

None of the creeks crossed by the proposed route are known to support spawning populations of major game fishes such as king salmon or striped bass.

Watercourses to be crossed will receive short-term impacts during construction while the flow is flume or diverted around the points of crossing, but significant long-term impacts will not occur. No state or federally listed species are known to occur in these watercourses and therefore no threatened or endangered species habitat will be impacted.

#### E.3 New Animal Species.

The project will involve construction of a 25 mile pipeline through urban industrial environments and some open lands. The majority of the route will be in existing road, railroad and pipeline-rights-of way. The project will involve grading and trenching, stringing and laying of pipe and burial and restoration of the route. No introduction of new animal species will result from this project.

#### E.4 Deterioration of Habitat

The project will be constructed along existing road, railroad and pipeline rights-of-way between the Richmond pumping station and the city of Concord. The majority of the project route is within urban industrial and urban environments. There will not be a significant impact on habitat quality in the urban areas.

The project will traverse a small portion of open rangeland which is currently used for cattle grazing. The construction will create a temporary impact as the pipeline is laid across these lands. The route will be restored to its original condition after the pipe is installed.

There will be a temporary impact to streams caused by the open trenching which will be carried out across the stream channels. The fluming of the water within the channels will reduce impacts from turbidity and sediments related to construction. The trench will be filled and the flume pipes/dams removed upon completion of the crossings. The stream channels will be restored to original condition. The impacts from the project should be minimal.

#### F.1 Increased Noise

The project will involve construction of a 25 mile long petroleum product pipeline in primarily urban industrial areas between the cities of Richmond and Concord. The project will require use of powered earth moving and construction equipment in addition to support equipment and crew vehicles.

The majority of the project route will be along existing road and railroad rights-of-way which are actively utilized by vehicle and train traffic. The construction noise will be

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added to and integrated with existing urban and vehicle noise. The noise generated by this equipment will be temporary, lasting approximately ten working days at any particular point along the project route.

Project activities will increase noise levels along some portions of the route which pass through open range lands. These areas are used for grazing of cattle and the noise impacts should not greatly affect the surrounding areas.

#### F.2 Severe Noise

The project involves the use of diesel-powered heavy equipment. This equipment will be equipped with required mufflers to reduce noise during operation. There will be instances in which acceleration of engines during demanding activities will result in elevated noise levels. These elevated noise bursts should be temporary, lasting for several minutes at most. The increased noise levels will be a temporary impact, lasting approximately 10 working days for each segment of the pipeline.

The completed pipeline should not create any noticeable increases in noise levels.

#### G.1 Light and Glare

The proposed project construction will be conducted during normal daylight work hours. There will be no need for additional lighting for the project. If supplemental lighting is required for other reasons, the lighting will be directed toward the required work areas and not toward the surroundings. Headlights to arriving or departing crew vehicles may create a visual impact during early morning hours but this will be a temporary impact.

The completed pipeline will not have new light sources along the majority of its right-of-way. There might be lighting at critical valves or at the pumping facilities in Richmond and Concord. This additional lighting will be directed toward the required work areas and should not impact potential receptors outside the pipeline area.

#### H.1 Alteration of Land Use

The project is planned to be constructed along existing road, railroad and pipeline rights-of-way between the cities of Richmond and Concord. The pipeline route is primarily located within lands dominated by industrial and urban activities with a great portion of this industry involving petroleum processing. Impacts of this project on land use will be minimal as it will be in general compatibility with current land uses for the area.

### I.1 Increased Resource Use

The proposed project involves construction of a pipeline between the cities of Richmond and Concord in which will be transported refined petroleum products. The pipeline is designed to improve the capacity of the northern California pipeline system which is currently at its maximum and is being supplemented by more expensive and hazardous transportation. This pipeline will not increase the demand for resource but will make it available by a cheaper and safer means to an existing market. Construction of the pipeline will not increase the demand for resource nor increase the productive output by the refineries.

### I.2 Depletion of Resources

The project will increase the carrying capacity of the northern California pipeline system owned by the Santa Fe Pacific Pipeline Partnership. This expanded volume will improve the carrying capacity of a pipeline to transport finished petroleum product which is currently supplied by an existing pipeline and supplemental transportation. This pipeline will not cause an increased demand for production of petroleum product. It will allow for an increased volume of product to be transported.

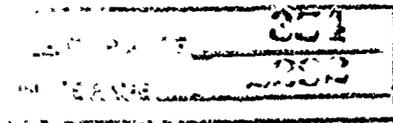
### J.1 Risk of Explosion, Spills

The construction phase of the project will involve preparation of the pipeline right-of-way which will include grading and digging of a trench approximately 48 inches deep.

The pipeline sections will be transported to the site, electrically welded together, coated, inspected and installed in the trench, followed by burial and site restoration. There is a possibility of an explosion occurring during any point of this construction procedure. The proposed operations are ones which have been routinely conducted in pipeline construction for many years. Precautions are followed in all steps along the operation to avoid explosion.

Explosion from fuel is minimized with proper operation of equipment to avoid collision, upset or spillage. Welding gases are stored in proper approved containers and away from possible danger of damage to compressed gas bottles. Electric arc welding will be conducted in open space, away from explosive fuel or gases to avoid possible explosion. Coating of newly welded pipe joints will be done away from possible fire hazards to avoid possible explosions.

Prior to excavation of the trench in the right-of-way, inspection of the pipeline route will be conducted to locate any possible buried pipelines which may intersect the new project. As an added precaution, when necessary, the ROW will be probed to locate any possible buried pipelines prior to trenching.



The pipeline is designed to incorporate safety features to reduce the possibility of explosion. Following is a summary of those features. Please see Attachment A for complete discussion.

- (1). Operating Pressures- The pipeline will be designed to operate at 80 percent of the maximum test pressure. Testing will be at a minimum of 1,896 pounds/square in. (psi), with operating pressure at 1,440 psi. Maximum yield pressure of the pipe is 2,107 psi. This will minimize chances of explosion from over pressure and rupture of the pipe.
- (2). Valves- The pipeline will be furnished with approximately ten valve sites along it to maintain proper internal pressure and to shut off the pipe should an increase in pressure occur. Low pressure valves will shut off the pipe if a leak or rupture occurs.
- (3). The pipeline will maintain a continuous computerized monitoring system, which will be able to control the pressure in the pipe. "Real Time" monitoring will locate any leaks to within 5% of the distance between monitoring stations. Shutoff of the pipeline will occur immediately.
- (4). Contingency plans- The pipeline will be monitored and upon discovery of a leak or spill, personnel will be dispatched to contain and correct the spill. The SPPL Manager in Martinez will contact the appropriate emergency personnel and agencies to handle the emergency.

#### J.2 Emergency Interference

The project will involve trenching, installation and reburial of a petroleum products pipeline along several portions of public roads. This construction will require removal of road pavement and deactivation of portions of roadways to accommodate the construction equipment and crews. This activity could restrict traffic movements along the affected roads with removal of a lane. This could affect response abilities of emergency and police vehicles passing along the construction site. Alternate routes are available for emergency vehicle use which should reduce this impact. The duration of construction will usually be 1 day per 1/2 mile of pipeline laid. This impact will be of a temporary nature and should only affect roads. Upon completion of the pipeline, there will be no impacts on emergency activities.

#### K.1 Population

The project will involve construction of a buried pipeline between the cities of Richmond and Concord. This activity will employ a work force from local established

construction companies. The project will not affect population to require new housing for the construction crews.

Construction of the pipeline is intended to supplement an existing SFPPL pipeline network currently supplying petroleum products to an existing northern California and Nevada market. The pipeline will reduce the use of more hazardous overland transportation systems currently supplementing the old SFPPL network. There will not be a new demand created by this pipeline which will affect population or housing.

#### L. Housing

The project will not create a new demand for housing, see K.1 above. The route will pass through existing road, railroad and pipeline rights-of-way and will not impact existing housing by requiring demolition or reductions in available housing.

#### M.1 Additional Vehicle Movement

The project will involve a construction activity which will require a number of vehicles and personnel. The vehicles needed will include excavators, bulldozers, side cranes, support and supply vehicles and individual crew vehicles; numbering approximately 56 vehicles for the project. This assemblage of vehicles will be distributed along the construction right-of-way.

There will be an impact to road traffic created by the construction as these vehicles are used along the project route. Each portion of roadway will be impacted approximately 1 day per 1/2 mile of project. Upon completion, the route will be restored to original condition and construction equipment will be removed. Construction impacts will not be as evident when the project moves onto railroad and off-road portions of the route. Support vehicles conveying personnel and material to the off-road project sites will still create a minor impact on road traffic along selected supply routes.

Efforts will be made to keep traffic impacts by work vehicles to a minimum by following traffic patterns, keeping vehicles out of moving traffic as much as possible and working during practical times to reduce traffic flow problems.

The completed project will not impact future vehicle movements. Roads will be restored to original designs and traffic capacities. Any inspections done will be brief and usually will involve a single inspection vehicle.

#### M.2 Parking

The project will be constructed along several urban streets. These portions of road will be trenched and restored after the pipe is installed. Street-side parking might be reduced along the parts of the street where the construction

is occurring. These areas will be inaccessible for approximately 1 day per 1/2 mile of project on the road. Upon completion, the street-side parking will be restored.

The pipe route may cross entries to off-street parking. This access will be interrupted where the machinery is obstructing any of the entrances. The trench before and after the main trench work will be covered with steel plates to allow traffic to cross the trench. Off-street parking access will be available at that time. Full off street parking access will be restored once the trench is filled and the right-of-way is repaved. No impacts to parking will occur for the life of the project except for possible maintenance operations.

### M.3 Impact on Transportation Systems

The project will be constructed along existing road, railroad and pipeline rights-of-way for approximately 25 miles between the cities of Richmond and Concord. The project will impact road transportation systems by affecting traffic flow along the portions of the route located on roads. Where it is unavoidable, traffic control procedures including proper lane marking and traffic guidance will be carried out to insure safe conduct of traffic around the construction zone.

Metal plates will be placed along the route to reduce the impact the open trench will have on road capacity and traffic movement where traffic crosses the trench as at driveways and intersections. Boring of the pipeline under some roads such as major highways will eliminate the potential impacts on traffic from such an activity.

Portions of the project will be constructed in the shoulder of roadways. Traffic flow will be less affected in these locations. The impacts related to construction will be relieved with traffic control.

The project will be constructed along railroad rights-of-way. The tracks will not be affected by this activity and the operation should be away from the tracks so that trains will not be impacted by the construction equipment. No interference with rail traffic is expected from these activities.

There will be no impacts on auto traffic from the completed project. SFPP is currently supplementing its northern California Pipeline network with additional truck transport. Use of the pipeline will reduce the need for transportation of product by other overland means which will reduce traffic on roads and reduce the danger from an accident.

### M.4 Altered Circulation

The project will be constructed along existing road, railroad and pipeline rights-of-way. The construction might cause some disruption to traffic flow along roads with local

traffic taking alternate routes to avoid delay. There should not be major impacts to traffic or distribution of goods resulting from the construction along roads. The pipeline will be constructed along existing railways. The construction will be sufficiently removed from railroad tracks that it should not interfere with train movements and distribution of goods by rail.

The use of the new pipeline will affect the current transportation of petroleum product by truck which SFPP is currently doing to supplement the northern California pipeline network. To satisfy the projected volume of 82,000 barrels/day to be transported, a maximum of 117 truck trips (round trips) would be required.

#### M.5 Alter Water, Rail, Air Traffic

The project will be constructed on upland routes and will not affect waterborne or air traffic. The construction will be carried out along railroad rights-of-way but the activities will be conducted far enough from the railways to avoid affecting train traffic. Use of the pipeline will not affect any of these transportation modes.

#### M.6 Hazard to Vehicles, Bicyclists, Pedestrians.

The project will be constructed along roadways between Richmond and Concord. The construction activities may pose a hazard to motor vehicle and bicyclist traffic along the project right-of-way. The construction will be carried out along roads and the shoulders. This activity could endanger cyclists who usually ride to the shoulder. Metal plates and pavement irregularities could be a hazard to passing cyclists.

Precautions in safe pavement and placement of temporary steel plates should reduce dangers. Wet steel plates are slippery and hazardous from reduced traction. The dry season, when the project will be constructed, will reduce this danger.

Motor vehicle traffic may be endangered by restricted road space, pavement irregularities and equipment movements. Traffic control and proper detouring or lane marking in the construction zone should reduce these dangers.

Pedestrian traffic should not be endangered by the construction except at crossings over the trench. Steel plates over the trench should keep pedestrian danger to a minimum at street crossings over the trench.

#### N.1 Fire Protection

The project will be aligned to pass through several communities from its origin in the city of Richmond to the city of Concord in Contra Costa County. If a need for fire protection is required, there are already established fire companies in each of the communities along the route. There

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should be no need for new or additional fire protection resulting from the construction activities or final installation of the completed pipeline.

#### N.2 Police Protection

The project is planned to pass through existing communities along its 25 mile route. The majority of the pipeline will be installed underground and will be inaccessible to vandalism or malicious damage. Maintenance crews for SFPP will inspect the completed pipeline for safety and possible tampering. There will not be a new impact on police protection resulting from construction of this project.

#### N.3 Schools

The construction of the pipeline will utilize construction crews from established companies in the area. There will not be a need for new schools or movement of family members to existing schools to impact student enrollment. The finished project will not require new staff which would affect enrollment patterns in the area.

#### N.4 Recreation

The project will involve trenching, stringing, laying and reburial of a 25 mile length of 16 inch and 12 inch pipeline between the cities of Richmond and Concord. The majority of the pipeline will be laid along existing road, railroad and pipeline rights-of-way. There will be no impacts to local recreational facilities along the greater portion of the route.

Approximately 1/2 mile of the pipeline will be installed adjacent to a bridge trail easement managed by the East Bay Regional Park District. This easement may be temporarily impacted by the activities of construction but should not be inaccessible to equestrian traffic.

#### N.5 Facilities Maintenance

The project will be constructed along existing road, railroad and pipeline rights-of-way. The railroad and pipeline rights-of-way are privately owned; the main portion under SFPP ownership. There will not be an impact to public facilities along these parts of the project route. Public roads will be impacted by the trenching and pipeline installation. Upon laying of the pipe, the roads will be graded and repaved by SFPP. This repaving will be to satisfaction of road department standards and should not require additional repair.

The completed project should not create additional impacts upon road maintenance activities except when repairs to the pipeline should require subsequent excavations. This repair and road restoration will be undertaken by SFPP to road

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department standards.

#### N.6 Other Governmental Services

The project will not create an impact on other governmental services.

##### O.1 Substantial Energy Use

The construction activities will require an increase in fuel to power the construction equipment and electricity use for the welding equipment. This increased energy use will not create a significant demand upon the resource supply for the state. This demand will be temporary, lasting for the duration of the construction. The completed pipeline will not create a significant demand on energy resources for its operation.

There may be some electricity use in conjunction with night lighting but this demand will not pose a major impact on electric supplies.

##### O.2 Increased Energy Demand

The project construction will create a small increase in fuel demand for construction equipment and vehicles. There may be a small increase in electricity consumption related to construction. These requirements will be temporary; lasting until construction is completed in approximately four months.

The completed pipeline will not require significant amounts of additional energy for its operation. There may be some electricity consumption for operation of control equipment and night lighting. This demand should be satisfied by current energy supplies.

##### P.1 New Electric/Gas Systems

The project will not require new natural gas supplies for its operation. The pipeline is intended to supply processed petroleum product to an existing market in the north state and Nevada. There may be a demand for electricity to operate new equipment associated with the pipeline. This demand should be satisfied with current electric power supply systems.

##### P.2 Communications

The project will convey processed petroleum product to the north state and Nevada. There will be a status monitoring system associated with the pipeline to monitor for safety and control during operation. There will not be a demand for new communications networks in association with this project.

##### P.3 Water

The project is designed to transport refined petroleum product from the city of Richmond to the City of Concord SFPP

pumping station. The completed project will not require new water supplies or systems for its operation.

#### P.4 Sewer or Septic

The project is intended to transport only refined petroleum product from Richmond to Concord. The project will not require new sewer or septic systems for its operation.

#### P.5 Storm Drainage

The project will be trenched and buried along existing road, railroad and pipeline rights-of-way. The majority of the pipeline will be buried directly in the soil with no associated casing or other containment requiring draining. The right-of-way above ground will be restored to original condition with existing drainage returned as appropriate. No new storm drainage will be constructed.

#### P.6 Solid Waste Disposal

The project is designed to convey refined petroleum product from Richmond to Concord. Any solid waste created by the project construction will be collected and disposed of in an appropriate disposal site. This impact should be minimal.

The completed project will not generate solid waste necessitating disposal.

#### Q.1 New Health Hazard

The construction phase of the project will involve many operations along the 25 mile length of ROW. Much of the project will occur along existing roads and railroads which will be in use. These operations present a potential hazard to passing traffic, both vehicular and pedestrian.

Efforts will be taken to prevent any potential health hazards resulting from injury in the project right-of-way. These will include proper detour route marking, lane designations, lighting guides and flashers, flagmen and escort vehicles when necessary. Machinery will be positioned to minimize potential impacts to traffic flow. Work will be conducted in a safe workman-like manner. Roads will be maintained to insure safe passage by traffic through the work areas.

The completed project will transport refined petroleum product under pressure from the Richmond SFPP terminal to the facility near Concord. This product has a potential as health hazard from an accident including pipeline or ancillary facility failure, or accidental penetration of the pipe by excavation. These potential hazards are safeguarded by proper design features and practices which include pressure standards to reduce overpressuring and explosion. Leaks and escaping product are prevented by shut-in valving to cut off supply in

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event of a leak and/or fire. Accident contingency plans are in effect to cope with the possible accidents which may occur. This practice of product transport has been in use routinely throughout the project vicinity and is demonstrated to be a safe means of operation.

#### Q.2 Potential Hazard to People

The project is designed to pass along existing road, railroad and pipeline rights-of-way between Richmond and Concord. The majority of the route will be in urban and urban-industrial environments. The potential hazard to residential areas is minimized by this routing. There is a potential hazard to traffic on roads and railways where the pipeline will be located. The potential hazard along these portions will be minimized by the practices described in Q.1, above. The proven safety of this transportation method is demonstrated by its common usage today.

The alternative method of truck transport is one other means to convey the planned product. This alternative will present a greater relative hazard than the proposed pipeline.

#### R.1 Views

The proposed project construction will create a temporary visual impact. The construction string (machinery, crews, trench and pipe string) will create a visual impact on the immediate vicinity and to possible areas overlooking the project site. This impact will be several hundred yards long.

It will move approximately one day per 1/2 mile. Upon completion of pipe laying, the project site will be restored to its original condition. Open country excavations will be regraded and seeded. The excavations will be hidden in time. The visual impact will be temporary.

There will be no signs of the completed project since it will be buried. Some stream crossings will be executed with overhead bridging pipes but these will be associated with existing road bridges and will not be evident by themselves.

#### S.1 Impact Recreation Opportunities

The project will be constructed along existing road, railroad and pipeline rights-of-way in urban environments. The construction will be within city roads which could provide routes for recreational cycling. This impact would be small as alternate routes and project sites will remain accessible to all traffic.

The construction activity should not affect any parks or other recreational facilities along the pipeline route.

A small portion of the pipeline which is located in open country is situated adjacent to a bridle trail managed by the

East Bay Regional Park District. The construction will be situated next to this trail and should not affect accessibility to trail use. The construction activity will only occur along approximately 1/2 mile of this trail.

The completed project will not affect future recreational activities.

#### T.1 Archaeological Sites; Destruction

The project will traverse approximately 25 miles of varying land surface conditions between Richmond and Concord. The project route has undergone a broad range of surface development and existing modifications from intensive industrial, to urban road, railroad and business, to open land with little ground disturbance.

The pipeline route will follow along highly disturbed areas reducing the chance of encountering new and undisturbed archaeological sites. Though surface disturbance of potential sites will be high, the possibility of undisturbed buried sites within these previous projects remains.

To avoid damage to possible archaeological sites, a literature search and archaeological survey for the project route was conducted by the CSUS Hornet Foundation.

The literature search resulted in the identification of thirteen prehistoric archaeological sites within 1/4 mile of the project right-of-way.

Only one site, CA-CCO-270, at the point where the SPRR crosses San Pablo Creek, was found to be within the project right-of-way. Several other sites were in the general vicinity but no closer than 300 feet (i.e., CA-CCO-370 at Railroad Ave. and Tally Way in 'Old' Hercules).

#### T.2 Prehistoric, Historic Structures, etc.

The project route passes through approximately 25 miles of intensively urban, to open lands between the cities of Richmond and Concord. There are no historic structures within the construction right-of-way. Seven historic sites or points of historic interest have been identified along the proposed route.

None of the historic structures is located within the construction ROW and will not be impacted by the construction activity. The construction will be within view of these historic structures but this impact will be temporary, lasting until the pipe is buried in those areas.

There is the possibility of discovering cultural resources during the pipeline construction. If this occurs, construction should be halted and a qualified archaeologist

contacted to determine necessary action.

#### T.3 Unique Ethnic Values

The project route is aligned along existing road, railroad and pipeline rights-of-way in primarily intensively urban environments. The area has been extensively modified, effectively removing any cultural values within the project ROW. There should not be any impacts to ethnic values in the project ROW.

#### T.4 Sacred Sites, Uses

The project will be constructed along existing road, railroad and pipeline rights-of-way. These sites are presently highly modified and intensively used by urban industry, business and vehicular traffic. There are no sites of religious significance along the route to be impacted by the construction.

#### U.1 Degrade Environment

The project will be constructed along existing road, railroad and pipeline rights-of-way in an intensively urban environment. The ROW and surrounding areas are highly modified such that addition of this project will not create a significant change in the surroundings. The construction will create a temporary impact along the corridor as discussed but this will last several months at most.

Endangered or rare species of plants and animals have been identified in the vicinity of the project but no direct impacts of the project on these species are expected. Endangerment of these populations is not expected.

#### U.2 Short/Long Term Environmental Goals

The project will be constructed in highly modified areas occupied by roads, railroads and pipelines currently in use.

The new project will be superimposed on these existing features. There should not be any greater impact on the environment resulting from construction of the pipeline.

#### U.3 Cumulative vs. Individual Impacts

The project will involve constructing approximately 25 miles of pipeline along existing road, railroad and pipeline rights-of-way between Richmond and Concord. The pipeline will be buried in the ROW's of existing structures which are highly visible. This impact, once the construction impact is removed, should be no greater than the impacts currently manifested in the existing facilities. There should not be a cumulative impact resulting from this project.

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#### U.4 Adverse Environmental Impacts

The primary impact created by this project will be from the initial construction of the pipeline. The operation of the pipeline is demonstrated to be low in potential danger to human life and activities nearby. The visual impacts of the construction will be evident but low in magnitude and temporary in duration. The project should not exhibit environmental effects harmful to humans.

##### Mitigation Measures Incorporated in Project

With the incorporation of the following measures into the project description there is no substantial evidence that the pipeline proposed by Southern Pacific Pipe Lines, Inc., will have a significant adverse impact on the environment.

The project right-of-way will be returned to original grade upon completion of the pipe lay, and will be re-vegetated to control potential erosion.

During construction, spoils removed from the trench will be stabilized, and stockpiled away from drainage areas.

Construction will be limited during periods of rain.

Spoils will be returned promptly to the trench after the pipe is placed, and will be layered and compacted quickly.

The route has been selected to minimize potential impacts.

Spill prevention programs will be in place during pipeline construction. All spills will be contained and cleaned up quickly and conscientiously.

A fugitive dust control program will be used during construction, including suppression spraying.

All construction equipment will be equipped with noise suppression equipment.

During weekdays, construction traffic will be limited to the between hours of 6:00 a.m. and 6:00 p.m. except for emergency operations.

All known cultural sites have been avoided.

Any new cultural sites encountered during construction will be reviewed in consultation with the State Historical Preservation Office.

The pipeline will be constructed with extra length (slack) to improve its resistance to seismic motion.

Pipeline will be oriented with respect to strike-dip faults in such a way to maintain the line in tension, instead of

compression.

Pipeline burial depth will be minimized in known fault zones, to reduce soil pressures on the pipe during strong earth motions.

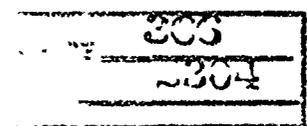
Thicker-walled pipes will be used within 1,000 feet of known faults, and epoxy coatings will be used to reduce soil-pipe friction during seismic motion.

Backfill used within 50 feet of known faults will not contain boulders or cobbles.

Preliminary rare plant surveys have been done, and further surveys will be done during the proper flowering period along the pipeline route in the appropriate habitats.

San Pablo and Pinole Creeks will be crossed using low-angle boring to avoid impacts to these waterways.

Block valves (check valves) will be placed to contain the pipeline's contents in case of pipe rupture. These valves will be placed to prevent flows or backflows into watercourses or wetlands.



## 2.3 ENVIRONMENTAL AND SAFETY CONTROLS

The proposed 16-inch pipeline will be designed, constructed, and operated taking into consideration many risk-management measures. This subsection summarizes these measures.

### 2.3.1 Design Features

The proposed pipeline system will be designed and constructed to conform with 49 CFR 195 of the U.S. Department of Transportation Pipeline Safety Regulations and with applicable sections of Section I, Chapter 5.5 of the California Pipeline Safety Act, paragraphs 51010 - 51020. The following are some specific design features of the proposed pipeline.

- Internal Pressures - The planned normal operating pressure of the pipeline system will not exceed approximately 1440 pounds per square inch (psi). Since the system will be pressure tested at a minimum of 1896 psi, the maximum allowable operating pressure will be 80 percent of the test pressure, or 1517 psi. The system will have a yield pressure of 2107 psi. (Yield pressure is the minimum pressure at which the pipe can become permanently deformed.)
- Block Valves - Block valves are planned for the proposed pipeline. These block valves will be spaced at locations specifically engineered to minimize the flow of product in the event of a spill. The distances between block valves in urban areas are within the maximum spacing requirements for industrial, commercial, and residential areas as specified in American National Standards Institute (ANSI) Code B31.4, "Liquid Petroleum Transportation Piping Systems", which is incorporated into 49 CFR 195 by reference. The block valves will be located in accordance with 49 CFR 195.260. Furthermore, SPPL\* design will comply with all stream crossing requirements.

\* SPPL now known as SFPP

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Approximate placement of the valves is as follows:

<u>VALVE SITE NAME</u>	<u>VALVE DESCRIPTION</u>	<u>APPROXIMATE MILE POST</u>	<u>VALVE SPACING (MILES)</u>
1. Richmond Station	Block Valve	0.0	0.0
2. San Pablo	Check Valve	3.0	3.0
3. Garrity	Block Valve	5.6	2.6
4. Rodeo	Check Valve	10.0	4.4
5. Rodeo	Block Valve	10.0	0.0
6. Oleum Manifold	Check Valve	11.3	1.3
7. Cummings Skyway	Check Valve	13.4	2.1
8. Cumming Skyway	Block Valve	15.4	2.0
9. Alhambra	Block Valve	20.3	4.9
10. Concord Station	Block Valve	25.0	4.7

See enclosed drawing L.S. 80, Sheet 24, Hydrostatic Test Diagram, for profile (in map pocket at back of report).

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### 2.3.2 Pipeline Monitoring

SPPL will install facilities that monitor the pipeline and cause a shutdown of the system for the conditions listed below.

- High Pressure - The pressure in the pipeline is monitored continuously. Any time the pressure exceeds a designated pressure the pumps shut down immediately. This system will not allow pressure in the pipeline that could weaken or burst the pipeline or components.
- Low Pressure - Again, since the pressure is being monitored continuously, a significant drop in pressure below a designated level will also cause a shutdown of the pumps. Hence, if there is a break in the pipeline, the pressure will drop and the system will be shut down.

When the pipeline is not in use, it is "packed", i.e., kept full under constant pressure. If there is a pressure drop, the system will produce an alarm to indicate the reduced pressure. The pipeline will not be restarted until the cause of the pressure drop is discovered and corrected.

- Leak - The volume of product that goes into the pipeline at the input station and the volume that comes out the other end will be continuously monitored, measured, and compared at three locations: first in the input station control room, second at the receiving facility, and third at Dispatcher Control Center in Los Angeles. Whenever the measurements do not match within preset limits, the leak detection system will cause a shutdown of the pumps.

The existing pipeline monitoring system consists of the above described Waugh Controls electronic input/output comparison system. SPPL in addition is currently engaged in a leak detection modernization program which is included with SPPL's Supervisory Control and Data Acquisition (SCADA) system. The SCADA system is computer based and is modeled in real time by the computer. The dynamic model leak detection system is designed to detect leaks during transient and steady-state periods. The system now being introduced is produced by "Real Time Systems" in Houston, Texas and is current state-of-the-art. When the system is fully operational it will report location of a leak to within five percent of the distance between stations and the type of product in the line at the leak site. The system will retain all leak data for report generation. And, SPPL currently carries out "static monitoring" whenever the pipeline is shut down. The

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procedure consists of pressuring the line, shutting down the pumps and monitoring the pressure at two points with no unexplained losses prior to startup. The monitoring is automatic and continuous.

### 2.3.3 Emergency Shutdown

The proposed pipeline system will be equipped with an emergency shutdown system that will allow personnel at the control room at the input station to immediately shut down the pumps and dispatch personnel to close all of the block valves in the event of an emergency.

In the design of any pipeline, all probable causes of an accidental spill must be addressed. Such causes include 1) equipment hitting the pipeline, 2) external corrosion, 3) defective pipe, 4) incorrect operations by carrier personnel, 5) failure of full flow relief equipment, and 6) natural causes. The maximum potential spill is estimated at approximately 2048 barrels and is based on the following:

- . amount of product pumped before the pumps are shut down (two minutes of pumping at a design flow rate of 6000 barrels per hour); 200 barrels
- . expected draindown from the north and south; 3080 barrels. From past experience gained during scheduled draindowns throughout SPPL's system, due to vacuum buildup in the line, only about 60% of the theoretical maximum of 3080 barrels at Mile Post 22 will actually be discharged from an opening in the pipeline (60% x 3080 = 1848 barrels).

For maximum potential spill calculation, it was assumed that a potential rupture would occur near Mile Post 22, located in the city of Martinez (see Figure 2-1).

In the event of a spill, SPPL will contact the California Office of Emergency Services. They in turn notify other state and federal agencies. The main points in the notification procedure are as follow:

- . the California Office of Emergency Services (OES) is manned twenty-four (24) hours a day, each day of the year to receive spill reports of hazardous materials. Other state and federal offices and agencies generally work from 8:00 a.m. to 5:00 p.m. five days a week and are closed on holidays and weekends.
- . the OES acts as a single point of contact (SPOC) for all agencies. By acting as the SPOC unnecessary

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duplication of effort and confusion as to which agencies have been contacted is eliminated.

Spills occurring along the pipeline corridor can generally be contained by constructing dams or dikes around or in front of the spreading product. The first company personnel at the suspected leak site would evaluate the situation and take such steps as they deem necessary to protect life and property and to contain and prevent the further discharge of product. On the arrival of earth-moving equipment, a containment dike would be prepared to isolate the flow of product, if any, from the environment. Soil for the dams or dikes would be obtained by shallow excavation from within the pipeline ROW. This soil would be placed in such a manner to form a holding pond or reservoir to contain the spill. Absorbent booms would be installed to encircle any product and vacuum trucks used to skim any product until all product is removed. Appropriate professional testing and investigation to determine the extent of product propagation and appropriate actions for complete cleanup would be implemented by SPPL. Any earthen materials contaminated by a petroleum products spill will be removed and transported by a California Department of Health licensed hazardous waste transportation vehicle to a federal and state permitted hazardous waste disposal facility. The types of sorbent materials that will be used may be biodegradable or nonbiodegradable. The on-site remediation contractor will supply the sorbent materials and appropriate disposition of such materials will be taken care of by the contractor no matter which type of material is used. Accessibility of vehicles and pedestrians to the area would be from existing streets and roadways. Liaison has been established regarding response to and management of a spill between SPPL personnel and current state and federal agency personnel.

In the event of a spill the SPPL District Manager located in Martinez, California will have the responsibility of immediately contacting local authorities, fire departments, state authorities and police to secure the area until equipment and personnel arrive. In addition, the District Manager would contact the OES who will then contact all affected agencies. On the site of the spill, the SPPL District Manager, acting as Spill Coordinator, in conjunction with the local Fire Marshal and California Department of Fish and Game (CDFG) State Agency Coordinator (since it is CDFG that has the responsibility of capturing and cleaning wildlife), reviews the situation and then develops initial response actions necessary to stop the further spread of the spilled product. Once the Spill Coordinator has directed private contractors in the initial response procedures to be used in containing and collecting the spilled product, a plan is developed, based on site-specific impacts, as to the exact procedures for cleaning or otherwise further limiting impacts to the area. The plan will be developed by the Spill Coordinator and then reviewed by the State Agency Coordinator and other