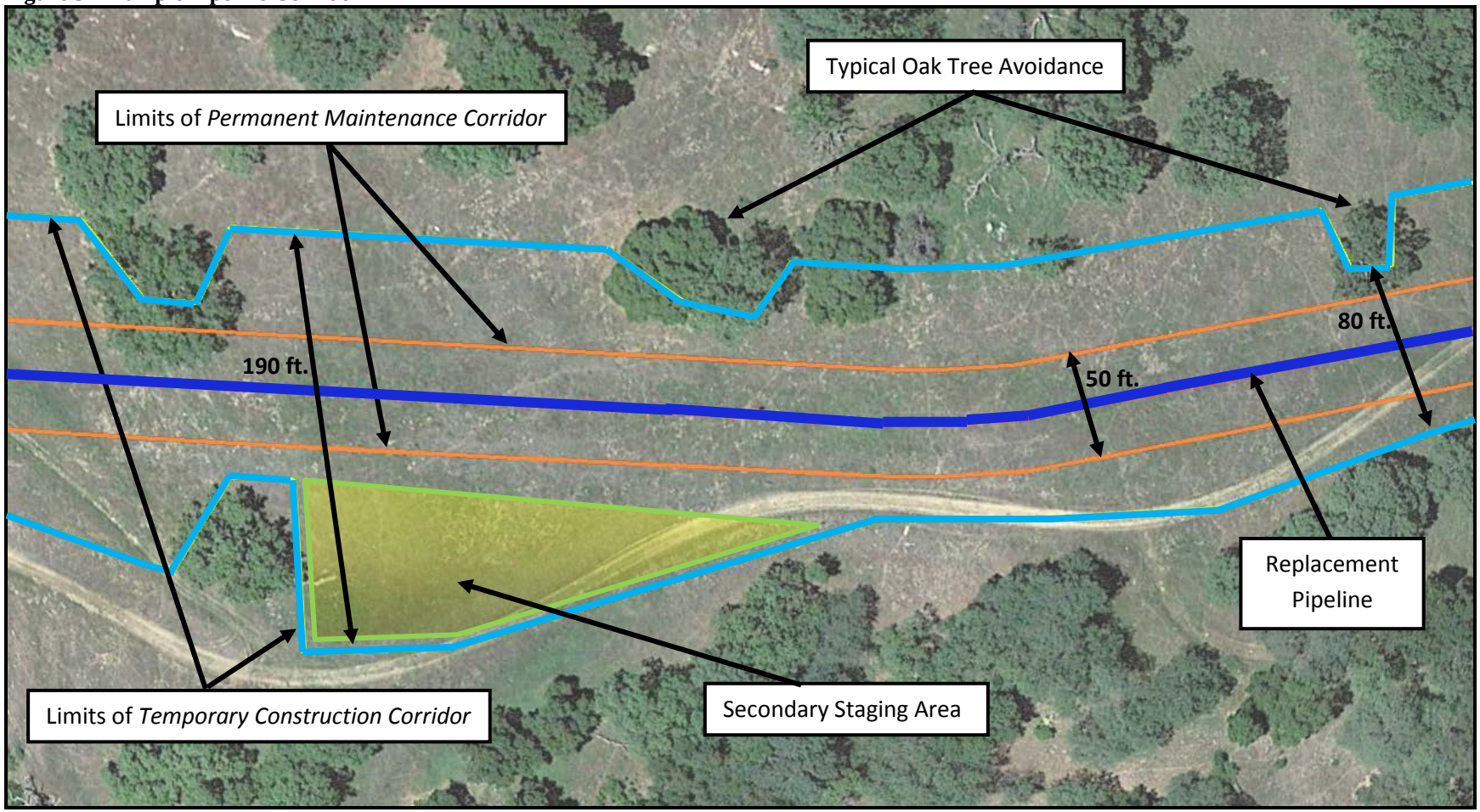


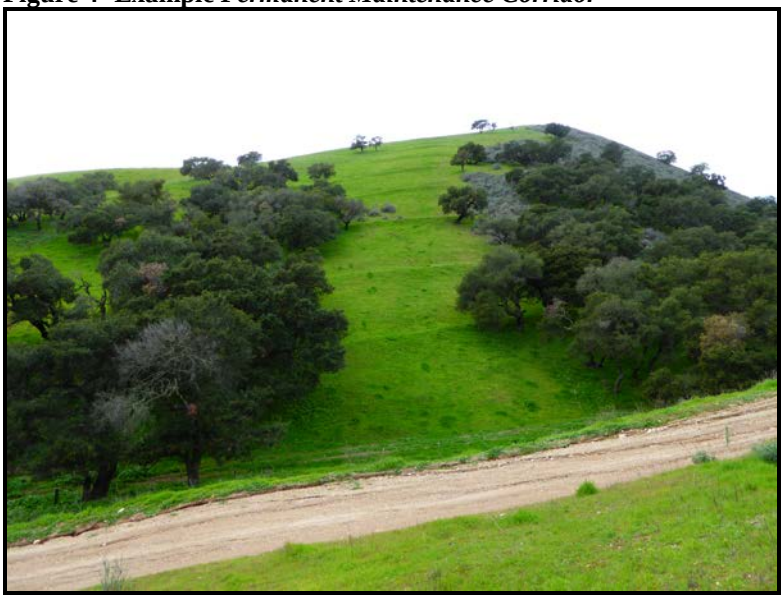
Figure 3- Example Pipeline Corridor



Throughout the *Temporary Construction Corridor*, top soil will be removed, stockpiled, and replaced for final grade during the construction process. Typical installation of the replacement pipeline system will require the excavation of a trench approximately three (3) feet in width and a minimum depth of seven (7) feet. In some instances, the trench width may be expanded to a maximum of ten (10) feet to accommodate deeper placement of the pipeline in ephemeral drainages. At various locations, such as bore entry and exit points, ground disturbance will exceed typical trench dimensions but at no time would exceed the limits of the approved *Temporary Construction Corridor*. After the pipeline is lowered in, the excavation would be backfilled with native soil or padding material and the top soil will be replaced. The construction corridor will be recontoured and revegetated to match surrounding conditions as much as possible. However, some large woody vegetation would be permanently excluded from the *Permanent Maintenance Corridor* as described in further detail below. In an effort to minimize construction disturbance to various environmental resources, the pipeline installation includes subsurface boring under the Santa Ynez, Sisquoc, and Cuyama Rivers, several perennial streams, and other sensitive resources.

Permanent disturbance and development will occur as a result of the installation of thirty-five (35) new valve stations, the expansion of the existing Sisquoc Pump Station, and the construction of a new Russell Ranch Pump Station. All temporary and permanent grading impacts have been summarized in Table 3 below. As previously discussed, the pipeline construction right-of-way will be restored and revegetated to its previous condition, as feasible, with the exception of a *Permanent Maintenance Corridor* approximately 50-feet in width. This *Permanent Maintenance Corridor* will be restored to as close to natural conditions as possible. Native grasses and other non-woody vegetation will be allowed and/or propagated to occupy and stabilize the right-of-way. However, large mature trees and woody vegetation will be maintained clear of the *Permanent Maintenance Corridor* in order to prevent root-borne damage to the pipeline and facilitate prompt and continuous maintenance, repair, and inspection of the pipeline system. Minor topographic features needed to prevent slope erosion will also remain within the *Permanent Maintenance Corridor*, including water bars/berms as depicted in Figure 4 below.

Figure 4- Example *Permanent Maintenance Corridor*



Impacts, such as the removal of oak trees from the long-term maintenance corridor, which cannot be mitigated within or in proximity to the pipeline right-of-way, will be mitigated at various approved offsite locations throughout the region.

Table 3- Permanent Ground Disturbance Summary

Santa Barbara County						
Project Element	**Exist. Development**		**New Disturbance**			
	Sq. Ft.	**Acres**	**Sq. Ft.**	**Acres**	**Cut (cy)**	**Fill (cy)**
Las Flores Pump Station & Valve 1-100	19,197	0.44	0	0	0	0
Valve Station 1-200	0	0.00	8,413	0.19	443	389
Valve Station 1-300 (Demo)	0	0.00	0	0.00	0	0
Valve Station 1-400	182	0.00	3,307	0.08	29	11
Valve Station 1-500	0	0.00	26,497	0.61	1,288	1,153
Valve Station 1-600	0	0.00	10,069	0.23	306	173
Valve Station 1-700	0	0.00	7,751	0.18	286	198
Valve Station 1-800	0	0.00	9,264	0.21	225	182
Valve Station 1-900	0	0.00	3,669	0.08	60	44
Valve Station 1-1000	0	0.00	3,395	0.08	56	60
Gaviota Pump Station & Valves 1-1100 & 2-100	37,557	0.86	0	0.00	0	0
Valve Station 2-200	0	0.00	5,382	0.12	18	13
Valve Station 2-300	1,545	0.04	6,415	0.15	66	56
Valve Station 2-400	0	0.00	5,862	0.13	98	85
Valve Station 2-500	0	0.00	34,592	0.79	2,403	2,336
Valve Station 2-600	0	0.00	32,333	0.74	2,546	2,505
Valve Station 2-700	0	0.00	2,872	0.07	38	37
Valve Station 2-800	3,320	0.08	0	0.00	0	0
Valve Station 2-900	0	0.00	8,456	0.19	99	98
Valve Station 2-1000	0	0.00	4,283	0.10	26	25
Valve Station 2-1100	0	0.00	2,964	0.07	47	6
Valve Station 2-1200	0	0.00	3,749	0.09	30	20
Valve Station 2-1300	0	0.00	3,048	0.07	0	0
Valve Station 2-1400	2,340	0.05	0	0.00	0	0
Valve Station 2-1500	0	0.00	2,437	0.06	3	1
Sisquoc Pump Station & Valves 2-1600 & 3-100	110,015	2.53	304,920	7.00	50,494	50,346
Valve Station 3-200	0	0.00	5,577	0.13	156	129
Valve Station 3-300	0	0.00	3,896	0.09	80	65
Valve Station 3-400	0	0.00	4,133	0.09	236	116
Valve Station 3-500	0	0.00	3,738	0.09	76	35
Valve Station 3-600	0	0.00	3,572	0.08	46	21
Valve Station 3-700	1,850	0.04	1,348	0.03	57	41
SB County Subtotal	**176,006**	**4.04**	**511,942**	**11.75**	**59,212**	**58,145**

San Luis Obispo County						
Project Element	Exist. Development		New Disturbance[1]			
	Sq. Ft.	Acres	Sq. Ft.	Acres	Cut (cy)	Fill (cy)
Valve 3-800	0	0.00	3,130	0.07	13	8
Valve 3-900	0	0.00	5,873	0.13	38	28
Valve 3-1000	0	0.00	4,254	0.10	28	19
Valve 3-1100	0	0.00	5,002	0.11	119	28
Valve 3-1200 (Demo)	0	0.00	0	0	0	0
Russell Ranch Pump St. Valves 3-1300 & 4-100	0	0.00	49,259	1.13	825	814
Valve 4-200	0	0.00	7,429	0.17	251	202
Valve 4-300	0	0.00	3,927	0.09	35	18
Valve 4-400	0	0.00	2,584	0.06	20	13
Valve 4-500	0	0.00	2,680	0.06	13	8
Valve 4-600	0	0.00	2,672	0.06	10	2
Valve 4-700	0	0.00	2,861	0.07	26	12
SLO County Subtotal	**0**	**0.00**	**89,671**	**2.05**	**1,378**	**1,152**

Kern County						
Project Element	Exist. Development		New Disturbance			
	Sq. Ft.	Acres	Sq. Ft.	Acres	Cut (cy)	Fill (cy)
Valve 4-800	1,750	0.04	0	0.00	0	0
Valve 4-900	0	0.00	10,027	0.23	345	13
Valve 4-1000	0	0.00	4,293	0.10	198	88
Pentland Delivery Point & Valve 4-1100	118,478	2.72	0	0.00	0	0
Kern County Subtotal	**120,228**	**2.76**	**14,320**	**0.33**	**543**	**101**

All Counties						
Project Element	Exist. Development		New Disturbance			
	Sq. Ft.	Acres	Sq. Ft.	Acres	Cut (cy)	Fill (cy)
Grand Total	**296,234**	**6.80**	**615,933**	**14.14**	**61,238**	**59,843**

[1] Disturbance areas listed in this table assume activity will extend approximately four (4) feet beyond the limits of actual grading, this allows accommodation for disturbance associated with Stormwater BMP installation, construction limit fencing, etc.

Table 4- Temporary Ground Disturbance Summary

Santa Barbara County				
Project Element	**Square Ft.**	**Acres**	**Cut (cy)**	**Fill (cy)**
Pipeline Trenching[1]	1,149,984	26.40	298,144	298,144
Temp. Const. Corridor	35,972,780	825.80	N/A	N/A

[1]Assumes 3-foot width and 7-foot depth of trench.

San Luis Obispo County				
Project Element	**Square Ft.**	**Acres**	**Cut (cy)**	**Fill (cy)**
Pipeline Trenching[1]	587,664	13.49	152,357	152,357
Temp. Const. Corridor	19,002,296	436.23	N/A	N/A

Kern County				
Project Element	**Square Ft.**	**Acres**	**Cut (cy)**	**Fill (cy)**
Pipeline Trenching[1]	217,008	4.98	56,261	56,261
Temp. Const. Corridor	7,171,373	164.63	N/A	N/A

All Counties				
Project Element	**Square Ft.**	**Acres**	**Cut (cy)**	**Fill (cy)**
Pipeline Trenching[1]	1,954,656	44.87	506,762	506,762
Temp. Const. Corridor	62,146,449	1426.66	N/A	N/A

Structural development for the *Project* will be limited to small power and control buildings within each pump station (utilized for enclosing SCADA systems and other sensitive equipment) and fluid storage tanks at the Sisquoc Pump Station (oil, firewater, and foam). A summary of existing and proposed structural development is summarized in Table 5 below.

Table 5- Structural Development Summary

Santa Barbara County		
Structure Name	**Existing (sq ft)**	**New (sq ft)**
Las Flores Control Building	500	-
Gaviota Control Building	600	-
Sisquoc Control Building 1	400	-
Sisquoc Control Building 2	300	-
Sisquoc Pump Station Crude Oil Tank	-	18,250
Sisquoc Pump Station Foam Tank	-	176
Sisquoc Pump Station Water Tank	-	5,660
Total	**1,800**	**24,086**

San Luis Obispo County		
Structure Name	**Existing (sq ft)**	**New (sq ft)**
Russel Ranch Control Building	-	500
Total	**-**	**500**
Kern County		
Structure Name	**Existing (sq ft)**	**New (sq ft)**
N/A	N/A	N/A

Freshwater Usage

The Project would require the usage of water for short-term activities including dust suppression, fire protection, and pipeline hydrotesting. Additionally, water would be needed for long-term operational activities such as dust suppression, fire protection, and office use for ten (10) employees. It should be noted that all long-term use of groundwater would be consistent with the historic baseline water usage associated with the existing Line 901 and Line 903 pipeline system. The majority of the water needed would be to support short-term construction related activities. Table 6 below summarizes the estimated water usage for the Project. Please refer to Attachment C.10 for more detail on freshwater usage.

Table 6- Freshwater Usage Summary

Activity	Acre Feet/Year
Short-Term Construction	
Dust Suppression	40.21
Fire Protection	1.44
Pipeline Hydrotesting	15.55
Total	**57.20**
Long-Term Operations	
Dust Suppression	0.59
Fire Protection	0.04
Office Use	0.15
Total	**0.77**

Access, Construction Staging, and Parking

Regional access to the *Project* corridor is provided by Highway 101, Highway 1, Highway 246, and Highway 166. Various local public and private roadways will be utilized to access the pipeline right-of-way.

Direct access to portions of the proposed pipeline will be achieved by the use of existing private, ranch/agricultural, and/or forest roads whenever feasible. Long-term access to the newly proposed thirty-five (35) Valve Stations will require the development of approximately 1.25 miles of new partially improved (gravel, decomposed granite, etc.) roads. Daily access to the right-of-way will generally consist of ten (10) full-time equivalent operators spread across the

entirety of the pipeline corridor. Routine access to the right-of-way will be needed for ongoing pipeline maintenance with appropriate equipment as summarized in Attachment C.3.

Construction-related traffic will be carefully regulated via Site Specific Traffic Management Plans such that equipment supply trucks enter and exit highways in a safe and controlled manner and affects to the operation of local intersections are minimized. Where the construction corridor transects highways and well-traveled paved public roads, the Project will utilize trenchless construction methods such as but not limited to existing casings or boring to cross under the roadway wherever feasible. One exception is the planned trench and plate crossing of San Juan Road, where steep topography makes boring operations infeasible. Road access along San Juan Road would only be interrupted in short-intervals (less than one day). As a result, the *Project* does not include any long-term planned lane or road closures.

Approximately 400 to 600 employees and/or contractors would be employed for Project construction at various locations across the *Temporary Construction Corridor*. Construction workforce parking will be managed via the lease of space at previously disturbed or developed sites such as, but not limited to, existing, underutilized commercial parking lots, existing industrial work yards, or temporary unpaved parking areas in locations that are already relatively flat in topography and devoid of natural habitat (i.e. portions of agricultural fields). Construction employees will report to the approved parking zones, consolidate into field vehicles as feasible, and commute to the active work zone via approved traffic routes.

Similar to the methods of parking management described above, primary staging areas for construction material will be strategically located in previously disturbed areas, such as underutilized commercial parking lots, fallow agricultural fields, and private oilfield or agricultural work yards. Secondary staging areas for pipe segment preparation are located throughout the planned *Temporary Construction Corridor*.

Careful use of Site Specific Traffic Management Plans and observance of allowed construction hours will limit construction related disturbance to property owners and/or businesses. Typical pipeline construction in areas unlikely to disturb local residents and other sensitive receptors will occur six (6) days a week between the hours of 6:30 am to 7:30 pm (daylight permitting). Where the construction corridor passes within close proximity of private residences, schools, and other sensitive receptors, a modified construction schedule can be implemented as approved with the respective land owner/user or as condition in the *Project* permits. Where technically required certain construction activities, such as directional drilling or hydrostatic testing, may occur seven (7) days a week and 24-hours per day.

Project Schedule

Construction will commence within approximately six (6) months or less of obtaining the required permits from all local, state, and federal authorities. Construction of the proposed pipeline would take approximately twelve to eighteen (12-18) months to complete. Inclement weather and other uncontrollable field conditions may elongate the planned construction period. To compensate for unplanned delays in the Project construction period, the typical daily construction schedule or crew sizes may be expanded to maintain the overall Project timeline.

Refer to the Construction Description provided as Attachment B.9 for a more detailed Project timeline.

Proposed Pipeline Mechanical Design and Equipment

The replacement pipeline system will have a proposed maximum daily throughput capacity of 40,000 barrels. The Project includes the installation, maintenance, and operation of the following mechanical components as described below and documented in Attachments B.6 and B.7.

- **Line 901R -** A twelve (12) inch diameter uninsulated steel pipeline, which is approximately 10.7 miles in length between the existing Las Flores Pump Station and the existing Gaviota Pump Station. A sixteen (16) inch diameter steel pipeline, which is approximately 38.6 miles in length between the existing Gaviota Pump Station and the existing Sisquoc Pump Station.
- **Line 903R -** A fourteen (14) inch diameter uninsulated steel pipeline, which is approximately 74.1 miles in length between the existing Sisquoc Pump Station and the existing Pentland Delivery Point.
- The operation of forty-nine (49) total pipeline control valves (either motor operated valves or check valves). There are forty-one (41) standalone valve stations as well as eight (8) additional control valves located within pump station facilities.
- Equipment modifications to (resizing of pumps, pig launchers/receivers, etc.) and continued operation of the Las Flores Pump Station, Gaviota Pump Station, and Pentland Delivery Point.
- Equipment modifications, site expansion, and continued operation of the Sisquoc Pump Station. The site and facility expansion includes the development of a new 120,000-barrel crude oil break-out tank, secondary containment area for the crude oil break-out tank, new fire water storage tank, and installation of a foam fire suppression system.
- The construction and operation of a new Russell Ranch Pump Station located in the Cuyama Valley region of San Luis Obispo County.
- Various pipeline-related ancillary equipment including but not limited to: pipeline location markers, cathodic protection, fiber optic lines, supervisory control and data acquisition (SCADA) systems, remote communication equipment, emergency battery systems, diesel powered back-up generators, and/or solar panels.

Pipeline Design, Construction, Maintenance, Operation, and Safety

The Project design and construction will conform to industry accepted best practices and Best Available Technology (BAT) in adherence with the Elder California Pipeline Safety Act as well as all local, state, and federal requirements for pipeline design and construction. Prior to commencement of pipeline operations, the Project will be incorporated into the operator's existing Pipeline Operation & Maintenance Plan, Operator Qualifications Plan, Pipeline Integrity Management Plan, and Emergency Response Plan in compliance with applicable local, state, and federal requirements.

Design considerations will include:

- Although subject to final design modifications, the system would likely be constructed of API 5L Gr. X52 carbon steel with a maximum operating pressure (MOP) of

approximately 1,350 pounds per square inch (psig) and a maximum operating temperature of 200 degrees Fahrenheit. The system design assumes transported crude would typically average 18 API gravity consistent with historic characteristics of offshore crude oil transported via the existing Line 901 and Line 903 pipeline system.

- Consultation with the California State Fire Marshal (CSFM) Pipeline Safety Division.
- Adherence to CFR Title 49 Part 195 "Transportation of Hazardous Liquid by Pipeline", CCR Title 19 Div. 1 Ch. 14 "Hazardous Liquid Pipeline Safety", and appropriate sections of API, ANSI, ASME, CEC, CFC, CBC, NACE, NFPA, and other applicable codes.
- Incorporation of the use of in-line inspection tools, such as smart pigs.
- Completion of a hydraulic and surge analysis.
- Incorporation of results from a final Emergency Flow Restriction Device (EFRD) analysis.
- Completion of a seismic and geotechnical study including field and laboratory testing.
- Confirmation of existing utility locations for consideration during final pipeline route selection and maintain required clearances.
- Issuance of required building permits from Santa Barbara, San Luis Obispo, and Kern Counties.

Pipeline Safety considerations during construction will include:

- Hydrostatic testing per DOT and CSFM regulations and retention of associated construction records.
- Non-destructive testing of all welded pipeline joints in a manner which meets or exceeds applicable standards per Department of Transportation (DOT) regulations and additional applicable local, state, and federal requirements.[2]
- Geotechnical testing to verify adherence to construction specifications.
- Installation of at least one (1) below ground warning tape above each pipeline.
- Installation of aboveground pipeline location markers.
- Installation of security fencing around all valve and pump stations.

Examples of personnel safety considerations during construction include:

- Compliance with applicable California Occupational Safety and Health Administration (OSHA) administered regulations such as shoring, bracing, and confined space entry.
- Overall construction safety program by licensed construction contractor(s).
- Implementation of various onsite safety activities such as: completion of Job Safety Analysis (JSA), daily safety tailgate briefings, and dedicated safety monitoring personnel.
- Advanced utility locating to avoid interference with existing underground improvements.

[2] As an example of the Project's incorporation of safety measures which meet or exceed industry standards; DOT regulations only require testing of 10% of welded joints, the proposed Project will include testing of 100% of welded joints.

Examples of safety considerations throughout operations and maintenance of the proposed facilities include continued:

- Compliance with CFR Title 49 Part 195 "Transportation of Hazardous Liquid by Pipeline", CCR Title 19 Div. 1 Ch. 14 "Hazardous Liquid Pipeline Safety", and appropriate sections of API, ANSI, ASME, CEC, CFC, CBC, NACE, NFPA, and other applicable codes.
- Maintenance of routine and emergency operations plans.
- Safety training for operations staff; minimum experience requirements by operator classification.
- Maintenance inspections and retention of associated records as required by local, state, and federal regulations.
- Routine safety device inspections and testing.
- Maintenance of the facility's Hazardous Materials Business Plan and Spill Prevention, Control, and Countermeasures Plan.
- Coordinated interface with interconnected systems operated by third parties.
- Maintenance and testing of the pipeline SCADA systems.
- In-line inspection to meet or exceed the frequency established by applicable regulations.
- Maintenance of aboveground pipeline location markers.
- Participation in Underground Service Alert utility locating system.
- Maintenance and replacement of equipment and components throughout the life of the Project.
- Documentation of results of tests and inspections over life of the Project, including the date and extent of any replaced pipeline segments.

Examples of Leak Protection and SCADA Leak Detection System Elements & Operation:

- A series of motor-operated-valves (MOV) and check valves will be installed in strategic locations including environmentally sensitive areas consistent with all applicable local, state, and federal regulations.
- In addition to the installation of valves described above, the design of the pipeline system will also include cathodic protection (sacrificial anode system) designed to protect the pipelines from external corrosion.
- Safety and operational data would be monitored by a SCADA system. Information will be gathered from multiple points along the pipeline system and will include flow rate, temperature, and pressure.
- Operating data will be continuously monitored to identify deviations indicative of a leak or rupture. The pipeline would shut down when conditions vary beyond pre-set pressure and flow conditions in accordance with the Elder California Pipeline Safety Act and additional applicable local, state, and federal requirements.
- The automatic shutoff system will shut off pipeline pumps without human intervention if the instruments detect:
    - A drop in pipeline pressure below a programmed threshold.

  - A drop in pipeline pressure combined with increased pipeline flow at the origination point and decreased pipeline flow at the destination point.
- In the event the pipeline flow reverses direction, strategically located check valves on the pipeline will close automatically, without human intervention.
- Once the pipeline is shut off, Plains' highly trained pipeline controllers in Midland, Texas can choose to automatically isolate the affected section of pipe by remotely closing automated valves, if appropriate for the pipeline pressure conditions. It is important to allow Plains' pipeline controllers to choose how and when to isolate pipe sections following automatic pipeline pump shutoff to avoid hydraulic pressure surges that could exacerbate the issue.
- Plains utilizes a centralized Control Center in Midland, Texas to manage its regulated pipeline systems throughout the United States. The Control Center is manned by qualified personnel 24-hours per day, 365 days per year. Personnel in the Midland Control Center utilize a SCADA system to continually monitor and operate pipeline systems, and carry out a remote shut-down of the system if circumstances warrant. Additionally, the pipeline SCADA system allows for various Plains personnel to access and view pipeline-related operational data, in real-time, from any properly equipped computer system in the world, including Plains offices in Santa Maria and Bakersfield, California. This shared access to technology allows for close coordination around-the-clock between local Plains operations staff and controllers in Plains' Midland Control Center.
- Pipeline Controllers have the authority and the responsibility to shut down the pipeline systems when pipeline integrity is in doubt. They are not allowed to restart the pipeline systems until any identified issues are corrected and proper authorization has been received from Operations and Control Center Management. Even then, the Controller can refuse to restart the pipeline system if doubt remains.

Project Objectives

Plains' Project Objectives are summarized as follows:

- Construct, operate, and maintain a replacement pipeline system, with a capacity reduced to coincide with actual regional oil production, and which includes modern construction techniques, materials, and safety equipment.

- Restore transportation of locally produced crude oil through a pipeline system—the preferred and safest transportation method—to baseline levels of up to 40,000 barrels per day (a reduction from existing, permitted capacity of 150,000 to 300,000 barrels per day for Line 901 and 903, respectively) to multiple facilities throughout the State of California for refinement or further transmission.

- Provide a common carrier pipeline for use by various shippers throughout the region which assists in the consolidation of oil transport facilities in accordance with existing County regulations as stated in LUDC Section 35.55.060(B).

- Utilize the existing pipeline right-of-way, whenever feasible, to facilitate replacement pipeline construction with minimal disturbance of surrounding areas.

- Provide support for one or more regional projects which benefit the community and surrounding environment.