2.1 PROJECT NEED

As stated in Section 1.6 of this IS/MND, Three Rivers has proposed this Project for the purpose of developing additional natural gas reserves in the State of California. As described by Three Rivers, the Project objective is to transport previously located natural gas reserves in the River Island Gas Field to an existing pipeline system that will allow distribution of this natural gas to commercial markets. The River Island Gas Field has been producing since 1945. The DW 8-1 Well was drilled to target the Starkey sandstone formation within the River Island Gas Field. The Starkey sandstone formation, which underlies approximately 2,321 square miles of the San Joaquin Valley, is one of the largest gas producing formations within California. The formation has shown to produce 66,000 McF per year from a single well within the River Island Gas Field. The DW 8-1 Well's eventual output is unknown until it is placed in production, but its projected production rate would be 2,250 McF per day. If the proposed pipeline were not constructed, Bouldin Island would continue to be outside the reach of natural gas pipeline distribution systems and the DW 8-1 Well would remain idle.

2.2 PROJECT SETTING

The Project is situated within unincorporated areas of Sacramento and San Joaquin Counties, California within the Bouldin Island and Isleton USGS 7.5-minute quads; specifically, the Project area lies within Sections 7 and 8 of Township 3 North, Range 4 East, and Sections 5 and 6 of Township 3 North, Range 4 East, Mount Diablo Base and Meridian.

Existing land uses within and adjacent to the Project include agriculture (corn [*Zea mays*] production), recreation (fishing, hunting, and boating), and natural gas exploration and production. The pipeline would be primarily located on upland areas and agricultural wetlands;[2] however, portions of it would be bored under the River, Highway 12, and agricultural drainage ditches. Wetlands were observed along the edges of the River and within agricultural drainage ditches under which the pipeline will be installed via boring; the proposed buffer area also contains wetlands within the River and agricultural drainage ditches.

The area surrounding the Project consists of privately and publically owned lands. The city of Isleton is located approximately 2.53 miles northwest of the Project, while the city of Rio Vista is located approximately 6.31 miles west of the Project.

[2] Agricultural wetlands are wetlands that are currently disturbed and used for agricultural purposes, but historically were wetlands as a part of the Sacramento-San Joaquin Delta. They are regulated by the USACE and RWQCB.

2.3 PROJECT DESCRIPTION

Three Rivers proposes to install an approximately 5,737-foot (1.09-mile) welded steel 4.5-inch natural gas pipeline from an existing natural gas well site located on the south side of State Highway 12 on Bouldin Island to an existing natural gas production facility located north of the River, on Tyler Island. The DW 8-1 Well was drilled in 2007 by Stream Energy, Inc.; however, the well has remained idle since its completion, as no pipeline is available to transport natural gas off of Bouldin Island. Summit purchased the well in 2010. The proposed pipeline route is depicted on Figures 1-1, 1-2, and 1-3. Three Rivers has obtained surface use entry permission from the two surface owners within the proposed Project boundaries.

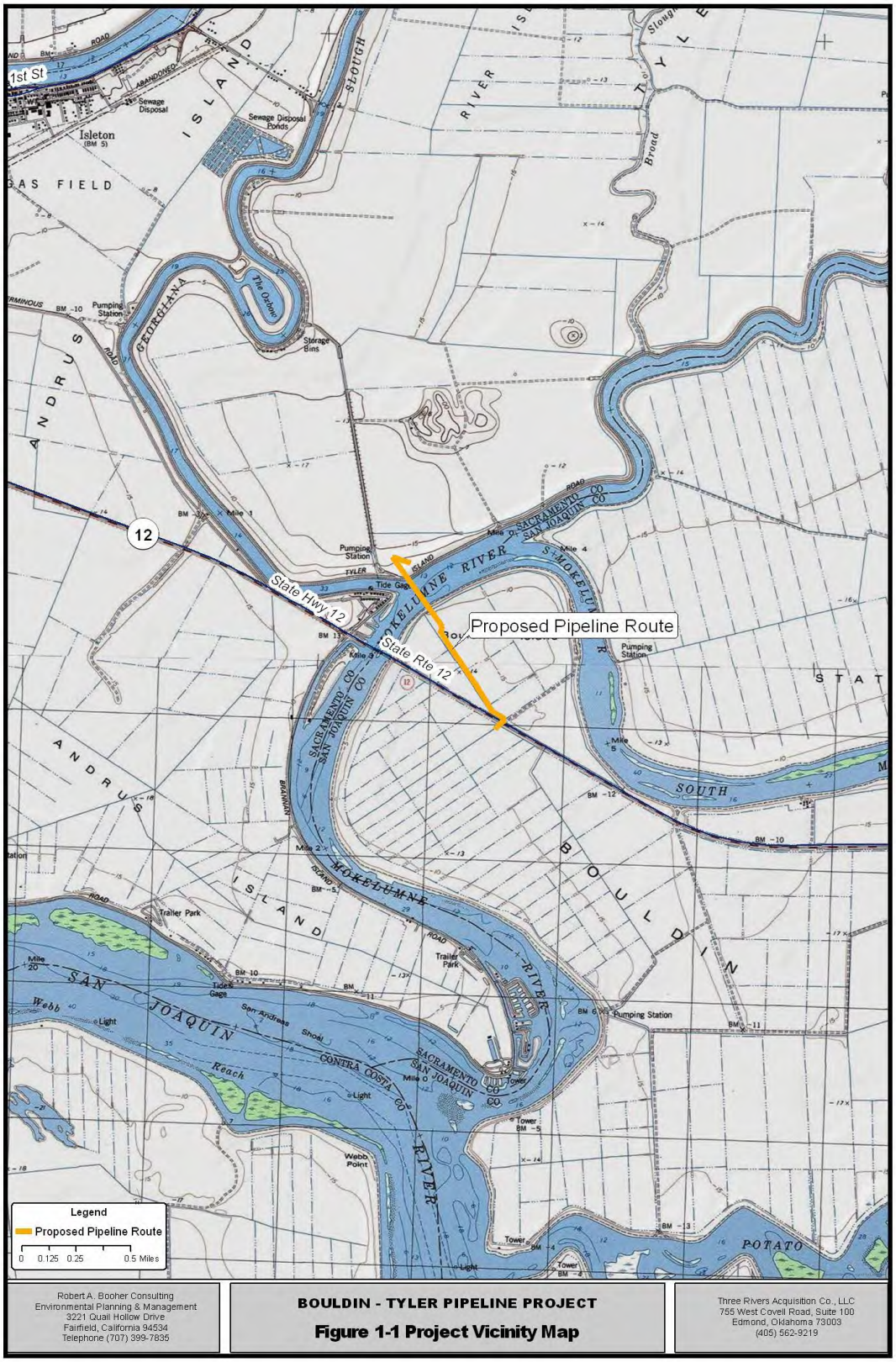
Proposed improvements include installation of a valve station on the south side of the River and installation of the pipeline under both State Highway 12 and the River, using a HDD bore. AA Production Services, Inc. (AA) has applied for a Caltrans Encroachment Permit for the HDD bore to be installed under State Highway 12.

- Highway 12 HDD Bore: The length of the bore would be approximately 400 feet. The bore entry (H12 entry) would be located at the DW 8-Well located south of State Highway 12, with the exit point (H12 exit) on the north side of Highway 12, immediately west of an existing gravel access road located in a corn field.

- Mokelumne River HDD Bore: The bore entry point (River entry) would be located on the north side of the River in an agricultural field planted with corn, northwest of the 5-2 Well site on Tyler Island; its exit point (River exit) would be located within a corn field near the valve station on the south side of the River, on Bouldin Island. The length of the bore will be 2,092 feet. The River entry would be located at least 380 feet from the River's northern levee, and the River exit would be located at least 400 feet from the southern levee.

The remaining two sections of pipeline (approximately 2,723 feet between the H12 exit and the River exit and approximately 522 feet between the River entry point and the 5-2 Line) would be installed using trenching.

Three Rivers is proposing the Project as a commercial venture to transport natural gas from the DW 8-1 Well, as well as natural gas from any future development, and would own and operate the pipeline. The pipeline has been designed with a capacity of 10,000 McF per day. The projected production rate for the DW 8-1 Well is 2,250 McF per day. The pipeline would be operated in accordance with U.S. Department of Transportation (DOT) regulations under 49 Code of Federal Regulations (CFR) Parts 191 (Reporting Requirements) and 192 (Transportation of Natural Gas). These procedures address normal operations, inspection, maintenance, security and reporting requirements.


Proposed Pipeline Route
State Hwy 12
State Rte 12
12
1st St
Isleton
Sewage Disposal
Sewage Disposal Ponds
GEORGIANA SLOUGH
RIVER
Broad
TYLER
ISLAND
GAS FIELD
ANDRUS
The Oxbow
Storage Bins
Pumping Station
Tide Gage
MOKELUMNE RIVER
SACRAMENTO SAN JOAQUIN CO
BRANNAN
ISLAND
BOULDIN
SOUTH
Trailer Park
SAN JOAQUIN
RIVER
Webb
Light
San Andreas Shoal
CONTRA COSTA CO
Reach
Webb Point
POTATO
Tower
Legend
Proposed Pipeline Route
0 0.125 0.25 0.5 Miles
Robert A. Booher Consulting
Environmental Planning & Management
3221 Quail Hollow Drive
Fairfield, California 94534
Telephone (707) 399-7835
BOULDIN - TYLER PIPELINE PROJECT
Figure 1-1 Project Vicinity Map
Three Rivers Acquisition Co., LLC
755 West Covell Road, Suite 100
Edmond, Oklahoma 73003
(405) 562-9219


River Entry
Tie-in Point to Existing Towne Exploration Company Tyler Island Farms 5-2 Gathering Line
Installation by Boring (Mokelumne River)
River Exit
Bouldin
BM 14
State Rte 12
12
Installation by Trenching
H12 Exit
H12 Entry
Summit Exploration (California), LLC DW 8-1 Well Site
Legend
Proposed Pipeline Route
Bore Sections
0 0.02 0.04 0.08 Miles
Robert A. Booher Consulting
Environmental Planning & Management
3221 Quail Hollow Drive
Fairfield, California 94534
Telephone (707) 399-7835
BOULDIN - TYLER PIPELINE PROJECT
Figure 1-2 Project Location Map
Three Rivers Acquisition Co., LLC
755 West Covell Road, Suite 100
Edmond, Oklahoma 73003
(405) 562-9219


River Entry
Tie-in Point to Existing Towne Exploration Company Tyler Island Farms 5-2 Gathering Line
Installation by Boring (Mokelumne River)
River Exit
State Rte 12
Installation by Trenching
H12 Exit
Summit Exploration (California), LLC DW 8-1 Well Site
H12 Entry
Legend
Proposed Pipeline Route
Bore Sections
0 0.02 0.04 0.08 Miles
Robert A. Booher Consulting
Environmental Planning & Management
3221 Quail Hollow Drive
Fairfield, California 94534
Telephone (707) 399-7835
BOULDIN - TYLER PIPELINE PROJECT
Figure 1-3 Aerial Photopgraph
Three Rivers Acquisition Co., LLC
755 West Covell Road, Suite 100
Edmond, Oklahoma 73003
(405) 562-9219

2.3.1 Construction Plan and Schedule

Schedule

Construction is scheduled to take place during the summer/fall of 2013, and is expected to take approximately 6 weeks (1.5 months). Predicted duration of specific construction phases is listed in Table 2.3-1. Project activities would occur 7 days a week and only during daylight hours. No work is proposed at night; therefore, no temporary or permanent lighting is proposed. Including mobilization and demobilization of equipment and personnel, and site restoration, Project activities would require a total of 2 months.

Table 2.3-1
Duration of Construction by Phase

Phase	Scope	Duration (days)
1	Bore Under State Highway 12	2
2	Bore Under Mokelumne River	14
3	Trenching and Pipeline Installation	12

Construction Tasks

All construction activities, including surface disturbance and construction staging areas, would take place within private agricultural lands and private dirt roadways, outside of the River, its levees, and agricultural drainage ditches containing wetlands. Large size truck trips related to mobilization, demobilization and construction will avoid peak commute periods. An approximately 15-foot-wide corridor would be established for conducting construction activities outside of the proposed bores. Table 2.3-2 lists the equipment that will be required for pipeline installation activities.

Table 2.3-2
List of Anticipated Equipment for Proposed Project

Pipeline Spread	HDD Bore Spread
Excavator (Class 320CL) (2) Loader Backhoe (CAT 420D) Side Boom Crawler Dozer D-5 LGP (2) Trencher Boom Truck Welding Truck Vacuum Truck Pipe Roller Pick-Up Truck All-Terrain Vehicle (ATV)	Excavator (Class 320 CL) (2) Loader Backhoe (CAT 420D) Directional Drill (DD 140D) 300 hp Mud Unit 185 hp Crawler Dozer D-5 LGP (2) Vacuum Truck (2) Vacuum Trailer (2) Boat (small motorized water craft 12 feet in length) Pick-Up Truck

Pre-Construction Survey Activities

Survey crews will be employed to perform the following work prior to the pipeline contractor mobilizing to begin construction. This work will include, but is not limited to:

- Setting centerline stakes for the pipeline trenches; and
- Staking of right-of-ways (ROW)/15-foot-wide construction work corridor.

Construction Contractor Mobilization and Material Delivery

Prior to beginning construction, the pipeline contractor will mobilize construction equipment and materials to the bore entrance and exit locations by travelling through the 15-foot-wide construction corridor. A front-end loader or sideboom will be used to offload Project materials. Except for the fabrication pipe, the materials will be delivered on pallets. Line pipe will be normally delivered to the ROW after the pipeline trench is excavated. Additional equipment staging, if required, will occur within the 15-foot-wide construction corridor or on the existing DW 1-8 Well site.

Clearing and Grading

Prior to commencing clearing and grading work, the contractor will stake ROW limits, HDD work areas, and staging areas to ensure that clearing and grading are restricted to the work area. The clearing and grading operation will normally require the use of bulldozers to prepare the ROW for the trenching operation and subsequent construction tasks. Clearing of ruderal and agricultural vegetation would be required along the proposed pipeline alignment, at the H12 exit and the River entry and exit. No disturbance or removal of any other vegetative community types will occur.

Trench Excavation

The total trenching surface disturbance would be approximately 3,245 linear feet long and 2 feet wide (approximately 6,490 square feet or 0.15 acre). The trench will be approximately 2 feet wide, and will be excavated to provide the pipeline a minimum cover of 5 feet under farm fields. The depth of the trench may be greater if special conditions are encountered. A typical trench crew will consist of one trencher and/or one backhoe. An exception to mechanical excavation would be hand digging to locate buried utilities, such as other pipelines, cables, and waterlines. Water trucks will be used for dust control along the ROW as required.

To preserve topsoil, the trencher or backhoe will make a first pass in the trench-line to remove approximately 10 to 18 inches of topsoil. Topsoil will be placed alongside the trench opposite the side designated for trench spoils. Once the topsoil has been excavated, a trencher or backhoe will make a second pass along the trench-line to remove the subsoil and complete the trench excavation.

Pipe Stringing and Bending

Line pipe will be transported to the ROW on pipe trucks. A sideboom tractor will unload the joints of pipe from the trucks, and will string them end to end along the trench. Where required, the pipe will be bent by a portable bending machine to fit the horizontal and vertical contour of the trench. Construction ROW conditions may require pipe bends for which field bending would not be practical. In these cases, manufactured bends would be used.

Pipe Laying and Welding

A sideboom will be used to pick up the first joint of pipe and place it on additional skids along the trench ROW. Subsequent joints of pipe will be picked up and aligned with the previous joint for welding. Alignment of the joints will involve the use of an internal line-up clamp that will hold the pipe joints in proper alignment and position until the welders complete the first weld pass (the stringer bead). Following completion of the stringer bead, the welders will complete a second weld pass (the hot pass). Typically, one welder will be used for the stringer bead and one welder will be used for the hot pass.

Pipe Placement and Tie-ins

The pipe will be lifted off of the skids and lowered into the trench by sideboom tractors spaced out so that the weight of the unsupported pipe will not cause mechanical damage to the pipe. Cradles with rubber rollers or padded slings will be used so that tractors can lower the pipe without damaging the external coating as they travel along the trench-line. Tie-in welds may be required whenever the trench-line is obstructed by other utilities crossing the pipe trench. Tie-in welds will also be required at roads and stream crossings. These welds are usually made in the trench at the final elevation, and each weld requires pipe handling for line-up, cutting to exact length, coating, and backfilling. The tie-in crew will use a dozer or backhoe for backfilling at tie-in locations.

Trench Backfill

Backfill material will be obtained from the excavated trench spoil with the subsoil being placed in the trench first followed by the stockpiled topsoil. A dozer or backhoe will be used to perform backfilling activities. At the time of backfilling, a colored warning tape will be buried approximately 18 inches above the pipeline to indicate the presence of a buried pipeline to future third-party excavators. In roadways, the backfilled soil will be compacted using a roller or hydraulic compactor prior to placement of gravel or pavement. When use of a mechanical device is not practical, sand slurry would be used as backfill in order to obtain the required compaction.

HDD Bore Installation

The pipeline crossings of State Highway 12 and the River will be installed using HDD boring. As noted above in Section 2.3, the bore under the River will be approximately 2,092 feet. The bore under State Highway 12 will begin at the west side of the existing DW 1-8 Well pad, and will proceed for 400 feet to the west side of the existing gravel access road on the north side of State Highway 12. Bore entry and exit sites would be located in agricultural fields or at the existing DW 8-1 Well.

Table 2.3-3
Summary of Bore Entry and Exit Locations

Bore Location	Latitude / Longitude	Land Use	Distance from Levees	Potentially Sensitive Resources
H12 Entry	38.120513, -121.569522	Existing DW 8-1 Well	3274 feet northwest	None
H12 Exit	38.121396, -121.568736	Corn Field	3115 feet northwest	Drainage ditch located 36 feet to southwest with freshwater wetlands
River Entry	38.131744, -121.578468	Corn Field	380 feet south	Drainage ditch located 185 feet to southwest with freshwater wetlands
River Exit	38.127203, -121.574022	Corn Field	400 feet northwest	Drainage ditch located 130 feet to southwest with freshwater wetlands

Entry and exit points would be set back outside of sensitive resource areas. The Highway 12 bore will be drilled to a minimum depth of 25 feet. The river bore will be drilled to a depth of 50 feet below the bed of the river. The depth of the proposed bores is per Caltrans, USACE, and geotechnical recommendations. Figures 1, 2 and 3 depict the location of entry and exits points for the bores.

Bore entry and exit sites within agricultural fields would be located within an approximately 100-foot by 100-foot area for each site. Shallow containment pits, approximately 18 to 24 inches in depth and covering a 10-foot by 10-foot area, would be located within these areas. Soil removed during excavation would be stockpiled around the perimeter of the pits. The surface disturbance for H12 and River entry and exit sites would be approximately 20,000 square feet (0.5 acre) total. These temporary workspaces would be staked prior to construction activities to ensure activities are restricted to the temporary workspaces.

A 12-inch high temporary containment berm would be built around all bore entry and exit workspaces. For each crossing, the bore rig, drill pipe, mud pumps, mud recycling/mixer/shaker unit, water truck, and vacuum truck would be set up inside the temporary work space on the entry side. A vacuum truck and tank would also be set up on the exit side. The pipe pullback section for the bore would be welded and hydrostatically pre-tested on the exit side of the bore, along the pipeline alignment, as

one continuous string before it is pulled into place. After pre-testing, a sideboom would be used to assemble the pullback section.

The following discussion provides a typical drilling plan and construction plan for the boring of pipelines under waterways and drainage ditches.

- Rig Up – Once boring equipment is mobilized to the work site, it will be positioned for drilling. The rig up process takes several days. A state-of-the-art, industry standard Tensor Steering Tool with "True-Tracker" will be used, and its probe will be calibrated along the centerline of the crossing to obtain a magnetic heading. A grid of insulated tracking wire will be laid out on the ground surface, where feasible, to track the progress of the bore. Additionally, the entry and exit points will be surveyed to provide data for tracking the bore.
- Pilot Hole – A pilot hole will be bored by jetting with drill pipe to create the bore. The jetting action is provided by pumping bentonite drill fluid through the drill pipe to the jet bit. The steering tool is located as close to the bit as possible to provide the best real-time data possible. As the pilot hole proceeds, the telemetry of the steering tool will be transmitted to a surface computer via the wire line data link. The surface computer then will calculate the 'as-built" location of the bit and plot the data in a profile drawing for comparison and course correction as needed. If the bit deviates too far from the proposed drill path angle of 14° to 16°, the drill string will be pulled back and that portion of the hole will be re-drilled to the correct course. At various locations along the drill path, the "True-Tracker" will be installed to verify the bit location. After the bit exits the ground at the approved location, the downhole assembly will be removed. Bentonite drill fluid will be pumped through the drill pipe to provide hole cleaning and lubrication. A mud return line will be run where feasible to allow for cleaning and reuse of any bentonite fluid that surfaces at the exit pit.
- Pipe String Preparation – The pipe string will be fabricated and tested concurrent with the pilot hole and reaming operations. The pipe string will be strung, welded, coated, and tested in one continuous section. Each pipe girth weld will be fully radio-graphed, the coating tested, and the pipe hydrostatically tested before the pipe is pulled through the bore hole. After successful testing and removal of the test heads, a pull head will be welded on to the pipe and the strings placed on hourglass rollers for installation.
- Pipe Pullback – When the bore hole is ready, then the pull assembly can be attached to the pipe string. This assembly consists of a joint of heavy weight drill pipe, a barrel reamer, and a swivel. The swivel prevents any torsional forces from being transmitted to the gas pipeline. The barrel reamer will ensure the bore hole remains open as the pipeline is installed. During the pullback operation, the bentonite drill fluid will be pumped through the drill pipe to the barrel reamer to

lubricate the hole. After the pipeline is installed, the HDD boring equipment will be demobilized from the drill site.

- Mud System – A closed loop mud system will be maintained, where feasible, with the aid of a mud return line and/or vacuum trucks. All mud from the bore exit site will be re-used. Excess mud will be contained in storage tanks for reuse on subsequent crossings or for proper disposal offsite at an approved facility.

Hydrostatic Testing

The proposed pipeline will be tested to meet the requirements of 49 CFR Part 192 (Transportation of Natural Gas). The pipeline will be tested with potable water. Following the test, the water will be discharged onto the ground through a dewatering system consisting of a splash barrel and straw bales to prevent soil erosion. At no time will the discharge water be allowed to run into any waterway or wetland.

Cleanup and Restoration

Cleanup of the pipeline ROW will entail removal of debris and final grading of the ROW using either a motor grader or a dozer. The areas disturbed during construction will be graded to re-establish pre-construction drainage patterns. Erosion and drainage control measures will be used where necessary to control erosion. No re-vegetation of the ROW will be required, as surface disturbance will occur within an agricultural area.

Demobilization

At the completion of all work, the pipeline contractor will demobilize construction equipment, personnel, and surplus construction materials from the Project area.

2.3.2 Contingency Planning

HDD Boring Abandonment Contingency Plan

In the event that HDD boring operations were suspended, and the partially completed drilled hole abandoned, the following procedures would be implemented.

Pilot Hole Drilling

If drilling were to be suspended during pilot hole drilling, the following general procedure would be executed:

- Advancement of the drill string would be halted.
- Cement or bentonite mixing and pumping equipment would be mobilized to the drilling location.
- Cement or bentonite pumping equipment would be rigged up to the drill string.

- Drill string would be withdrawn and the hole would be pumped with cement or industry-approved fill material to displace the bentonite slurry material.

Reaming

If drilling were to be suspended during the reaming of the hole, the following general procedure would be executed:

- Pull-back of the reaming string would be halted.
- Cement or bentonite mixing and pumping equipment would be mobilized to the drilling location.
- Cement or bentonite pumping equipment would be rigged up to the drill string.
- If possible, the reamer would be pushed back to the exit end and would be replaced with a cementing head.
- The drill string would be withdrawn and the hole pumped with cement or industry approved fill material to displace the bentonite slurry material.
- If the reamer could not be pushed back to the exit end, then the drill string would be withdrawn and the hole pumped with cement or industry-approved fill material to displace the bentonite slurry material.
- The drilling rig would rig down at the entry end of the bore, and rig up at the exit end.
- Run in pilot hole with cement head on pilot hole drill string until previously cemented reamed hole is bumped.
- The drill string would be withdrawn and the hole pumped with cement or industry approved fill material to displace the bentonite slurry material.

Contingency Plan for Frac-Out During HDD Boring (Frac-Out Contingency Plan)

The protection measures in this section primarily focus on prevention of inadvertent discharge of drilling mud into sensitive areas. These measures, which are described in more detail in the Frac-Out Contingency Plan, include:

- Obtaining site-specific geotechnical data along the alignment;
- Monitoring the pressure of drilling fluids;
- Sizing, which involves slowly moving forward and back the drill steam to better keep track of any potential fracture location; and
- If necessary, applying surface casing for the pipe as an extra protective outer casing.

The HDD boring construction method is less intrusive than the traditional open-cut trench method, wherein habitat within the pipeline alignment sustains direct soil and vegetation disturbance; however, frac-out, or inadvertent discharge of drilling lubricant, is a potential concern when HDD boring methods are used for constructing conduits under sensitive habitats and waterways. The HDD boring procedure uses a drilling lubricant, also known as drilling mud, in the drill hole. Bentonite slurry, a fine clay material, is the lubricant that will be used in this process. It is a non-toxic compound, commonly used in farming practices. However, if frac-out occurs and the bentonite slurry enters a waterway, aquatic species such as benthic invertebrates, aquatic plants, and fish and fish eggs can be smothered by the fine particles in the bentonite. Once a leak is detected, all work stops, including the recycling of drilling lubricant. The pressure of water above the pipe, also known as head pressure, keeps excess lubricant from escaping through the fracture.

The amount of drilling mud that could be lost to the environment in the event of an inadvertent discharge depends on the size of the fracture and the amount of head pressure. The entrance and exit points are primary areas of concern for inadvertent discharges, as the drilling equipment is at depths of less than 20 feet below the ground surface. The likelihood of inadvertent discharge decreases as the depth of the pipe increases. Inadvertent discharges along the pipeline alignment are most likely to occur within a linear area of approximately 50 feet at either end of the HDD boring segment.

A qualified biological monitor (a biologist experienced with HDD boring operations and frac-out procedure) will be on site at all times when drilling under sensitive areas (i.e., wetlands and waterways). All work will stop immediately if a leak is observed or detected by the pressure readings, and remedial actions will be implemented. The biological monitor will also be either onsite or on call during all other aspects of HDD boring activities within sensitive areas. Straw bales, straw waddles, sand bags, and silt fencing will be kept onsite to surround and contain any drilling mud released during frac-outs. A mobile vacuum truck will be used to pump drilling mud from containment areas to the return pit for recycling. The mobile vacuum truck will be onsite during all HDD boring activities. The vacuum truck will remain within the temporary workspace and extend a hose to the containment area. If an inadvertent discharge of drilling fluids has been detected within the River, a worker will inspect the River by boat to determine if the drilling fluids are entering the water body or dispersing under the clay lens of the river. If the drilling fluids are entering the River, a spill response team will be immediately called onsite to contain and cleanup excessive amounts of drilling mud within the waterway. Phone numbers of spill response teams in the area will be available onsite at all times.

A list of agencies to be notified immediately in the event this contingency plan is implemented is provided in Table 2.3-4.

Table 2.3-4
Frac-Out Emergency Agency Contact Notification List

Agency	Telephone Number
CSLC, Environmental Planning and Management Division	(916) 574-1890
CSLC, Land Management Division	(916) 574-1940
California Department of Fish and Wildlife, Dispatch Office	(916) 445-0045
California Department of Water Resources	(916) 574-2762
U.S. Army Corps of Engineers	(916) 557-5255
National Marine Fisheries Service	(916) 930-3607
Central Valley Flood Protection District	(916) 255-3397
San Joaquin County, Office of Emergency Services	(209) 468-3692
Sacramento County, Office of Emergency Services	(916) 874-4670
Reclamation District 563	(916) 776-2092
Reclamation District 756	(916) 653-5434

Three Rivers and the contract drilling engineer will evaluate the feasibility of continuing the boring procedure or implementing the Abandonment Contingency Plan after evaluating the following:

- The exact location of the drilling head assembly will be verified with portable locating equipment. If it is determined that the drilling profile does not match the planned profile, and exceeds design limits, the Abandonment Contingency Plan will be implemented.
- If the location and profile are within design limits, the specific weight of the drilling mud will be verified to ensure a slightly overbalanced condition to the surrounding formation. The specified weight will be adjusted, if necessary.
- If location, profile and drilling mud weight are determined to be within design limits, and seepage of bentonite slurry is controlled, drilling may proceed.
- Should it be determined that the stability of the bored crossing is in serious question, even if location, profile and drilling mud weight are deemed satisfactory, the Abandonment Contingency Plan will be implemented.

Hazardous Materials Contingency Plan for HDD Boring Installation

The only hazardous materials that will be onsite during the construction phase will be fuel and lubricants in the construction equipment. No fuels and/or lubricants will be stored on the construction site. The exposure to a fuel and/or lubricant spill will be limited to the actual tank capacity of the equipment.

In the event of a fuel and/or lubricant spill in the Project area, the following plan is to be followed:

Table 2.3-5
Hazardous Materials Contingency Plan Process and Contact List

Primary Action at Spill Location	1. Notify the Project supervisor. 2. Contain the spill by building earth berms to surround the spill.
Secondary Action	1. For small quantity spills, apply absorbent pads, which are carried in each supervisor's vehicle, with additional pads stored at any staging areas. All absorbent pads will be disposed of in plastic bags and placed into containers marked for proper disposal. 2. For larger quantity spills, request that the contracted hazardous waste removal contractor be mobilized to the site with a vacuum truck. 3. If any hazardous material reaches any waterway or ditch containing water, deploy absorbent booms. 4. Contact the appropriate individual or regulatory agency identified below on the Notification List.
Final Clean-up	1. All contaminated soil or other contaminated materials are to be removed and placed into plastic bags or other approved containers and disposed of offsite by the contracted hazardous waste contractor. 2. Perform any remedial backfill and grading to restore spill area. 3. Immediately notify onsite contractor supervisor and owner representatives. 4. Make all notifications to county, state, and federal agencies as appropriate and required (see notification list attached below). A copy of this notification information shall be kept onsite by the contractors at all times.
Operation Phase	There will be no hazardous materials on the Project after the pipeline is placed into operation

CONTACTS	
Agency	**Telephone Number**
CSLC, Environmental Planning and Management Division	(916) 574-1890
CSLC, Land Management Division	(916) 574-1940
California Department of Fish and Wildlife, Dispatch Office	(916) 445-0045
California Department of Water Resources	(916) 574-2762
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National Marine Fisheries Service	(916) 930-3607
Central Valley Flood Protection District	(916) 255-3397
San Joaquin County, Office of Emergency Services	(209) 468-3692
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