3. PROJECT DESCRIPTION

3.1 Introduction

The Applicant, Williams Communications LLC (Williams), is proposing to construct certain facilities of the Sentry Marysville Project in the City of Sacramento, in Yuba County, and in the City of Biggs in Butte County (Figure 3-1). The proposed project is known as the Williams Communications Sentry Marysville Project. The new fiber optic conduits would be buried underground in existing public or railroad right-of-way (ROW), in a rural community, and alongside cultivated farmlands.

This section provides a description of the proposed project, including project objectives, project components and construction, and regulatory requirements. The section focuses on those segments in which new conduit construction is proposed.

3.2 Project Objectives

The objective of the proposed project is to meet customer-specific service needs in the City of Sacramento and to portions of Yuba and Butte counties and to provide tie-ins to Qwest and SBC intra- and interstate networks by constructing new fiber optic conduits, cables, and related facilities.

3.3 Project Components and Construction

The proposed project consists of six segments. As described below, new construction is proposed only three segments.

- Segment 1, the "Sacramento #1" segment, consists of two customer dark fibers from Williams' Sacramento Point of Presence (POP) 2, located at 1005 North B Street, to Williams' Sacramento POP 1, located at 770 L Street, utilizing approximately 1.3 miles of its existing interconnect fibers to cross-connect the customer collocation space at Sacramento POP 2 with a Fiber Distribution Panel (FDP) at Sacramento POP 1. Customer fibers would then be cross-connected from POP 1 FDP to riser cable in new conduit at the Qwest space on the sixth floor of 770 L Street. Customer fibers would then be cross-connected to Qwest dark fibers.
- Segment 2, the "Sacramento #2" segment, consists of two Qwest dark fibers that originate from the Qwest POP on the sixth floor of 770 L Street and travel northeast out of Sacramento on City streets and Union Pacific Railroad (UPRR) ROW for approximately 42.8 miles to Qwest Splice Point 134.15.
- Segment 3, the "Ostrom" segment (Figure 3-2), would include conduit system and fiber optic cable. Construction along this segment begins at Qwest Splice Point 134.15 and travels northwest along the UPRR ROW for approximately 900 feet to Ostrom Road in Yuba County. The segment then continues east along Ostrom Road for approximately 4.2 miles to the intersection with South Beale Road. From this intersection, the segment continues southwest along South Beale Road for approximately 0.2 miles to "White Line Base Demark" where fibers would terminate in a newly installed manhole.
- Segment 4, the "Avondale" segment (Figure 3-3) begins at PacBell MH 432 at Avondale Road. The route runs along Avondale Road and Hammonton Road for approximately 2000 feet, to Qwest Splice Point 139.12 on UPRR property. Construction along this segment would include installation of conduit system and new Lucent Tru-Wave fiber optic cable.

Figure 3-1. Regional Overview and New Construction Locations **Click here to view**

Figure 3-2. Project Location - Ostrom Road Segment **Click here to view**

Figure 3-3. Project Location - Avondale Avenue Segment **Click here to view**

- Segment 5, the "Yuba City" segment, consists of two Qwest dark fibers from Qwest Splice Point 139.12 on UPRR at Hammonton Road, Yuba City, then travels for approximately 22.5 miles to Qwest Splice Point 168.1 in Biggs.
- Segment 6, the "Biggs" segment (Figure 3-4) begins at Qwest Splice Point 168.1 and proceeds along the UPRR ROW to the existing Williams Sacramento-to-Portland backbone conduit system. Construction along this segment would consist of installation of Tru-Wave fiber optic cable and development of a railroad crossing. Once in the existing backbone conduit system, customer fibers would be inside newly installed cable to Biggs Regen located at the intersection of Farris and Biggs Gridley Road, Butte County. Customer fibers would then be cross-connected and terminated to Customer collocation space inside Biggs Regen.

3.3.1 Description of Project Area

As described in Section 3.3 above, Sacramento Segments 1 and 2 are located in downtown Sacramento. They consist of connection to and use of existing dark fiber. Similar use of dark fiber is proposed in Yuba City Segment 5. These three segments would not require new construction.

The Ostrom, Avondale, and Biggs segments would involve the installation of new conduits, pulling new cables and hookups to the existing fiber optics network. The Ostrom and Avondale segments are located near the City of Marysville in unincorporated Yuba County. The Biggs segment is located in the City of Biggs in Butte County.

The Ostrom segment is surrounded by flat agricultural lands. Starting on the west along the UPRR tracks, the segment would extend northwest for 900 feet to Ostrom Road, proceed east along Ostrom Road for 4.2 miles and terminate 0.2 miles to the northeast along South Beale Road. Twelve houses line Ostrom Road toward the west end of the leg, eight of which are on the south side of the road, immediately adjacent to where the proposed conduit and cable would be located.

The Avondale segment would extend from the newly constructed Pac Bell MH 432 point of presence at Grant Road southeast along Avondale Avenue to Hammonton Road, turning southwest to Qwest's splice point on the UPRR ROW. A drainage channel paralleling the railroad ROW crosses Hammonton Road. This segment is 2,000 feet long. The land west is Avondale Avenue is occupied by an orchard. To the east is fallow land. There are four houses along this stretch of Avondale Avenue, two on the west and two on the east, but none require access from the east edge of the street, where the new conduit would be placed.

The Biggs segment is located in the City of Biggs. This segment would consist of a 120-foot bore under the UPRR ROW to connect Qwest's cable network and Williams' Sacramento to Portland Backbone conduit system. Approximately 200 feet west of the site is a residential neighborhood. To the east is a light industrial agricultural facility.

Figure 3-4. Project Location - Biggs Segment **Click here to view**

3.3.2 Proposed Project Construction

This section describes the Applicant's proposed project design and construction methods. The construction process for the installation of new underground conduit typically involves conduit installation, fiber optic line installation, and splicing of the fiber optic lines. Manholes and/or pull boxes are used as access points.

Conduit Installation

The Applicant proposes to install underground cable to tie into existing service networks in existing buildings. The construction duration is estimated to be between 30 and 45 days.

Underground Facilities

Construction associated with the three new segments would include installation of underground facilities (conduit and fiber optic cable). Conduit would be placed in trenches, or boreholes. Trenches would be excavated using a Ditchwitch 8020 Turbo trencher, or equivalent and would be 6 inches wide and 42 to 48 inches deep. The conduit would be placed in the ditch on the same day the trench is excavated. Spoils from the trench would be re-used to backfill the trench with a minimum of 95 percent compaction on the same day it is dug. The surface would be restored to an equal or better condition than previously existed (Williams, 2002). Some restoration and cleanup may be needed the following day.

Trenching operations would require a 10-foot-wide space, mostly along the paved road or road shoulder. Along the public ROW, trenches would be dug in the road shoulder, 2 to 4 feet off the pavement depending on space availability. Trenching would proceed at an average rate of 600 feet per day. Up to three 6- to 8-person work crews may conduct trenching operations at different locations along the project routes at any one time. Trenching in the railroad ROW would be done in a similar manner to road shoulder construction and would be subject to UPRR license conditions. Excess excavated material and asphalt removed at road crossings would be recycled or disposed of in an approved manner.

Directional bores would be drilled using a surface-operated drilling device angled into the ground and directed to its destination by remote control. Some surface excavation would be required for the location of pilot holes, bore pits (conduit tie-in points), and the placement of maintenance holes. A 25- by 80-foot workspace would be required for drilling operations. The majority of the drilling equipment would be staged on the paved area. Each bore crew would consist of 6 to 8 persons. Bores are generally drilled at the rate of 500 to 700 feet per day. Each bore would take one to two days to complete. Bentonite slurry would be used to help lubricate the drill bit, prevent the bore tunnel from collapsing, and carry drill cuttings to the surface. Slurry viscosity would vary depending on subsurface conditions.

Twenty-seven manholes would be installed as a part of the proposed project, 20 along Ostrom Road, five on the Avondale segment and two at Biggs. Manholes would measure 30 by 48 by 24 inches. Their installation would require a 5- by 6- foot workspace, excavated to a depth of 6 feet. Only the manhole lids would be visible at the surface upon completion. Handholes, used to assist in the installation of fiber optic cable inside the conduit, are smaller in size than manholes and typically require less ground disturbance. Once the cable is installed, the surface above them would be restored to its original condition.

Minor excavation would be required for the installation of 3.5-inch diameter line markers at approximately 500-foot intervals along the new cable route.

The Ostrom segment conduit would be placed in a trench in the UPRR ROW, the south shoulder of Ostrom Road, and the east shoulder of South Beale Road. Trenching would also take place through paved asphalt at the Ostrom Road/South Beale Road intersection. The road surface would be restored to its original condition. Seven bores would be completed to avoid effects on water and wetland crossings along Ostrom Road.

The Avondale segment conduit would be placed in a trench in the east shoulder of Avondale Avenue and through the asphalt near the intersection Avondale Avenue and Hammonton Road. Once the trench is backfilled, the road would be restored to its original condition.

A portion of the Biggs segment would be directionally bored under the UPRR ROW to connect the Quest line to the Williams system.

Establishing Staging and Parking Areas

Staging areas provide for gathering and storing equipment and supplies, including vehicles, construction equipment, conduit, cable, slurry materials, fuel, lubricants, and solvents. Such areas are expected to be located at existing industrial equipment storage sites in Marysville and Biggs. Additional staging areas would be located along the construction alignments to make supplies more readily available during the workday and provide for employee parking.

The Applicant has not yet designated staging areas for this project, but would do so when its contractor is retained. However, it has committed to not locating staging areas in undisturbed areas or on public land. Selected staging areas would be designed to protect neighboring land uses from accidental spills and other potential adverse impacts, and buffer areas would be established to protect sensitive natural resources or sensitive receptors such as parks or schools from adverse environmental impacts associated with the project, as necessary (Earnest and Gillett, 2002).

The Applicant would submit a Staging Area Plan to CPUC for review and approval at least twenty-one days prior to the start of construction. At a minimum, the Plan would contain a description of each of the proposed staging areas and its current use, a description of surrounding land uses which may be affected, areas designated for employee parking, measures the Applicant has taken to minimize the risk of accidents and adverse impacts at each site, and a description of buffer areas established to protect surrounding natural resources and sensitive receptors.

After installation of conduit, Williams would inspect each construction site for compliance and to assess the quality of site restoration. All deficits noted would be corrected or reported to the appropriate supervisor for additional restoration activities.

Use of Dark Fiber

In the Sacramento and Yuba City segments, the Applicant would utilize and tie into existing dark fiber by installing multiplexers and amplifiers within existing structures to enable it to provide service to its end users. No new construction would be required.

Cable Installation

After the conduit is in place and tested, fiber optic cable would be installed. Williams would install fiber optic cable into conduit by using a powered pulling device with hydraulic-powered assist wheels. A pull line would be attached to a plug that would be pushed through the conduit by air pressure. When the plug emerges at the end of the conduit section or access point, the pull line would be attached to the fiber optic

cable. The pull line would then be pulled back though the conduit section, threading the cable through the conduit as it returns to the point of entry. A maximum pulling force of 600 pounds, or as specified by the manufacturer, would be applied to the lubricated cable using a pulling swivel break away rated at the required force. In some cases, compressed air cable-blowing machines may be utilized to install the cable. The cable would be spliced in splice cases located in handholes or manholes with sufficient slack allowed. The splices would be made with a profile alignment fusion-splicing machine.

Splicing of sections of fiber optic cable at access points would be conducted consistent with Williams' specifications regarding equipment, procedures, and testing. Appropriate lengths of excess (slack loop) fiber optic cable would be left at all splice locations to allow for cable expansion and contraction due to temperature and for any necessary future splicing.

Construction Equipment and Workforce

Table 3-1 summarizes the type and size of crews and equipment the Applicant proposes to use construction activities.

Table 3-1. Description of Construction Activities, Equipment, and Personnel

Activity	Crew	Equipment
TRENCHING AND CONDUIT INSTALLATION		
Directional Drill Boring	**Directional Drill Crew.** Typically consists of 6 to 8 people who would perform directional drilling to install conduit. Drill boring would include digging the hole where directional drilling would be initiated, drilling under sensitive areas, pulling back conduit, and restoring construction areas to their original condition. This crew would ensure that any directional drilling spoils are transported to an appropriate facility for disposal.	• 1 water truck • 1 vacuum trailer • 1 drilling machine • 1 rubber tired backhoe • 1 bobcat or mini excavator
Dirt Open Trenching	**Dirt Trench Crew.** Typically consists of 6 to 8 people who would dig an open trench in non-paved alignments such as railroad ROWs. The crew would excavate the trench for the conduit, install conduit, install handholes and/or manholes at appropriate intervals, refill the trench, compact trench fill, and restore the surface. Most of the excavated dirt would be used to refill the excavation, and any dirt trench spoils would be transported to an appropriate facility for disposal.	• 1 Ditchwitch • 1 tractor • 1 trencher
Street Open Trenching	**Street Trench Crew.** Typically consists of 10 people who would be responsible for open trenching in roadway ROWs. The crew would excavate the trench, install the conduit on native soil, install manholes and/or handholes at appropriate intervals, refill the trench, compact trench fill, and repave the roadway surface. Most of the excavated dirt would be used to refill the excavation. Any street trench spoils, such as paving materials, would be returned to the asphalt manufacturer or transported to an appropriate facility for disposal.	• 2 rubber tired backhoe • 1 tilt deck dump truck Repaving spread • Paving machine • Roller • Windrow elevator • Grinder
CABLE INSTALLATION		
Pulling Cable in Existing Conduit	**Cable Pulling Crew.** Typically consists of 8 people who would place fiber optic cable in the conduit. This crew would insert a cable-pulling line into the conduit, attach the line to the optic fiber cable, and pull the cable through the conduit. The crew at manholes and/or handholes would splice the cable as needed.	• 1 2-ton truck • 1 1-ton truck (winch truck) • 1 fiber trailer • 3 Capstan intermediate assist

3.3.3 Construction Schedule

Construction of the project is scheduled to start as soon as the Applicant receives all necessary authorizations from the CPUC and other applicable governing agencies. The project is expected to take 30 to 45 days to complete. Conduit installation in trenched areas is expected to progress at an average rate of 600 feet per

day. Up to three trench crews may be deployed along the route at any one time. Each directional bore is expected to take 1 to 2 days. The installation of each manhole is expected to be completed within 1 to 2 days.

3.4 Regulatory Setting

The proposed project requires consultation, and may require approval, and/or permits from various federal, State, and local agencies. Table 3-2 describes the regulations that would apply to the proposed project. In addition, the Applicant is required to obtain encroachment permits for work within local public roadway ROWs from affected local jurisdictions.

Table 3-2. Regulatory Framework

Regulation	Brief Description
Section 401 of the Clean Water Act	Requires an Applicant to obtain a Water Quality Certification from the applicable Regional Water Quality Control Board (RWQCB) for discharges into regulated waters.
Section 402 of the Clean Water Act	Requires that a National Pollution Discharge Elimination System (NPDES) permit be obtained from the applicable RWQCB before construction of a project that may disturb one or more acres of land.
Section 404 of the Clean Water Act	Requires the issuance of an individual or nationwide permit from the U.S. Army Corps of Engineers (ACOE) before discharging into the waters of the United States, including wetlands. The Applicant has initiated consultation with the ACOE.
Section 7 of the Federal Endangered Species Act	Requires consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (USFWS) regarding measures to avoid harm to plant, fish, and wildlife species that are federally listed as threatened or endangered under the Endangered Species Act. The Applicant has initiated consultation with the USFWS.
Section 106 of the National Historic Preservation Act	Requires examination of cultural resources before various federal agencies can provide permits under their jurisdiction. Section 106 establishes requirements and protocols for pre-construction cultural resource surveys and mitigation of impacts on cultural resources.
Section 1603 of the California Fish and Game Code	Requires a streambed alteration agreement from the California Department of Fish and Game (CDFG) before any action is taken that would obstruct or divert the flow or alter the channel of designated drainages, rivers, streams, and lakes. Potential impacts must be mitigated. The Applicant has filed its streambed alteration agreement application with CDFG.
California Native Plant Protection Act of 1977	Provides protection for certain native plants.
California Endangered Species Act of 1984	Protects California State-listed threatened or endangered species from takings that would cause harm to these species or their habitat.