

4 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter provides an overview of the existing physical environmental conditions (i.e., the environmental baseline) at the time the analysis was prepared for each of the proposed routes outlined in Chapter 3, “[Project Route Descriptions](#),” followed by an analysis of potential impacts and required mitigation measures. The discussion is organized by resource topic, corresponding to the CEQA environmental checklist (CEQA Guidelines Appendix G), as amended. A completed environmental impact assessment summary for each of the proposed expansion projects, in the form of a CEQA initial study checklist, is provided in [Appendix A](#).

Each of the environmental checklist responses evaluates how the proposed expansion project may affect the existing environment. For each resource discussion, the significance criteria used to evaluate impacts (i.e., checklist criteria and local agency or professional standards) are identified. Each applicable entry from the environmental checklist ([Appendix A](#)) has a corresponding impact discussion.

In accordance with the CEQA Guidelines, a project’s physical effects on the environment can be characterized as having:

- No impact – the proposed project would not result in an impact.
- A less-than-significant impact – the proposed project would result in an impact, but at a level that is not considered significant.
- A potentially significant impact – there is substantial evidence that the proposed project would result in a significant impact. The impact would require mitigation to reduce it to a less-than-significant level.
- A significant and unavoidable impact – there is substantial evidence that the proposed project would result in a significant impact and that the impact cannot be avoided or reduced to a less-than-significant level. (However, no significant and unavoidable impacts have been identified for the proposed expansion project.)
- A beneficial impact – there is evidence that implementation of the proposed project would result in a positive or beneficial impact; no mitigation would be required.

Mechanisms that could cause impacts are discussed for each resource area. Besides construction of the fiber optic cable system, the proposed expansion project will require minor activities related to future operations and maintenance, as described in Chapter 2, “[Project Description](#).” Project effects fall into the following three categories:

- A *temporary* effect would occur only during construction and/or subsequent restoration.
- A *short-term* effect would last from the time construction ceases to within 3 years following construction and/or subsequent restoration.
- A *long-term* effect would last longer than 3 years following construction and/or subsequent restoration and is typically associated with operation and maintenance of the fiber optic cable system. In some cases, a long-term effect could be considered a “permanent” effect.

Implementation of the required mitigation measures will either result in complete avoidance of impacts or reduce all temporary and short-term construction impacts and any long-term operational impacts to less-than-significant levels. No significant and unavoidable impacts have been identified from implementation of the proposed expansion project. As a condition of project approval, Broadwing shall adopt all of the mitigation measures identified in this chapter, in addition to those mitigation measures incorporated into the project design and construction approaches in Chapter 2, as part of the construction mitigation strategy for the proposed project. In addition, in accordance with Public Resources Code Section 2108.6,

the CPUC will adopt an MMP at the time it approves the CPCN and adopts an IS/MND. The purpose of the MMP is to ensure that the mitigation measures adopted as part of project approval will be complied with when the project is implemented. The MMP will identify each of the mitigation measures and describe the party responsible for monitoring, the time frame for implementation, and the program for monitoring compliance. A Draft MMP is provided in [Appendix D](#).

The following terms are also used in the impact analysis:

- ▶ A “cumulative” impact is an impact of the proposed project that is cumulatively considerable when compounded with impacts from other past, present, and reasonably foreseeable future projects. A project’s incremental effects are not “cumulatively considerable” solely because other projects would have a significant cumulative impact.
- ▶ “Construction” applies to activities associated with installation of the fiber optic conduit and cable, construction of the OP-AMP stations, and/or subsequent restoration.
- ▶ “Pre-project conditions” refers to conditions before construction of the fiber optic cable system expansion. It does not refer to conditions before construction of any existing facilities in a disturbed right-of-way (i.e., road, railroad, or utility).
- ▶ “No further mitigation is required” is stated in the discussion of mitigation if the impact has been pre-mitigated by Broadwing through incorporation of specific measures into the project design and through construction strategies and approaches.
- ▶ “None required” is stated in the discussion of mitigation if the impact is considered minimal or less than significant and does not require mitigation.

This IS/MND examines potential impacts and, where necessary, identifies mitigation measures on a project-wide, programmatic basis. In some instances, additional impact analysis was warranted on a route-specific basis. The following discriminators were used to determine the need for route-specific analysis:

- ▶ Issue relevance – those issues that were determined not to be relevant to any element of the proposed project are discussed at a project-wide, programmatic level only.
- ▶ Route specificity – some impacts, such as those on biological resources, vary in importance and detail by route and are analyzed at a route-specific level.
- ▶ Issue specificity – some issues, such as agricultural resources, because of their nature or the consistency of the applicable regulatory scheme statewide, can be effectively described, analyzed and mitigated at a project-wide, programmatic level, and no route-specific discussion is necessary.
- ▶ Issue scope – some issues, such as aesthetics, vary in importance by area and route-specific analyses, and mitigation measures are necessary when important area-specific resources are known to be present.

4.1 AESTHETICS

The discussion of aesthetics typically refers to the perceived visual character of an area, such as of a scenic view, open space, or architectural facade. Visual character can be affected by the components of a proposed project (e.g., OP-AMP stations constructed at a height that obstructs views, hillsides cut and graded, open space changed to an urban setting). The aesthetics of California vary widely across the state and the project routes. The aesthetic or visual qualities of a large metropolitan area, such as Los Angeles, San Francisco, or Sacramento, are quite different from those of small urban areas, such as Temecula and Murrieta. Rural areas, whether they are natural, agricultural, or a combination, have their own distinctive aesthetic character.

The longhaul project routes traverse a variety of landscapes, whereas the Northern California Interconnection Projects in San Francisco, Sacramento, Santa Clara, Hayward, Stockton, and Modesto are generally within a single type of landscape (e.g., urban) for their entire length.

No state or federal aesthetics permits or regulations are applicable to the proposed expansion project. OP-AMP stations will not be constructed on state or federal lands. No designated scenic highways or other state or federal scenic resources will be affected. At the local level, some communities may require approval of a conditional use permit or other discretionary permit before construction of OP-AMP stations. Minimizing visual impacts is typically one consideration in the granting of these types of permit applications.

4.1.1 PROJECT ROUTE ENVIRONMENTAL SETTINGS

The visual setting of the project routes varies. Generally, the routes are within city streets and disturbed existing rights-of-way, railroad rights-of-way, and existing utility line corridors.

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These routes all pass through settings that are highly urbanized with commercial, residential, and industrial uses typical of these metropolitan areas. There are no designated scenic highways along any of these routes. No OP-AMP stations are proposed along these project routes.

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

Land uses along this project route are almost entirely urban or suburban for its entire length. Generally, the visual setting of the project route is within railroad or city street (Milliken Avenue) rights-of-way. The project route passes through visual settings that are primarily industrial, commercial, and residential. There are no designated scenic highways along this route. No OP-AMP stations are proposed along this project route.

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

Land uses vary along this project route from intensive urban, commercial, and industrial land uses to low-intensity agricultural and open space uses. Generally, the visual setting in the immediate construction area is street rights-of-way. The project route passes through visual settings that are primarily semi-rural in nature. There are no designated scenic highways along this route. A portion of I-15 from state Highway 91 in Riverside County to state Highway 76 in San Diego County is eligible for state designation as a scenic highway, but is not officially designated as one.

The Tranquil Lane OP-AMP site near Lake Elsinore is in an unincorporated area of Riverside County, in the community of Wildomar. The visual setting is primarily semi-rural, single-family residential, with some mobile homes nearby. The Warder OP-AMP site is in an unincorporated area of San Diego County, in the community of Rainbow. The visual setting consists of both agricultural (wholesale nurseries) and rural residential uses.

4.1.2 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance of visual impacts of the proposed expansion project is based on criteria **I. a-d** in the environmental checklist (see [Appendix A](#)). In general, projects that result in substantial changes to landforms, remove or add significant structures, result in visual contrast or disorder, or substantially disrupt the visual context with their surroundings would be considered to have a significant visual impact.

4.1.3 IMPACT ASSESSMENT

Aesthetic values differ from area to area. Tolerances for visual clutter, expectations for landscaping, and preferred types of architecture are common discriminators of aesthetic values. Context is also important. For example, large office structures that would have little visual impact in a large city might have significant visual impact in a suburban community.

To assess effects on visual resources, two factors were considered: (1) the sensitivity of the proposed project study area to disturbances and (2) the type and duration of the disturbance associated with the proposed expansion project. Potential visual impacts associated with the proposed project could result from ground disturbance, attachment to a bridge structure with historical significance, vegetation removal associated with construction, installation of cable markers, and construction of OP-AMP stations.

In general, the proposed expansion project will have a minimal aesthetic impact. Cable will be buried using plowing, trenching, or directional boring construction methods, resulting in minor, temporary surface disturbance for a short period during installation. No historic bridges have been identified along the project routes; therefore there is no potential for impact from attachment to these historic structures. Two OP-AMP stations will be constructed as part of the proposed expansion project. These structures can be designed to be unobtrusive, with exteriors that match their surroundings.

Would the project:

a. Have a substantial adverse effect on a scenic vista?

NO IMPACT (Applicable to all project routes). As described in Chapter 3, “[Project Route Descriptions](#),” the various expansion project routes traverse parts of northern, central, and southern California. Although aesthetic value is essentially a qualitative issue, scenic vistas are usually considered to be those that offer high-quality views of the natural environment. The California Scenic Highway System List of Eligible and Officially Designated Routes was reviewed to determine if the project routes parallel or cross designated scenic highways or routes. The project routes do not travel within or cross any state or local highways classified as “Scenic Highways.” Although a portion of I-15 is eligible for state designation as a scenic highway, installation of conduit and fiber optic cable underground will have no long-term effect on the scenic quality of I-15 or its potential designation as a scenic highway.

Fiber optic cable and conduit will be buried underground or attached to existing bridges, if necessary. Most of the work will occur within existing road and railroad rights-of-way. As discussed in Chapter 2, “[Project Description](#),” installation involves minor amounts of machinery and construction disturbance and will occur for a short time. Trenches, bore pits, and areas where pits are excavated for installing manholes or handholes will be restored as close to pre-construction conditions as possible or practicable. Installation of conduit and fiber optic cable will have no long-term aesthetic impacts. The placement of cable markers will be consistent with existing road and other utility markers that typically already exist within the road and railroad rights-of-way.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a locally designated scenic highway?

NO IMPACT (Applicable to all project routes). As discussed above, the project facilities will not be installed in or cross a state or local scenic roadway. Most project facilities will be installed underground and in disturbed rights-of-way where they will have minimal visual impact. Because the facilities will be

installed in previously disturbed rights-of-way, the cable markers within the shoulder of the road will blend with existing utility marker posts and markers demarcating the roads. The project routes are not along the rights-of-way or within the viewshed of any state-designated scenic resource. No scenic resources, trees, rock outcroppings, historic buildings or bridges, or other locally recognized desirable aesthetic natural feature would be affected by the proposed expansion project.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Conduit and cable installation will have a temporary visual impact during construction. The conduit and cable will typically be installed by trenching within the paved portion of the road rights-of-way. Trenching generally creates a 1-foot-wide by 4-foot-deep trench into which cable and conduit are placed. Although installation will be limited mostly to road rights-of-way, this alone will not ensure that there will be no visual impact because installation may affect vegetated portions of the right-of-way. In general, installation by trenching may have an aesthetic impact beyond the construction period in rural areas if trenching leaves a landscape scar for a short period (i.e., less than 3 years).

Measures to minimize possible temporary changes in landscape from trenching operations will be listed in the erosion control methods included as part of the proposed expansion project. In areas where trenching is employed, visual impacts will be mitigated by replacing existing topsoil, recontouring areas to pre-project topography, using stringent erosion control methods, preserving woody vegetation, and reseeding disturbed areas where necessary. With implementation of the construction techniques described in this IS/MND, the project will result in a less-than-significant impact on scenic resources.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Ontario to San Diego Longhaul Project). Two OP-AMP stations are proposed to be located along this route, one near Lake Elsinore and one in the community of Rainbow. Construction of the OP-AMP stations will temporarily disturb aesthetic values and increase visual clutter because of construction activities and the use of heavy equipment and machinery. Siting an OP-AMP station in a scenic rural area could affect the existing visual character or quality of an area. This impact is considered less than significant because the proposed OP-AMP stations are located on sites where their use is consistent with local general plans and surrounding land uses (see [Section IX](#). Land Use and Planning for further information) and the stations will not be located on sites supporting sensitive resources or in areas with nearby sensitive receptors such as hospitals, schools, or churches. At the Tranquil Lane site, existing ornamental vegetation bordering adjacent residences will provide buffering between the residences and the proposed OP-AMP station. The proposed OP-AMP station at the Warder site will be located directly across the street from an existing public water supply pump station and surrounded by low-density rural residential and agricultural uses. Existing vegetation and distance to adjacent residential uses will provide buffering between these uses and the proposed OP-AMP station. In addition, the color of the OP-AMP buildings will match the predominant shade of the surroundings.

d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

NO IMPACT (Applicable to the Northern California Interconnection Projects). The conduit and cable will be buried underground and will not be a new source of light or glare. Construction is anticipated to occur during daylight hours; however, some nighttime work may be required to accommodate public safety issues such as traffic flows or local jurisdictional requirements. If nighttime construction is required, temporary lighting will be directed at the construction site to avoid spillover lighting onto adjacent properties. Light and glare impacts will be negligible because nighttime construction will be temporary and will occur in an urbanized setting that has several existing light sources.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Los Angeles to Ontario Longhaul Project). Construction activities occurring at night will require nighttime illumination, which could temporarily increase the light and glare in the vicinity of the proposed expansion project. As a result, nighttime views in the area may be temporarily affected. Temporary lighting will be directed at the construction site and attempts will be made to avoid spillover lighting onto adjacent properties. For a portion of the route, the fiber optic cable facilities are proposed to be installed near roadway and freeway uses that employ nighttime lighting and have vehicular headlight lighting. Once constructed, the proposed facilities will be underground and will be compatible with the existing illumination characteristics of the project study area. Thus, the project will not new create a source of light or glare that would affect any sensitive uses. Impacts associated with light and glare will be temporary and less than significant.

NO IMPACT (Applicable to the Ontario to San Diego Longhaul Project). The single security light and exterior door lights at the proposed OP-AMP stations will introduce a new low-level source of light. However, because this lighting will be similar to a standard residential porch light and will not produce substantial light or glare, it will have no impact.

4.1.4 CUMULATIVE IMPACTS

On completion of the proposed expansion project, only the OP-AMP stations and cable markers will be visible. The stations will be sited in areas that do not support sensitive resources and/or will be designed to be unobtrusive. Cable markers indicating the existence of underground cable will be installed along the project routes; however, they will be within existing rights-of-way containing roads, railroads, pipelines, utility lines, or other facilities and will be consistent with the existing road, railroad, and utility markers already located within these disturbed rights-of-way. The proposed project will not make a cumulative considerable contribution to any impact on aesthetics.

4.2 AGRICULTURAL RESOURCES

California is the nation's leading agricultural state, with \$26.8 billion worth of total production and income in 1997 (California Department of Food and Agriculture 1997). The variety of climates and soils in the state, together with the long growing season and availability of water, makes it suitable for growing a wide variety of crops. The major crops produced in California include asparagus, cotton, citrus, grapes, lettuce, nuts, stone fruits (e.g., almonds and plums), strawberries, and tomatoes. Poultry, dairy, and beef cattle are also important products.

The loss of agricultural land is an increasingly important issue in California. The state's growing population is resulting in the conversion of agricultural lands to suburban and urban uses. According to the 1994 to 1996 Farmland Conversion Report of the California Department of Conservation's Farmland Monitoring and Mapping Project, approximately 15,400 acres (24 square miles) of prime farmland and farmland of statewide importance were converted to nonagricultural uses between 1994 and 1996 (California Department of Conservation 1998). Prime farmland and farmland of statewide importance are those lands determined to have the best physical and chemical features to sustain long-term production of agricultural crops. As land is converted to other uses and agriculture enters into increasing competition with urban and natural resource users for water (increasing the cost of water and reducing its reliability), the agricultural economy of some parts of the state is being adversely affected.

The California Farmland Protection Act (the Williamson Act) is the state's primary method for conserving farmland. This voluntary program is administered at the county level and offers property tax incentives to farmers who commit to keeping their land in agricultural use. The act is aimed at limiting the conversion of farmland to incompatible uses. Under the act, owners of farm and grazing lands may

enter into a contract with their county limiting the use of their land to agriculture for at least 10 years. In response, the county will assess the land at its productive value rather than its fair market value. This reduces property tax increases that would otherwise arise from speculation over land values.

The Williamson Act's effectiveness in preserving farmland is limited by its voluntary nature. Those lands most likely to be developed are often not under contract or have had their contracts canceled by the landowners in anticipation of development.

Development within agricultural areas is also subject to local zoning requirements, which vary from jurisdiction to jurisdiction. In most jurisdictions, utilities and associated small structures located in agricultural areas are permitted uses and do not require a conditional use permit.

4.2.1 PROJECT ROUTE ENVIRONMENTAL SETTINGS

Two of the project routes pass through areas of San Diego, Riverside, and San Bernardino Counties that support agricultural uses. In San Diego County, this includes production of wine grapes, nursery products, and avocados. In Riverside and San Bernardino Counties, agricultural uses include irrigated pasture, alfalfa crops, dairy operations, orchards, and row crops. The following are general descriptions of the areas traversed by the project routes.

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There are no agricultural uses or proposed OP-AMP stations along these project routes. The proposed fiber optic conduit will be located entirely within disturbed road or utility rights-of-way and will not cross any agricultural lands; therefore, agricultural resources (including soils identified as Prime Farmland or Farmland of Statewide Importance) will not be affected by installation of the proposed fiber optic conduit. No further analysis of soils classified as Prime Farmland or Farmland of Statewide Importance is required for this project route.

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

The project route is located entirely within the existing railroad or road right-of-way in an area where agricultural uses are not generally present. Some vineyards exist adjacent to Milliken Avenue near the Ontario Airport, although the vineyards are out of production and would not be affected by the proposed expansion project. The proposed facilities will be located entirely within the Milliken Avenue right-of-way. No OP-AMP stations are proposed along this project route. The proposed fiber optic conduit will be located entirely within disturbed road or railroad rights-of-way and will not cross any agricultural lands; therefore, agricultural resources (including soils identified as Prime Farmland or Farmland of Statewide Importance) will not be affected by installation of the proposed fiber optic conduit. No further analysis of soils classified as Prime Farmland or Farmland of Statewide Importance is required.

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The project route traverses several areas supporting agricultural land uses. The proposed fiber optic conduit will be located entirely within disturbed road or utility rights-of-way and will not cross any agricultural lands; therefore, agricultural resources (including soils identified as Prime Farmland or Farmland of Statewide Importance) will not be affected by installation of the proposed fiber optic conduit. Two OP-AMP stations are proposed along this route. The Tranquil Lane OP-AMP site near Lake Elsinore is currently vacant and is located in an area where agricultural uses are not generally present. The site is zoned for rural residential uses and there are no existing agricultural uses on-site. According to the Natural Resource Conservation Service (NRCS), the soils on this property (Greenfield sandy loam, 2 to 8

percent slopes, eroded) are classified as Prime Farmland where they are irrigated. These soils do not meet the criteria for listing as Farmland of Statewide Importance soils.

The Warder OP-AMP site in the community of Rainbow is currently vacant and is zoned for agricultural uses. An existing concrete pad on the site mostly likely supported a mobile home in the past. This site is located in an area supporting agricultural uses consisting mostly of wholesale nurseries, but there are no existing agricultural uses on site. According to the NRCS, the soils on this property (Arlington coarse sandy loam, 2 to 9 percent slopes) are not classified as Prime Farmland, but they do meet the criteria for listing as Farmland of Statewide Importance soils.

4.2.2 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance of impacts on agricultural resources is based on criteria **II. a-c** in the environmental checklist (see [Appendix A](#)). Projects that have a significant effect on agricultural resources are those that result in a long-term or permanent loss of agricultural land. Conversion of agricultural land may occur as a result of construction over the land, removal of land from Williamson Act contract in anticipation of development, incremental loss of agricultural land, or restriction of agricultural use.

4.2.3 IMPACT ASSESSMENT

Along the project routes, the proposed expansion project will be constructed primarily within existing road rights-of-way; it will not directly or indirectly affect agricultural operations or reduce the amount of land available for agricultural production. In general, the construction, operation, and maintenance of the fiber optic cable and OP-AMP stations will have no impact on agricultural resources because construction will occur within existing road rights-of-way or on previously disturbed land.

Would the project:

- a. ***Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?***

NO IMPACT (Applicable to the Northern California Interconnection Projects and the Los Angeles to Ontario Longhaul Route). The proposed expansion project will not result in the permanent conversion of prime or unique farmland or farmland of statewide importance to nonagricultural use. The conduit and cable will be installed by trenching or boring within existing disturbed rights-of-way. Construction may temporarily disrupt agricultural activities in the immediate area of the disturbed rights-of-way but will have no permanent impact on agricultural operations. Once installed, the fiber optic cable will have no long-term impact on agricultural operations beyond that already inherent in the existing rights-of-way. In addition, because the conduit and cable will be installed within existing disturbed rights-of-way, disruption of agricultural activities is unlikely because these disturbed rights-of-way are not currently in agricultural production.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Ontario to San Diego Longhaul Route). The Tranquil Lane OP-AMP site near Lake Elsinore is located in an area where agricultural uses are not generally present, and the site is not zoned for agricultural use. There are no existing agricultural uses on either of the proposed OP-AMP sites. The Warder OP-AMP site is zoned for agricultural use, and development of the proposed OP-AMP station will result in permanent conversion of the agriculturally designated site to a non-agricultural use. However, this proposed OP-AMP station will not require conversion of a substantial amount of land from agricultural use; less than 3,000 square feet in land area (34 feet by 85 feet within the fencing) will be converted (see [Figure 2.2-3](#)), and the proposed OP-AMP

station is considered a permitted use on the site. If alternative OP-AMP stations are needed in agricultural areas (see “[Location of OP-AMP Stations](#)” in Chapter 2, “[Project Description](#),” for further information), they will not require conversion of substantial amounts of land from agricultural use and will be considered an allowable use within agricultural preserve areas (described further below). The potential conversion of any farmland associated with development of two OP-AMP stations along this route would result in a less-than-significant impact on agricultural resources.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

NO IMPACT (Applicable to all project routes). The proposed Tranquil Lane OP-AMP site will not conflict with existing zoning for agricultural uses because the proposed use is allowed under the current Riverside County rural residential zoning. The Warder OP-AMP site is zoned for agricultural uses, but the proposed use would be permitted with issuance of a minor use permit by San Diego County.

Communication facilities such as the proposed OP-AMP stations are considered a compatible (i.e., allowable) use in agricultural preserves under Government Code Section 51238 and are therefore allowed on agricultural land that is subject to Williamson Act contract. Construction of OP-AMP stations is consistent with the above government code and will have no impact on Williamson Act land by requiring or resulting in its conversion to other nonagricultural uses.

c. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

NO IMPACT (Applicable to all project routes). The proposed expansion project will create no demand on agricultural land and will exert no pressure for conversion of agricultural land to another use. The fiber optic cable system simply transmits data across agricultural land. The proposed project will have no impact on agricultural resources.

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to the Ontario to San Diego Longhaul Route). Construction activities could introduce or spread noxious weeds into currently uninfested areas, possibly affecting agricultural production by reducing production rates and increasing maintenance and operation costs. Plants or seeds may be dispersed by construction equipment if the appropriate measures are not implemented. This impact is considered less than significant because Broadwing has committed to avoid or minimize this impact by adopting the following mitigation measures as part of the construction strategy for the project.

Mitigation Measure AG-1: Avoid Dispersal of Noxious Weeds. To avoid the introduction or spread of noxious weeds into previously uninfested areas, Broadwing shall implement the following measures as part of the proposed expansion project:

- Require contractor to initially deliver equipment to the project site that is clean and free of soil, seeds, and vegetation.
- Locate existing areas with infestations of noxious weeds before any construction activities begin.
- Educate construction supervisors and managers about weed identification and the importance of controlling and preventing the spread of noxious weed infestations.
- Clean equipment at designated wash stations after leaving noxious weed infestation areas; these wash stations shall be identified on the construction clearance authorization form (see [Appendix H](#)) by the resource specialists/monitors before construction activities begin in a particular segment and shall be approved by the CPUC.

The environmental inspectors, with support from the resource personnel, will routinely inspect installation activities to verify that construction equipment is being cleaned of soil and plant matter at designated wash stations.

4.2.4 CUMULATIVE IMPACTS

The proposed expansion project could result in temporary disruption of agricultural activities during construction in the areas of the disturbed right-of-way, although this would be highly unlikely. Any agricultural activities allowed within the right-of-way before cable installation will be allowed to continue after its installation. However, it is unlikely that agricultural activities currently occur within these road, pipeline, or railroad rights-of-way. The proposed expansion project will not contribute to a substantial loss of agricultural land in California.

4.3 AIR QUALITY

This section analyzes the air quality impacts that will result from construction and operation of the proposed expansion project. The primary air emissions generated by this project will result from installation of the fiber optic cable and construction and operation of the OP-AMP stations.

4.3.1 REGULATORY ENVIRONMENT

The federal, state, and local air quality regulatory environment along the proposed routes is described below.

FEDERAL REGULATORY ENVIRONMENT

The Federal Clean Air Act (FCAA) was passed in 1963 by the U.S. Congress and has been amended several times, most recently in 1990. The FCAA requires the U.S. Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) for air pollutants or air pollutant groups that pose a threat to human health or welfare. EPA has established NAAQS for six criteria pollutants: ozone, sulfur dioxide, nitrogen dioxide, lead, particulate matter, and carbon monoxide (CO) (see [Table 4.3-1](#)). Two separate standards have been set for particulate matter: one for particles 10 microns or less in diameter (PM₁₀) and the other for particles 2.5 microns or less in diameter (PM_{2.5}).

Air basins that are not in violation of an ambient air quality standard are considered to be in attainment for that standard. Conversely, air basins with recorded violations of an ambient air quality standard are classified as non-attainment areas for that pollutant. Air basins classified as non-attainment areas for the NAAQS must prepare state implementation plans that describe the specific steps that will be taken to bring the non-attainment area into compliance. Those steps primarily include rules and regulations to limit air pollutant emissions from specific stationary and mobile sources. The FCAA identifies specific dates by which the NAAQS must be met or federal sanctions can be imposed.

Pollutants	National Standards	State Standards
Lead (Pb)	1.5 µg/m ³ (calendar quarter)	1.5 µg/m ³ (30-day average)
Sulfur Dioxide (SO ₂)	0.14 ppm (24-hour)	0.25 ppm (1-hour) 0.05 ppm (24-hour)
Carbon Monoxide (CO)	9.0 ppm (8-hour) 35 ppm (1-hour)	9.0 ppm (8-hour) 35 ppm (1-hour)

Pollutants	National Standards	State Standards
Nitrogen Dioxide (NO ₂)	0.053 ppm (annual average)	0.25 ppm (1-hour)
Ozone (O ₃)	0.12 ppm (1-hour)	0.009 ppm (1-hour)
Fine Particulate Matter (PM ₁₀)	150 µg/m ³ (24-hour)	50 µg/m ³ (24-hour)
Sulfate	None	25 µg/m ³ (24-hour)
Visual Range	None	10 miles (8-hour) w/humidity < 70 percent

CALIFORNIA REGULATORY ENVIRONMENT

The California Clean Air Act (CCAA) of 1988 differs from the FCAA in that no sanctions or specific deadlines are established for attainment of the California Ambient Air Quality Standards (CAAQS), also shown in [Table 4.3-1](#). Under the CCAA, air quality attainment is required at the earliest practicable date, and reasonable progress must be made each year. For certain pollutants, such as PM₁₀, California's standards are more stringent than the federal standards. Consequently, an air basin may be classified as a non-attainment area for the state PM₁₀ standard while it is in attainment for the federal PM₁₀ standard. Similar to the FCAA, the CCAA requires attainment plans for designated non-attainment areas. The CARB is responsible for preparing the plans to meet the NAAQS and CAAQS. The CARB has delegated to the California air districts the responsibility for preparing air quality attainment plans. The CCAA, unlike the FCAA, does not require an air quality attainment plan for areas designated as non-attainment for the PM₁₀ CAAQS.

LOCAL AIR QUALITY REGULATORY ENVIRONMENT

The CARB has delegated much of its air pollution control authority to local air pollution control districts and air quality management districts. For example, the CARB does not have permit authority over the proposed expansion project. That authority has been delegated to local air districts. Each air district has jurisdiction over air quality in an air basin or portion of an air basin. Air basins and local air districts that are affected by the proposed project are listed in [Table 4.3-2](#).

Air Basin	Local Air District	Project Route
San Francisco Bay Area	Bay Area Air Quality Management District	San Francisco End Link Santa Clara Data Center Route 2 Hayward to Pleasanton Re-Route
Sacramento Valley	Sacramento Metropolitan Air Quality Management District	Sacramento End Link Sacramento End Loop
San Joaquin Valley	San Joaquin Valley Unified Air Pollution Control District	Modesto End Loop Stockton End Loop
South Coast	South Coast Air Quality Management District	LA to Ontario Longhaul Ontario to San Diego Longhaul
San Diego County	San Diego County Air Pollution Control District	Ontario to San Diego Longhaul

POLLUTANTS OF CONCERN AND ATTAINMENT STATUS

Table 4.3-3 shows the attainment status of each air quality basin with regard to the pollutants of most concern that could be generated during construction and operation of the fiber optic system. The pollutants are ozone (O₃), fine particulate matter (PM₁₀), carbon monoxide (CO), and nitrogen dioxides (NO_x). These pollutants are emitted as construction equipment exhaust, fugitive dust, and diesel exhaust from emergency backup generators. The reasons for concern about each pollutant and the attainment status in the proposed project study areas are discussed below.

Air Basin	State Ozone (O ₃)	Federal Ozone (O ₃)	State PM ₁₀	Federal PM ₁₀	State CO	Federal CO	State NO ₂	Federal NO ₂
San Francisco Bay Area	N	N	N	A	A	A	A	A
Sacramento Valley	N	N	N	N	A	A	A	A
San Joaquin Valley	N	N	N	N	A	A	A	A
South Coast	N	N	N	N	N	N	A	A
San Diego County	N	N	N	A	A	A	A	A

A – Attainment
N – Nonattainment

For air basins that do not meet the CAAQS or NAAQS shown in Table 4.3-3, individual air districts or groups of air districts must prepare air quality management plans designed to bring an air basin into compliance with nonattainment-area pollutants. Those plans, which are submitted to the CARB for approval, usually contain an emission inventory and a list of rules proposed for adoption.

Ozone (O₃)

Ozone is an irritant that can cause restriction of airways. Long-term exposure can reduce lung capacity, lower stamina, and leave people vulnerable to long-term respiratory problems. Ozone is formed when volatile organic compounds (VOCs) (including reactive organic gases [ROG]) and nitrogen oxides (NO_x) react in the presence of ultraviolet sunlight. VOCs and NO_x are emitted by fuel combustion in mobile sources and by stationary combustion equipment. VOCs and NO_x would be emitted by construction equipment used to install the fiber optic lines and by operation of the diesel engines for emergency backup generators. State and federal standards for ozone have been set for a 1-hour averaging time. The state 1-hour ozone standard is 0.09 parts per million (ppm), not to be exceeded. The federal 1-hour ozone standard is 0.12 ppm, not to be exceeded more than three times in any 3-year period. The EPA recently replaced the 1-hour ozone standard with an 8-hour standard of 0.08 ppm. However, areas classified as non-attainment for ozone must attain the 1-hour ozone standard. After an area has achieved attainment of the 1-hour standard, then the 1-hour standard is no longer applicable and the area must strive to meet the 8-hour ozone standard.

PM₁₀ and PM_{2.5}

Health concerns associated with suspended particulate matter focus on extremely small particles that can lodge in lungs and contribute to respiratory problems. Particulates can damage human health, retard plant growth, and reduce visibility.

PM₁₀ emissions are generated by a wide variety of sources including agricultural activities, industrial emissions, dust suspended by vehicle traffic, construction activities, fuel burning, and secondary aerosols formed by reactions in the atmosphere. The federal ambient air quality standard for particulate matter currently applies to PM₁₀ and PM_{2.5}. The CAAQs only apply to PM₁₀. The state PM₁₀ standards are 50 micrograms per cubic meter as a 24-hour average and 30 micrograms per cubic meter as an annual geometric mean. The federal PM₁₀ standards are 150 micrograms per cubic meter as a 24-hour average and 50 micrograms per cubic meter as an annual arithmetic mean. The federal PM_{2.5} standards equal 15 micrograms per cubic meter for the annual average and 65 micrograms per cubic meter for the 24-hour average.

Carbon Monoxide (CO)

Carbon monoxide is a colorless, odorless gas formed by incomplete combustion. CO competes with oxygen, often replacing it in the blood system, reducing the blood's ability to transport oxygen to vital organs. Individuals with pre-existing heart ailments, chronic lung diseases, and anemia may have reduced exercise capacity when exposed to CO.

Motor vehicles are the main source of this gas. High CO levels develop primarily during winter when periods of light wind combine with the formation of ground level temperature inversions. These conditions result in reduced dispersion of vehicle emissions. Violations of the CO concentrations are generally only a problem in heavily urbanized areas. The project will generate CO emissions from operation of construction equipment and emergency backup generator engines. State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The state 1-hour standard is 20 ppm by volume, and the federal 1-hour standard is 35 ppm. Both state and federal standards are 9 ppm for the 8-hour averaging period.

Nitrogen Oxides (NO_x)

Nitrogen oxides are a by-product of fuel combustion and can be an acute irritant. NO_x concentrations result in a brownish color in the atmosphere and can affect visibility. NO_x is primarily emitted by combustion of mobile and stationary sources, including water and space heating systems powered by fossil fuels. NO_x is also emitted by a variety of area sources including wild and prescribed fires. Construction equipment and emergency backup generator engines will generate project-related NO_x emissions. The state NO_x standard equals 0.25 ppm on a 1-hour average. The federal NO_x standard equals 0.053 ppm on an annual average.

4.3.2 PROJECT ROUTE ENVIRONMENTAL SETTINGS

The air districts crossed by the project routes are described below and in [Table 4.3-2](#).

SAN FRANCISCO END LINK PROJECT SANTA CLARA DATA CENTER ROUTE 2 HAYWARD TO PLEASANTON RE-ROUTE

These project routes are completely within the San Francisco Bay Air Basin (Bay Area AQMD).

SACRAMENTO END LINK PROJECT

The project route is completely within the Sacramento Valley Air Basin (Sacramento Metropolitan AQMD).

SACRAMENTO, MODESTO, STOCKTON END LOOP PROJECTS

The Sacramento End Loop project route is completely within the Sacramento Valley Air Basin (Sacramento Metropolitan AQMD). The Modesto and Stockton End Loop project routes are completely within the San Joaquin Valley Air Basin (San Joaquin Valley APCD).

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

The project route is completely within the South Coast Air Basin (South Coast AQMD).

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

The project route passes through the South Coast and San Diego County air basins (South Coast AQMD and San Diego County APCD).

4.3.3 IMPACT SIGNIFICANCE CRITERIA

A project will normally have a significant effect on the environment if it violates any ambient air quality standard, contributes substantially to an existing or projected air quality violation, or exposes sensitive receptors to substantial pollutant concentrations. The primary air emissions generated by the proposed expansion project will be temporary, resulting from construction activities associated with installation. Emissions will also be produced by the infrequent operation of emergency backup generators at the OP-AMP stations. The emergency backup generators will operate only for testing purposes and during electrical outages. The evaluation of impact significance is based on criteria **III. a-e** of the environmental checklist (see [Appendix A](#)).

Many individual air districts have developed air quality thresholds of significance used to determine whether project-related air quality impacts need to be mitigated. Those thresholds vary by district. Construction-related significance thresholds include pounds-per-day, tons-per-quarter, and tons-per-year values. A few districts have opted not to set significance thresholds for construction. Instead they have identified mitigation measures that will reduce impacts to less-than-significant levels.

The South Coast Air Quality Management District (SCAQMD) has established quantitative significance emission thresholds for project construction and operation. For construction, those thresholds equal 2.5 tons ROG or NO_x per quarter, 24.75 tons CO per quarter, and 6.75 tons PM₁₀ per quarter. For project operations, the SCAQMD's thresholds equal 55 ppd (ppd) ROG or NO_x, 550 ppd for CO, and 150 ppd for PM₁₀. The following impact analysis uses the SCAQMD's thresholds to determine whether project-related emissions will result in a significant impact in any of the air basins where the project is proposed for construction.

4.3.4 IMPACT ASSESSMENT

Construction of the proposed expansion project would require plowing, boring, and trenching activities to install the fiber optic conduit and cable, as well as activities related to construction of the OP-AMP stations. These activities would create various air emissions. Those of greatest concern are CO, ozone precursors (e.g., ROG), and PM₁₀.

CONSTRUCTION EMISSIONS

Facility installation activities have the potential to generate dust in the immediate vicinity on a temporary basis during the construction phase. All disturbed areas will be returned to their pre-construction

condition upon completion of the installation process and residual emissions would not occur. Construction efforts related to installation of the conduit will take place along approximately 1 to 4 miles of the route per day. PM₁₀ emissions from construction activities are difficult to quantify because they depend upon many factors, including silt content of the soil, moisture level, wind speed, and volume of soil disturbed. In the absence of definite information on multiple variables, the SCAQMD recommends use of a default PM₁₀ generation factor of 26.4 ppd per acre of surface disturbed. This factor presumes use of standard dust control measures as required by SCAQMD Rule 403 (fugitive dust). Rule 403 identifies to reduce fugitive dust, including on-site watering and ceasing earthwork activities during periods of high winds. Assuming that conduit installation will disturb an average surface area of 0.18 to 0.73 acre per day (with 1 to 4 miles of disturbance, 1.5 feet in width), calculated PM₁₀ emissions of 4.8 to 19.3 ppd are anticipated. In addition, construction of the two OP-AMP stations associated with the Ontario to San Diego Longhaul Route will disturb approximately 3,000 square feet each of surface area, resulting in calculated emissions of 3.6 ppd. The cumulative value of anticipated emissions would be well below the SCAQMD threshold levels of 150 ppd.

A variety of construction equipment, including backhoes, excavators, tractors, and other vehicles, will be used during the construction phase of the project. The heavy equipment will produce air pollutants during the project's construction phase. Emissions associated with typical construction activities involved with fiber optic cable installation include exhaust from construction equipment and fugitive PM₁₀ dust from vehicles operating on pavement and exposed earth. Construction emissions associated with a recent similar fiber optic cable installation project (Williams Communications, Inc. Riverside to San Diego California Route) are provided below. The Williams project included installation of approximately 111 miles of fiber optic cable and construction of two OP-AMP stations in the same general vicinity as the proposed Ontario to San Diego Longhaul Project. The Ontario to San Diego Longhaul Route is assumed to be the worst-case scenario of all the proposed routes due to its longer length and associated construction of two OP-AMP stations. Similar construction equipment and techniques will be used for the proposed expansion project as were used for the Williams project. Therefore, these projects are assumed to be comparable in size, location, and associated potential impacts, although the disturbance size of the proposed OP-AMP stations is smaller than those analyzed for the Williams project (3,000 square feet versus 1 acre). The emission estimates are reasonable worst-case emissions associated with trenching methods and are directly comparable to anticipated emission estimates for the proposed project. Installation of fiber optic cable through the use of boring techniques will result in slightly lower emission levels. Worst-case quarterly emissions for the project route segments are based on each segment's estimated distance and assume a maximum 6-month construction period.

- 0.27 ton per quarter of ROG within both the South Coast Air Basin (SCAB) and the San Diego County Air Basin (SDCAB), and
- 2.49 tons per quarter of NO_x within both the SCAB and the SDCAB.

The above construction emissions are based on vehicles typically used for fiber optic cable installation projects and building pad preparation. Fiber optic cable is assumed to be installed at an average rate of 2,000 feet per day in the SCAB (two crews operating simultaneously) and in the SDCAB (two crews operating simultaneously). Tons-per-quarter estimates assume 66 working days per quarter. Work at OP-AMP stations is assumed to involve 3,000 square feet per site and a 1-month (22-day) construction period. One OP-AMP station assumed to be installed in the SCAB and one in the SDCAB. The above emission estimates are based on the CARB's URBEMIS7G model.

The cumulative values of anticipated ROG and NO_x construction emissions listed above are below the SCAQMD threshold levels of 2.5 tons ROG or NO_x per quarter. Given that construction of the project routes is a one-time event and that air emissions will be dispersed over several months as well as along the length of the routes, it is anticipated that the project would not conflict with any air quality

implementation plans or standards established by the applicable air quality management district. Regional air quality impacts would be less than significant.

OPERATIONAL EMISSIONS

Electrically powered OP-AMP stations will be used to strengthen and/or regenerate the telecommunications signals. Under normal conditions, no emissions will be generated during operation of the fiber optic cable system. However, one 255-horsepower (hp) diesel backup generator will be located at each OP-AMP station to provide emergency electrical power during electrical outages. Backup generators will produce air pollutants during power interruptions and during regular testing of the engine. Assuming each backup generator is operated a maximum of 200 hours per year, average daily emissions from a typical generator are estimated as follows:

- 0.2 average ppd of ROG,
- 2.0 average ppd of NO_x, and
- 0.1 average ppd of PM₁₀.

These emission estimates are vendor-specific emission factors of 6.534 grams NO_x per brake horsepower hour, 0.701 grams ROG per brake horsepower hour, and 0.269 grams PM₁₀ per brake horsepower hour. Average daily emissions assume that generators will run approximately one-half hour per day, calculated by dividing 200 hours operation per year by 365 days.

Operation of the emergency backup generators at the proposed OP-AMP stations will generate stationary-source emissions on an infrequent, temporary basis. The value of anticipated ROG and NO_x operational emissions listed above are well below the SCAQMD threshold levels of 55 ppd ROG or NO_x and 150 ppd PM₁₀.

With the exception of maintenance personnel traveling to and from the project route on an intermittent basis as needed, operation of the proposed expansion project would not generate any vehicle trips. Mobile-source emissions would be generated by infrequent trips for ongoing maintenance operations. These trips would be made as needed and would have a negligible impact on regional source emissions. Therefore, operational air quality impacts would be less than significant. The project-related emissions are not expected to exceed district-specific conformity thresholds.

Would the project:

a. *Conflict with or obstruct implementation of the applicable air quality plan?*

NO IMPACT (Applicable to all project routes). The primary air emissions generated by the proposed expansion project will be temporary, resulting from construction activities associated with installation. Emissions will also be produced by the infrequent operation of emergency backup generators at the OP-AMP stations. Neither of these activities will conflict with or obstruct implementation of an applicable air quality plan. Therefore, no impact will occur.

b. *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). Heavy equipment will produce temporarily increased levels of air pollutants during construction. Under some meteorological conditions (e.g., temperature inversion), these levels may lead to violations of applicable air quality standards, potentially exposing sensitive receptors to elevated levels

of exposure. This impact is considered less than significant because Broadwing has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure AQ-1: Implement Construction Best Management Practices. Broadwing shall use best management practices (BMPs) for construction activities, as required in the respective air pollution control district or air quality management district, and shall train work crews in those measures before beginning work. The available BMPs will include at least the practices listed below, along with any additional practices required by the presiding air district.

- Water construction areas to minimize visible dust emissions.
- Re-establish ground cover on the construction site through seeding as required for erosion control.
- Maintain truck and equipment engines in good running condition.
- Clean equipment daily or as needed to reduce tracking of soil onto adjacent roads.
- Clean adjacent roads daily or as needed to remove accumulated soil.
- Limit maximum speed to 15 miles per hour (mph) on unpaved roads.
- Suspend all grading operations when wind gusts exceed 25 mph.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Ontario to San Diego Longhaul Route). The diesel-powered engines running the emergency backup generators at the OP-AMP stations will emit low levels of air pollutants during the infrequent periods when they are in use. Operation of the emergency backup generators at the proposed OP-AMP stations will generate stationary-source emissions on an infrequent, temporary basis. The diesel engines are expected to operate no more than 200 hours per year. The values of estimated ROG and NO_x operational emissions (listed above) are well below the SCAQMD threshold levels of 55 ppd ROG or NO_x and 150 ppd PM₁₀. Therefore, the average daily emissions from these generators, when operating at 200 hours per year, are not expected to violate the daily significance thresholds in the respective air basins.

An authority to construct and a permit to operate may need to be obtained from the appropriate governing agency and verified by the CPUC. Broadwing will coordinate with the air pollution control and air quality management districts on the need to obtain an authority to construct and permits.

- c. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (ozone, carbon monoxide, and PM₁₀) under an applicable federal or state ambient air quality standard?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Given that the proposed expansion project is not expected to exceed air quality standards set by the respective air districts, construction of the project is a temporary condition, and operational emissions are anticipated to be well below regulatory thresholds, it is not expected that a cumulatively considerable net increase for any non-attainment criteria air pollutant would result from implementation of the proposed expansion project.

- d. Expose sensitive receptors to substantial pollutant concentrations?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). Refer to the response to criterion **b** above.

Mitigation Measure AQ-1: Implement Construction Best Management Practices. Refer to above discussion under criterion **b** above.

- e. Create objectionable odors affecting a substantial number of people?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). The proposed expansion project will temporarily generate odors from diesel exhaust emitted during construction activities. Odors will also be produced temporarily from diesel exhaust emitted during the operation of emergency backup generators. These odor impacts are considered less than significant because construction odors will be temporary and operational odors will be infrequent. Neither odor source will be severe or will affect a substantial number of people. The conduit and fiber associated with the project will be underground and its operation will not result in any objectionable odors.

4.3.5 CUMULATIVE IMPACTS

Section 15064(h) of the State CEQA Guidelines provides that a change in the environment is not significant if it complies with an applicable, publicly adopted regulatory standard that has been adopted for the purpose of environmental protection and that governs the same environmental effect being evaluated. The cumulative values of anticipated ROG, NO_x, and PM₁₀ construction emissions (0.27 ton per quarter, 2.49 tons per quarter, and 3.6 ppd, respectively) are below the SCAQMD threshold levels of 2.5 tons ROG or NO_x per quarter and 150 ppd PM₁₀. The anticipated ROG and NO_x operational emissions (0.2 average ppd, 2.0 average ppd, and 0.1 average ppd, respectively) are well below the SCAQMD threshold levels of 55 ppd ROG or NO_x and 150 ppd PM₁₀. Therefore, with implementation of the identified mitigation measure, the proposed expansion project will comply with all air quality standards. Construction and operation of the proposed fiber optic cable system expansion will not conflict with or obstruct implementation of any applicable air quality plan, violate any air quality standard, or contribute substantially to an air quality violation. It will not result in a cumulatively considerable net increase of a criteria pollutant in a nonattainment area and will not expose sensitive receptors to substantial pollutant concentrations.

4.4 BIOLOGICAL RESOURCES

4.4.1 METHODS

The purpose of the biological resources section is to identify the wildlife, plant life, and natural communities in the vicinity of the proposed expansion project; identify any potential environmental effects of the proposed project; and identify mitigation measures required to reduce impacts on these resources to less-than-significant levels. For purposes of this analysis, emphasis is placed on sensitive species and communities. Various sources were used to describe the existing biological setting of each proposed route, including:

- ▶ U.S. Department of Agriculture, Forest Service Ecological Units of California;
- ▶ California Department of Water Resources and California resource management agencies CALWATER watershed delineations;
- ▶ California Wildlife Habitat Relationships (CWHR) habitat classification system and predictive database program;
- ▶ California Department of Fish and Game (CDFG) Natural Diversity Database (CNDDDB);
- ▶ City of San Diego Multiple Species Conservation Plan (MSCP) Subarea Plan;
- ▶ County of San Diego Multiple Species Conservation Plan Subarea Plan;
- ▶ County of San Diego Multiple Species Conservation Plan Biological Mitigation Ordinances;
- ▶ lists, accounts, and range and distribution maps for state-listed, federally listed, and other sensitive wildlife species; and
- ▶ general plans and local government documents related to planning and natural resource inventory and identification.

Due to the highly urbanized nature of the Northern California Interconnection Project routes, existing information was relied on to develop the setting section and only reconnaissance-level surveys were conducted to verify site conditions and sensitive species or community locations. Existing information and a wetland survey were relied on to develop the setting section for the Los Angeles to Ontario Longhaul Route. The wetland survey verified stream crossing locations and any associated wetlands. Because of the highly urbanized nature of that proposed route, no specific botanical or wildlife surveys were conducted. Existing information, two botanical surveys, and a wetland survey were relied on to develop the setting section for the proposed Ontario to San Diego Longhaul Route. Fieldwork was conducted to determine whether sensitive plant species (see [Appendix I](#)) were present and to verify stream crossing locations and associated wetlands. The wetland determination report and botanical survey report, along with USGS 7.5-minute quadrangle maps indicating locations of sensitive areas, are located in [Appendices J and K](#), respectively.

Because most of the proposed routes are within existing road rights-of-way that support ruderal vegetation (i.e., plants that grow in disturbed areas) with limited value to special-status wildlife species, the descriptions of existing conditions are focused on areas that will be transected by or adjacent to the route and have been identified as sensitive by federal and state resource agencies and local governments. For purposes of this report, special-status wildlife species are defined as follows:

- ▶ **Federally Listed.** Species listed as threatened or endangered under the federal Endangered Species Act (ESA). Implies any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. This includes any species of fish or wildlife, and any distinct population segment of any species of vertebrate fish or wildlife, that interbreeds when mature.
- ▶ **State Listed.** Species listed as threatened or endangered under the California ESA.
- ▶ **Federal Candidates.** Species being considered for future listing as threatened or endangered under the federal ESA.
- ▶ **Federal Species of Concern.** Species that were former candidates in the federal C2 category and bird species identified in Non-Game Migratory Birds of Management Concern (USFWS 1995).
- ▶ **California Species of Special Concern.** Species identified by CDFG as species of special concern (Remsen 1978 and CDFG 1992 addendum for birds; Williams 1986 and, where applicable, Brylski et al. 1999 for mammals; Jennings and Hayes 1998 for amphibians and reptiles).
- ▶ **California Fully Protected.** Species identified in California Fish and Game Code Section 3511 (birds), 4700 (mammals), or 5050 (reptiles and amphibians) as fully protected.
- ▶ **Forest Service or BLM Sensitive.** Species considered sensitive by the U.S. Forest Service or Bureau of Land Management.

Some of the proposed routes, the Ontario to San Diego Longhaul Route in particular, transect vegetative communities identified as sensitive by resource management agencies. These assemblages often host sensitive plant species. These species may also be encountered at other locations along or in the vicinity of the proposed routes. For purposes of this report, sensitive plant species and communities are defined as follows:

- › **Federally Listed.** Species listed as threatened or endangered under the federal ESA. Implies any species or subspecies that is in danger of extinction throughout all or a significant portion of its range.
- › **State Listed.** Species listed as rare, threatened or endangered under the California ESA.
- › **Federal Candidates.** Species being considered for future listing as threatened or endangered under the federal ESA.
- › **CNPPA Listed.** Plant species listed as rare under the California Native Plant Protection Act.
- › **CNPS Listed.** Plant species listed are considered to be “rare, threatened, or endangered in California” by the California Native Plant Society (Lists 1b and 2).
- › **Sensitive Plant Community.** Communities identified as sensitive by the CDFG Natural Diversity Database.

4.4.2 PROJECT ROUTE ENVIRONMENTAL SETTINGS

NORTHERN CALIFORNIA INTERCONNECTION PROJECTS

The proposed projects occur within the boundaries of the California Coastal Chaparral Forest and Shrub (Coastal Shrub) and California Dry Steppe provinces of the Humid Temperate Domain and Mediterranean Division Ecoregions of California. The Coastal Shrub province extends from the southern San Francisco Bay Area south along the coast to the U.S. - Mexico border extending inland between 10 and 45 miles. This province encompasses the temperate coastal zone, which is influenced by the marine environment. The Dry Steppe province lies between the Sierra Nevada Mountains to the east and Coast Range to the west and constitutes California’s Central Valley. This province supports agricultural lands interspersed with remnant riparian vegetation, vestigial annual and perennial grasslands, and occasional remnant oak woodlands.

Although the Coastal Shrub and Dry Steppe provinces support a structurally and spatially diverse assemblage of vegetative communities, lands in the vicinity of the proposed routes support primarily urban land uses and associated ruderal vegetation types. [Table 4.4-1](#) describes the ecological region, watershed, stream crossings and vegetative communities or land uses associated with each of the Northern California projects.

Northern California Project	Ecoregion	Watershed	Stream, River, or Drainage Crossings	Adjacent Vegetative Communities or Land Uses
San Francisco End Link	California Coastal Chaparral Forest and Shrub (Coastal Shrub)	Bay Bridges and South Bay	None	Urban, ornamental vegetation
Santa Clara Data Center Route 2	California Coastal Chaparral Forest and Shrub (Coastal Shrub)	Santa Clara	None	Urban, ornamental vegetation

**Table 4.4-1
General Vegetative Community and Land Use Characteristics of the
Northern California Interconnection Projects**

Northern California Project	Ecoregion	Watershed	Stream, River, or Drainage Crossings	Adjacent Vegetative Communities or Land Uses
Hayward to Pleasanton Re-route	California Coastal Chaparral Forest and Shrub (Coastal Shrub)	South Bay	None	Urban, ornamental vegetation
Sacramento End Link	California Dry Steppe	Valley-American	None	Urban, ornamental vegetation
Sacramento End Loop	California Dry Steppe	Valley American	None	Urban
Modesto End Loop	California Dry Steppe	San Joaquin Valley Floor	None	Urban
Stockton End Loop	California Dry Steppe	San Joaquin Valley Floor	None	Urban

Wildlife

The Northern California Interconnection Projects transect highly disturbed vegetative communities or fully urbanized landscapes. Accordingly, wildlife diversity along the route is expected to be low.

Lists of sensitive species occurring in the county or counties transected by the proposed expansion project were solicited from the U.S. Fish and Wildlife Service (USFWS) and CDFG. The CNDDDB was also used to identify endangered, threatened, candidate, and other special-status species that may be present along the proposed Northern California routes, as well as to provide historical accounts of sensitive species within the proposed route study areas. Specific sensitive species occurrences within 1 mile of the proposed route were recorded. The 1-mile distance was chosen to allow sufficient flexibility in the event that minor route changes were required due to engineering or other constraints. Due to the highly urbanized nature of the proposed project routes, final analysis of the potential impacts on species from the construction of the Northern California Interconnection Projects relied on the lists generated by the CNDDDB point search.

Because the Northern California Interconnection Projects are small and occur within highly urbanized areas, the CNDDDB, USFWS, and CDFG lists included several species that would not occur in or near the proposed project rights-of-way. Biologists with experience in the proposed project area evaluated the original lists to determine the potential for project impacts and those species that would not be affected by project activities were eliminated from further consideration. [Appendix I](#) lists those sensitive wildlife and plant species considered in this analysis. Results of the CNDDDB analysis showing locations of sensitive species within one mile of the project route are also included in [Appendix I](#).

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

The project occurs within the boundary of California Coastal Chaparral Forest and Shrub (Coastal Shrub) and California Coastal Range Shrub – Forest – Meadow (Coast Range) provinces of the Humid Temperate Domain and Mediterranean Division ecological regions of California. The Coastal Shrub province extends from the southern San Francisco Bay Area south along the coast to the U.S. - Mexico border extending inland between 10 and 45 miles. This province encompasses the temperate coastal zone,

which is influenced by the marine environment. The eastern half of the route is within the Coastal Shrub ecological region province.

The Coast Range province lies between the Coastal Shrub province and the Central Valley and extends from the southern Bay Area in the north to the Mexican border in the south. This province is defined by predominately chaparral vegetation interspersed with riparian forests and infrequent oak woodlands. The western half of the route is within this province.

Although the Coastal Shrub and Coast Range provinces support a structurally and spatially diverse assemblage of vegetative communities, lands in the vicinity of the proposed route support either ruderal or agricultural vegetation types. Along the railroad right-of-way, most of the project route has been highly modified and cleared of vegetation, leaving little suitable habitat for wildlife. When vegetation is present, it is ruderal species or a mosaic of ruderal species and species from adjacent habitats. Most of this project route occurs in urban landscapes, although small pockets of annual grassland, agricultural lands, and riparian habitat are present. At many points along the project route, ornamental plant species such as eucalyptus, oleander, cypress, palms, pepper trees, and pine trees are used to block views of the route from surrounding residential and industrial uses. The corresponding CWHR habitat types found along the proposed rights-of-way are Urban, Vineyard, and Barren.

Watersheds and Streams

The proposed route passes through the Los Angeles, San Gabriel, and Santa Ana River watersheds. The project route crosses several urban drainages, streams, and rivers. Most of these waterways have been placed into concrete-lined channels. A few channels, such as the San Gabriel River, are soft-bottomed with some mixed willow scrub riparian habitat. Portions of these rivers currently provide, or historically have provided, habitat for several sensitive fish species, including the Santa Ana sucker, southern steelhead, and unarmored threespine stickleback. However, fish habitat in the reaches of these watersheds crossed by the project route is extremely limited because of channelization, concrete lining, seasonality of flow, and the intensely urbanized setting.

Surveys to determine the locations of stream crossings and associated wetlands were conducted from April 9 through April 13, 2001. During the field surveys, wetland experts and biologists surveyed the proposed route and mapped all stream crossings and associated wetlands, as well as any wetlands within 25 feet of the proposed route. To accurately establish locations of wetland areas at which exclusion zones and monitors will be required during construction, Global Positioning System (GPS) waypoints were taken. Route maps showing the locations of the 16 stream crossings and associated wetlands, as well as the Wetland Determination Report detailing the study, are provided in [Appendix J](#).

Vegetation Communities

A search of the CNDDDB revealed no sensitive plant communities that would be affected by project activities. Reconnaissance-level vegetation surveys and wetland surveys confirmed that no sensitive plant communities are located within the proposed route.

Urban

Urban lands are located adjacent to much of the project route. Most of the route is associated with the railroad right-of-way where vegetation has been cleared. Vegetation in urban areas along portions of Milliken Avenue consists of ornamental trees and shrubs, lawns, and flowerbeds.

Barren

Ruderal habitats are associated with the margins of agricultural areas, the edges of roads, and other developed areas. Ruderal habitats are located on previously disturbed sites where the pre-existing natural community has been altered and replaced by ruderal species.

Vineyard

Agricultural land is adjacent to the project route near the Ontario Airport. This agricultural land comprises out-of-production vineyards that are located adjacent to Milliken Avenue. New construction and development surround these lands.

Wildlife

This project transects highly disturbed vegetative communities or fully urbanized landscapes. Accordingly, wildlife diversity along the route is expected to be low.

Lists of sensitive species occurring in the counties transected by the proposed expansion project were solicited from the USFWS and CDFG. The CNDDDB was also used to identify endangered, threatened, candidate, and special-status species for Los Angeles and San Bernardino Counties, as well as to provide historical accounts of sensitive species within the proposed route study area. Specific sensitive species occurrences within 1 mile of the proposed route were recorded. The 1-mile distance was chosen to allow sufficient flexibility in the event that minor route changes were required due to engineering and other constraints. Final analysis of the potential impacts on species from the construction of the Los Angeles to Ontario Longhaul Route relied on the USFWS and CDFG lists. Results of the CNDDDB analysis showing locations of sensitive species within 1 mile of the project route are included in [Appendix I](#).

Biologists with experience in the proposed project area evaluated the lists to determine the potential for project impacts. [Appendix I](#) lists those sensitive wildlife and plant species identified on the CNDDDB, USFWS, and CDFG lists as occurring within counties transected by the proposed route.

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

This proposed project is within the boundaries of the California Coastal Chaparral Forest and Shrub (Coastal Shrub) and California Coastal Range Shrub – Forest – Meadow (Coast Range) provinces of the Humid Temperate Domain and Mediterranean Division ecological regions of California. The Coastal Shrub province extends from the southern San Francisco Bay Area south along the coast to the U.S. - Mexico border extending inland between 10 and 45 miles. This province encompasses the temperate coastal zone, which is influenced by the marine environment. The northern half of the route is within the Coastal Shrub ecological region province.

The Coast Range province lies between the Coastal Shrub province and the Central Valley and extends from the southern Bay Area in the north to the Mexican border in the south. This province is defined by predominately chaparral vegetation interspersed with riparian forests and infrequent oak woodlands. The southern half of the route is within this province.

The Coastal Shrub and Coast Range provinces support a structurally and spatially diverse assemblage of vegetative communities and lands in the vicinity of the proposed route. The right-of-way transects several natural vegetative communities, although most of the route is within existing road rights-of-way and will not displace or disturb native vegetation.

Watersheds and Streams

The proposed route passes through the Santa Ana River, San Jacinto Valley, Santa Margarita River, San Luis Rey, Carlsbad, San Dieguito, Penasquitos, and San Diego watersheds. The project route crosses several urban drainages and ephemeral streams in addition to perennial streams and rivers. Major stream and river crossings include (from north to south) the Santa Ana River, Murrieta Creek, Pechanga Creek, lower San Luis Rey River, Keys Creek, Escondido Creek, San Dieguito River (Lake Hodges), Poway Creek, and seasonal drainages associated with Rose and San Clemente Canyons.

Surveys to determine the locations of stream crossings and associated wetlands were conducted from April 9 through April 13, 2001. During the field survey, wetland experts and biologists surveyed the proposed route and mapped all stream crossings and associated wetlands, as well as any wetlands within 25 feet of the proposed route. To accurately establish locations of wetland areas at which exclusion zones and monitors will be required during construction, GPS waypoints were taken. Route maps showing the locations of the 90 stream crossings and 12 wetlands bordering the proposed route, as well as the Wetland Determination Report detailing the study, can be found in [Appendix J](#).

Vegetation Communities

A search of the CNDDDB revealed seven sensitive natural communities that may occur in the vicinity of the proposed project route. A brief description of these communities and their occurrence along the route is provided below.

San Diego Mesa Hardpan Vernal Pool

Vernal pools are depressions in the soil with an underlying impermeable or “hardpan” layer, which allows the pool to hold water from precipitation runoff. Vernal pools support specialized and often endemic plant species and are a source of free water for wildlife. Species typical of this association include downingias (*Downingia* sp.), orcutt brodiaea (*Brodiaea orcuttii*), Otay mesa mint (*Pogogyne nudiuscula*), and spreading navarretia (*Navarretia fossalis*).

No vernal pools would be affected as a result of project construction. In addition, indirect impacts resulting from siltation or pollutant runoff into the pools are not expected. Vernal pools are known to be located near the proposed route on MCAS Miramar property. Upon consultation with the Environmental Management Office, MCAS Miramar, it was determined that no impacts on vernal pools would occur (Bob Taylor, pers. comm.).

South Coast Live Oak Riparian Forest, South Coast Cottonwood-Willow Riparian Forest, South Coast Sycamore-Alder Riparian Forest, Southern Riparian Forest

Riparian forests consist of vegetation directly associated with a stream or river and, as a result of their species composition and structural diversity, support a wide array of wildlife species. In arid southern California, riparian woodlands are especially important to resident and migratory birds and provide cover and breeding habitat for birds, mammals, reptiles, and amphibians. Species diversity is often highest in riparian woodlands in southern California when compared to other terrestrial habitats in the region. Species typical of this association include California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), black willow (*S. lasiolepis*), yellow willow (*S. lutea*), mulefat (*Baccharis salicifolia*), and white alder (*Alnus rhombifolia*).

Riparian habitat occurs along the streams and rivers identified above and along Rice and Couser Canyon Roads and Lilac Road in Rice and Couser Canyons. Because large trees associated with these riparian areas line the roads and existing right-of-way, direct impacts on riparian vegetation are possible.

Southern Willow Scrub and Southern Riparian Scrub

Riparian scrub habitats exhibit sparse tree vegetation but often form dense shrub and willow thicket canopies along riparian corridors. Although these habitats frequently support a less diverse wildlife community, they are important breeding and cover habitat for resident and migratory birds and resident mammals. Species typical of this association include mulefat, willows, coyote brush (*B. pilularis*), buttonbush (*Cephalanthus occidentalis*), mugwort (*Artemisia douglasiana*), and wax-myrtle (*Marica californica*).

Willow and riparian scrub occurs in association with true riparian habitats interspersed along the major drainage features and canyons identified above. Impacts on these habitats are possible in areas where the existing right-of-way or roadway transects this habitat type.

Diegan Coastal Sage Scrub

This community consists of low-growing, relatively sparse chaparral and shrub forms interspersed with annual or perennial grasslands and annual herbaceous associations. Once extensive in the southern California coastal plain and surrounding coastal bluffs, this association has been highly fragmented and occurs in small, often disjunctive patches in San Diego County. As a result of both fragmentation and absolute loss, this community supports several sensitive wildlife and plant species. Plant species typical of this association include California sagebrush (*A. californica*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum cinereum*), lemonade berry (*Rhus integrifolia*), bush monkeyflower (*Mimulus aurantiacus*), and chamise (*Adenostoma fasciculatum*).

Diegan coastal sage scrub occurs at various locations along the southern portion of the route in San Diego County. However, the proposed cable route is within the existing right-of-way or paved roadway in areas supporting this vegetative community, and direct impacts on this association are not anticipated.

In addition to the sensitive plant communities identified above, the following CWHR habitat types are found along portions of the proposed route.

Urban

Urban lands lie adjacent to much of the project route. Urban land uses often support remnant and fragmented natural vegetative communities, along with ornamental plants and open space associated with parks. Urban land uses have very low wildlife habitat value and usually support a few generalist wildlife species habituated to the urban setting.

Barren

The CWHR wildlife habitat classification system defines barren types as areas with 0-9% vegetative cover, usually in the form of annual grasslands, herbaceous plants, or introduced plant species. For this project, “barren” refers to abandoned fields; areas cleared of vegetation for agricultural, commercial, or industrial uses; and undisturbed areas devoid of vegetation. The barren classification, when associated with highly urbanized areas, has low wildlife habitat value.

Special-Status Plants

Botanical surveys for special-status plants were completed on April 9-13 and July 1-5, 2001, along the proposed Ontario to San Diego Longhaul Route. During the surveys, *Viguiera laciniata* and *Romneya coulteri*, both of which are CNPS List 4 plants, were identified adjacent to the proposed route. Because CNPS List 4 plants are not considered special-status species by the USFWS or CDFG, these plants were not considered further in the analysis of potential impacts.

During the botanical surveys, the presence of habitat for the Quino checkerspot butterfly, federally listed as endangered, was specifically reviewed. Surveys for the larval host plant, *Plantago erecta*, failed to locate any plants along or adjacent to the proposed route. However, a secondary host plant, *Cordylanthus rigidus*, was located adjacent to the proposed route in low densities. Because the Quino checkerspot butterfly prefers high densities of *Plantago erecta* (USFWS, 1997b, 2001a), it is concluded that no Quino checkerspot butterfly habitat occurs along the proposed route. The locations of sample sites and reports detailing botanical survey methods and results are provided in [Appendix K](#).

Wildlife

The Ontario to San Diego Longhaul Route transects a combination of natural vegetative communities, highly disturbed vegetative communities, and fully urbanized landscapes. Accordingly, wildlife diversity along the various portions of the route is expected to vary substantially.

Lists of sensitive species occurring in the counties transected by the proposed route were solicited from the USFWS and CDFG. The CNDDDB was also used to identify endangered, threatened, candidate, and special-status species for San Diego, Riverside, and San Bernardino Counties, as well as to provide historical accounts of sensitive species within the project route study area. Specific sensitive species occurrences within 1 mile of the proposed route were recorded. The 1-mile distance was chosen to allow sufficient flexibility in the event that minor route changes were required due to engineering or other constraints. Final analysis of the potential impacts on species from the construction of the Ontario to San Diego Longhaul Route relied on the USFWS and CDFG lists. Results of the CNDDDB analysis showing locations of sensitive species within 1 mile of the project route are included in [Appendix I](#).

Biologists with experience in the proposed project area evaluated the lists to determine the potential for project impacts. [Appendix I](#) lists those sensitive wildlife and plant species identified on the CNDDDB, USFWS, and CDFG lists as occurring within counties transected by the proposed route.

4.4.3 IMPACT SIGNIFICANCE CRITERIA

The significance of impacts on biological resources as a result of the proposed expansion project was based on the criteria described in the environmental checklist. In addition, the following general criteria were also considered in determining whether an impact on biological resources would be significant:

- ▶ federal or state status and local abundance of the resource or species,
- ▶ federal or state agency policies,
- ▶ local regulations and policies, and
- ▶ local and regional distribution of biological resources.

Based on the CEQA Guidelines and the general criteria identified above, impacts on biological resources were considered significant if the proposed expansion project will result in any of the following:

- ▶ Substantial reduction in local population size attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of:
 - Species qualifying as rare and endangered under CEQA,
 - Species that are state-listed or federally listed as threatened or endangered, or
 - Portions of local populations that are candidates for state or federal listing and federal or state species of concern.
- ▶ Substantial reduction in, or elimination of, species diversity or abundance;
- ▶ Substantial degradation of a sensitive plant community due to alteration of land form or site conditions (e.g., alteration of wetland hydrology);
- ▶ Substantial loss of a plant community and associated wildlife habitat;
- ▶ Substantial disruption of natural wildlife movement corridors; or
- ▶ Project activities that would conflict with any local policies or ordinances protecting biological resources or conflict with the provisions of an adopted Habitat Conservation Plan or NCCP.

4.4.4 IMPACT ASSESSMENT

Biological resources could be directly and indirectly affected by construction activities during conduit and cable installation, by construction of the OP-AMP stations, and by ongoing operational and maintenance activities along the fiber optic routes. Construction-related impacts could result in temporary, short-term, or long-term disturbance of biological resources in the project study area from ground-disturbing activities such as:

- ▶ plowing or trenching during conduit and cable installation;
- ▶ temporary stockpiling of soil or construction materials and sidecasting of soil and other construction wastes;
- ▶ excavation for bore pits and assist points;
- ▶ soil compaction, dust, and water runoff; and
- ▶ noise disturbance to wildlife species from construction activities.

In assessing the magnitude of possible impacts, the following assumptions were made regarding construction-related impacts on biological resources:

- ▶ Plowing and trenching activities along the project route will be limited to a 25-foot-wide construction right-of-way that will mostly occur within the asphalt, gravel, or dirt shoulder of paved county, city and state roads.
- ▶ The actual extent of disturbance within the rights-of-way will likely be substantially less than the maximum widths of the construction rights-of-way.
- ▶ The rights-of-way will be accessible only from existing access roads. No new access roads will be constructed for the cable routes.
- ▶ All material stockpiling areas and staging areas will be located either within the 25-foot-wide right-of-way, on non-sensitive areas, or at designated disturbed sites outside the right-of-way.
- ▶ The two proposed OP-AMP stations are located on disturbed sites that do not support sensitive biological resources. As discussed in Chapter 2, “[Project Description](#),” if any alternative station locations are required, biologists will conduct surveys to determine the presence of sensitive biological resources and an environmental clearance compliance checklist (see [Appendix G](#)) will be submitted to the CPUC for review and approval. All OP-AMP stations are subject to the mitigation measures described in this chapter, including biological monitoring.
- ▶ Disturbance or removal of portions of common and widespread habitat types, such as annual grassland, during conduit and cable installation activities will not lead to substantial local decreases in those habitat types.

- ▶ Disturbance or removal of portions of uncommon and biologically unique habitats, such as vernal pools, meadows, riparian woodland, and emergent wetland, during conduit and cable installation activities could lead to a localized decrease in these habitat types and could result in the direct loss of special-status species or their habitats. However, direct effects on sensitive habitats will be avoided or minimized as part of the project through the following procedures:
 - having a biological monitor present during construction within natural areas;
 - conducting a biological resource education program for construction crews;
 - limiting activities to within the 25-foot-wide construction right-of-way to avoid impacts on sensitive resources;
 - establishing exclusion zones of at least 25 feet around special-status plant species and riparian and wetland habitats; and
 - boring conduit and cable as required beneath sensitive streams, vernal pools, and other sensitive resource sites (e.g., perennial streams, special-status plant populations, and special-status wildlife habitat) or attaching the fiber optic cable to bridges to avoid sensitive streams, where available and permitted.

4.4.5 GENERAL PROJECT ENVIRONMENTAL COMMITMENTS (ALL ROUTES)

The following general project environmental commitments shall be implemented as part of Broadwing’s commitment to avoid and minimize impacts on biological resources to less-than-significant levels. Further detailed mitigation and monitoring requirements can be found in the draft MMP (see [Appendix D](#)).

[Chapter 2, “Project Description,”](#) and the draft MMP ([Appendix D](#)) describe Broadwing’s construction management structure. The MMP includes an organizational flow chart depicting the process by which Broadwing, construction contractors, environmental monitors, and the CPUC will interact in the event of contractor noncompliance with the environmental commitments made by Broadwing.

Mitigation Measure GEN-BIO-1: Retain Qualified Biologists and Resource Specialists to Monitor Construction Activities near Specified Sensitive Resources. Broadwing shall retain qualified biologists and other qualified resource specialists to monitor construction activities where sensitive resources have been identified. Biological monitors shall locate and stake previously identified sensitive resources before construction activities begin in specified segments, and all sensitive biological resources shall be identified on the construction drawings. Monitors shall patrol work areas to ensure that barrier fencing, stakes, and required setback buffers and exclusion zones are maintained.

As addressed in the draft MMP (see [Appendix D](#)), field monitors shall be responsible for completing variance forms and obtaining clearance from the resource agencies for deviations from the required mitigation measures (e.g., decreases in the exclusion zones).

Mitigation Measure GEN-BIO-2: Conduct a Biological Resource Environmental Education Program for Construction Crews. Broadwing shall conduct a biological resource education program for construction crews (primarily crew and construction foremen) before construction activities begin (see [“Environmental Training and Awareness” in Chapter 2, “Project Description”](#)). The education program shall include a review of the special-status species and other sensitive resources that could be present in the project route study area (including their life histories and habitat requirements), what portions of the proposed project route they may be found in, and their legal status under the federal and California ESAs. The education program shall also include materials describing resource avoidance measures, permit conditions, and possible fines for violations of state or federal environmental laws. The program shall cover the pertinent mitigation measures, environmental permits, and project plans (e.g., SWPPP, MMP, fire prevention plan). The program shall include interpretation of the construction drawings that contain

sensitive resource locations, setbacks, and exclusion zones. Construction personnel shall be made aware that the construction foremen are responsible for crews adhering to the written guidelines and restrictions provided to them at the education program. Multiple education programs shall be conducted to inform the appropriate new personnel brought onto the job during the construction period.

Mitigation Measure GEN-BIO-3: Confine Construction Equipment and Activities to the Project Route Disturbance Zone. Construction equipment shall be confined to a 25-foot-wide disturbance zone within existing road, railroad, and utility rights-of-way. In some areas, the disturbance zone may be reduced to further ensure that construction activities will remain outside established exclusion zones. This measure will not apply to resources that are being completely avoided by directionally boring.

As established in the Draft MMP (see [Appendix D](#)), environmental monitors shall ensure that construction activities occur within the 25-foot-wide disturbance zone and that construction equipment and activities do not occur within established exclusion zones associated with sensitive resources. Broadwing has had extensive experience installing fiber optic conduit within existing rights-of-way adjacent to sensitive resources and understands the need for keeping construction activities within the 25-foot-wide disturbance zone.

Mitigation Measure GEN-BIO-4: Conduct a Biological Clearance Survey of Staging Areas before Construction and Avoid Sensitive Resources. Before staging areas are selected, a qualified botanist and wildlife biologist shall survey any potential staging area locations. The field inspection of the staging areas shall be conducted before construction, and an environmental clearance compliance checklist (see [Appendix G](#)) shall be completed for review and approval by the CPUC. If sensitive biological resources are identified at selected staging areas, through consultation with CDFG or the appropriate agency, the area shall be avoided and another location selected for the staging area. Proposed sites for staging areas shall be selected and selected sites shall be constructed following identified procedures.

Mitigation Measure GEN-BIO-5: Fill or Cover Open Trenches Daily. Open trenches shall be filled with earth material imported from an existing borrow site or covered with plywood or other material at the end of each workday to prevent entrapment of wildlife. Both ends of any open trench shall be sloped to form escape ramps before the trench is covered. Trenches that have remained open for more than one hour without construction activity, and which are of sufficient size and configuration to entrap wildlife, will be inspected by a qualified biologist, environmental inspector, or environmental resource coordinator, prior to filling or covering. Wildlife found in a trench shall be removed by a qualified permitted biological monitor before work resumes in that trench segment. Broadwing shall specify this requirement in the agreements with all construction contractors.

NORTHERN CALIFORNIA INTERCONNECTION PROJECTS

As stated previously, the Northern California Interconnection Project routes originate and terminate completely within urbanized areas in Sacramento, Stockton, Modesto, Hayward, Pleasanton, San Francisco, and Santa Clara.

As indicated in [Appendix I](#), sensitive species identified by the CNDDDB include four invertebrate, one reptile, six bird, two mammal, and eight plant species for the general area of the proposed routes. Despite identification of these species in the CNDDDB, most are not expected to occur along the proposed routes due to a lack of suitable habitat. However, nesting raptors and the valley elderberry longhorn beetle (VELB) could be affected by project activities. In addition, heritage trees may be affected or removed as a result of project construction activities.

Although the Northern California Interconnection Projects are proposed in urban settings, raptors, heritage trees, and the VELB can occur near the proposed routes. Vacant lots, shoulders of road rights-of-way, and other fragmented open spaces can accommodate elderberry bushes, heritage trees, or large trees in which raptors often nest.

The VELB could be affected by the trimming or removal of this species' host plant, the blue elderberry (*Sambucus mexicana*). Any impact on blue elderberry shrubs with lateral branches 1 inch or more in diameter is considered a significant impact on this species and would result in the need for formal consultation with the USWFS to determine whether incidental take authorization and mitigation are required.

Heritage trees or other large native trees could be directly affected by construction activities. Pruning or actual tree removal may be necessary to install the cable within the rights-of-way. Reduced vigor or tree mortality could result from damage to root systems due to tree density and proximity to the roadway in some areas. Construction activities could also reduce habitat suitability for nesting raptors and cause nest abandonment or increased exposure of nestlings to predators.

Would the project:

- a. *Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. As previously stated, nesting raptors and the VELB could be affected by project activities. The following mitigation measures would reduce these potential impacts to less-than-significant levels.

Mitigation Measure B-1: Avoid Occupied Raptor Habitat during the Nesting Season and Implement Protection Measures, if Necessary. Before project construction, and if construction will proceed during the period from ~~March 1~~February 1 to ~~August 31~~July 31, a raptor nest survey shall be conducted by a qualified biologist to determine the presence of nesting raptors. The survey shall be conducted during periods when nests are most likely to be detected based on local conditions (usually from ~~March~~February 1 through April 30). If nests are detected, a qualified biologist shall establish an exclusion zone around each nest site at least 500 feet and up to 0.5 mile from the nearest disturbance point. The biologist shall consider local factors including species of raptor, line of sight, and ambient noise in establishing the exclusion zone. If establishing an exclusion zone is not possible and an active nest is present, Broadwing shall defer construction of the segment until a qualified biologist has determined that fledging of young has occurred and the possibility of impact has been avoided.

Mitigation Measure B-2: Avoid Occupied Burrowing Owl Habitat during the Nesting Season and Implement Protection Measures, if Necessary. Before project construction, a qualified biologist shall conduct a burrowing owl nest survey to determine the presence of potential burrowing owl nest burrows. The survey shall be conducted in potential burrowing owl habitat in and adjacent to the proposed project rights-of-way in accordance with CDFG guidelines (CDFG, 1995). Surveys shall be conducted during both the nesting and wintering seasons unless the species is detected during the first survey. The winter survey shall be conducted between December 1 and January 31, and the nesting season survey shall be conducted between April 15 and July 15. If a potential nest burrow is detected, Broadwing shall contact the CDFG to determine suitable avoidance and mitigation measures. At a minimum, these will include compliance with the Department's Guidelines for Mitigating Impacts to Burrowing Owl under CEQA or

the most current burrowing owl avoidance and mitigation standards. Broadwing shall ensure that the CPUC is informed of all agency coordination and consultation.

Mitigation Measure B-3: Avoid Occupied Swainson's Hawk Habitat during the Nesting Season and Implement Protection Measures, if Necessary. If construction will occur during the Swainson's hawk nesting season (approximately ~~April~~February 1 to ~~August 30~~July 31), before construction of the Sacramento, Modesto, and Stockton End Loop and Sacramento End Link Projects, Broadwing shall determine the need for protocol-level surveys for Swainson's hawk nest sites by accessing the CNDDDB and consulting with the CDFG. If nest sites are located within the rights-of-way or, if in the judgment of the qualified biologist, a nest is near the construction area and could be disturbed by construction activities, Broadwing shall completely avoid construction in the area during the nesting period. If no nest sites are present, no further Swainson's hawk mitigation is required.

Mitigation Measure B-4: Avoid Valley Elderberry Longhorn Beetle Habitat and Implement Protection Measures, if Necessary. Before construction of the Sacramento, Modesto, and Stockton End Loop and Sacramento End Link Projects, Broadwing shall retain a qualified biologist to survey the proposed route for elderberry bushes. All elderberry bushes along the proposed route shall be flagged with a 100-foot exclusion zone as provided in the USFWS Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS, 1999a) to prevent construction activities from affecting the host plants. If construction activities cannot be excluded sufficiently to avoid impacts on suitable elderberry bushes, Broadwing shall consult with the USFWS to determine the possibility of encroaching within the 100-foot buffer without affecting any of the plants. This could be accomplished by ensuring that construction activities do not occur within 20 feet of the drip line of each bush (Harry Mossman, USFWS, pers. comm.) or by directionally boring under the bush at sufficient depth to avoid impacts on the root zone. Should this be infeasible, Broadwing shall enter formal consultation with the USFWS to determine whether incidental take authorization and implementation of additional avoidance and mitigation measures are required.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the County or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

NO IMPACT. The proposed routes for the Northern California Interconnection Projects occur almost completely within existing road rights-of-way in highly urbanized areas. The proposed project routes do not cross any creeks, streams, or drainages and do not affect sensitive vegetative communities.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the clean Water Act (including, but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

NO IMPACT. The proposed routes for the Northern California Interconnection Projects occur almost completely within existing road rights-of-way in highly urbanized areas. The proposed project routes do not cross any creeks, streams, or drainages and do not affect wetlands, vernal pools, or riparian habitat.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

NO IMPACT. Construction of the proposed Northern California Interconnection Projects will be temporary and will take place within existing rights-of-way for most of the route. Therefore, the project will pose no barrier to migration or dispersal.

e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

LESS-THAN-SIGNIFICANT IMPACT. The proposed routes for the Northern California Interconnection Projects occur almost completely within existing road rights-of-way in highly urbanized areas. If heritage trees or trees protected by local ordinances will be affected, Broadwing shall either avoid impacts on these trees, as required by ordinance, or work with the local jurisdiction to minimize impacts. Broadwing shall keep the CPUC informed of agency coordination.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?

NO IMPACT. The proposed routes for the Northern California Interconnection Projects were evaluated to determine inclusion in any Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other existing conservation plan. Because the routes are not located in areas covered by these types of plans, no conflicts with these plans are anticipated.

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

As stated previously, the Los Angeles to Ontario Longhaul Route originates in the City of Los Angeles and passes through predominantly urban areas, skirting the northern edge of the Puente Hills and crossing several seasonal drainages. As indicated in [Appendix I](#), sensitive species identified by the CNDDDB and USFWS include four invertebrate, seven fish, three amphibian, five reptile, 23 bird, and 53 plant species for the counties transected by the proposed route. The possibility of these species or other plant and animal species being affected by the proposed project is very limited. This is largely due to the heavily disturbed and sterile nature of the transportation corridors where the proposed project would be located, as well as to the lack of suitable habitat for most of the species.

Portions of the proposed project pass through the Western San Bernardino County Natural Community Conservation Plan region. As part of this conservation area, local communities within San Bernardino County, under the County's lead, are developing the San Bernardino Valley-wide Multi-species Habitat Conservation Plan. This habitat conservation plan would protect various sensitive habitat types and sensitive species within the San Bernardino County region, including Riversidean sage scrub, San Bernardino kangaroo rat, Delhi sands flower-loving fly, Santa Ana River woolly-star, and slender horned spineflower.

Would the project:

a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. The entire route for the Los Angeles to Ontario Longhaul Route is within existing railroad or public road rights-of-way, which are devoid of vegetation along most of the route. In addition, ongoing disturbance from right-of-way maintenance and regular human activities along the rights-of-way minimize the possibility of

sensitive species being present. The only special-status species with potential to occur along the project route and/or with potential to be affected by project activities is the Delhi sands flower-loving fly.

Areas adjacent to the proposed project route in San Bernardino and Riverside Counties are known to contain occupied habitat for the Delhi sands flower-loving fly, federally listed as endangered. The fly has a single annual flight period in August and September, during which eggs are laid in the sand. Impacts could occur if construction activities take place during the flight season or where eggs have been laid. This impact is considered significant but would be reduced to a less-than-significant level by incorporation of the following mitigation measure as part of the construction mitigation strategy for the project.

Mitigation Measure B-5: Avoid Delhi Sands Flower-Loving Fly Habitat and Implement Protection Measures, if Necessary. Portions of the proposed project route for the Los Angeles to Ontario Longhaul Route are adjacent to areas where the Delhi sands flower-loving fly is known to occur. Qualified biologists shall accompany experts from the USFWS to determine specific locations where Delhi sands are present adjacent to the project route. Exclusion zones around those plots shown to contain Delhi sands shall be delineated in the field and marked with stakes and flagging. No construction activity shall occur within exclusion zones. If necessary, directional drilling shall be used to avoid these areas. Broadwing shall remove flagging within 60 days after construction. Construction shall not occur during the flight season of this species (August to September) in areas determined by the USFWS to contain Delhi sands.

b. *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the County or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

NO IMPACT. The entire Los Angeles to Ontario Longhaul Route is within existing railroad or public road rights-of-way, which are devoid of vegetation along most of the route. In addition, ongoing disturbance along the rights-of-way further reduces habitat values. Sensitive natural communities are associated with some perennial streams and drainages crossed by the route. Broadwing has committed to avoiding impacts on these resources by boring under associated waterways and implementing spill prevention and countermeasures included in the SWPPP. Therefore, the proposed project will result in no impact.

c. *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the clean Water Act (including, but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

NO IMPACT. The entire Los Angeles to Ontario Longhaul Route is within existing railroad or public road rights-of-way, which are devoid of vegetation along most of the route. In addition, ongoing disturbance along the rights-of-way further reduces habitat values. Sensitive natural communities are associated with some perennial streams and drainages crossed by the route. Broadwing has committed to avoiding impacts on these resources by implementing 25-foot exclusion zones around wetlands, boring under associated waterways, and implementing spill prevention and countermeasures included in the SWPPP. Therefore, the proposed project will result in no impact.

d. *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

NO IMPACT. The entire Los Angeles to Ontario Longhaul Route is within existing railroad or public road rights-of-way, which are devoid of vegetation along most of the route. In addition, ongoing

disturbance along the rights-of-way precludes meaningful use by terrestrial migratory wildlife. The temporary nature of the proposed disturbance eliminates the possibility of the project creating a dispersal barrier. Therefore, the proposed project will result in no impact.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

NO IMPACT. The entire Los Angeles to Ontario Longhaul Route is within existing railroad or public road rights-of-way, which are devoid of vegetation along most of the route. No tree removal or trimming shall occur as part of the proposed project. Therefore, the project will result in no impact.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?

NO IMPACT. As described above, the proposed fiber optic project is located in an area formally designated as the Western San Bernardino County Natural Community Conservation Plan region, for which the San Bernardino Valley-wide Multi-species Habitat Conservation Plan is being developed. The fiber optic facilities shall be installed entirely within railroad and road rights-of-way. Because the conduit and cable will be installed in the rights-of-way and in developed urban areas, the project will not affect any habitat conservation plan or natural community conservation plan. If it is determined that discretionary permits are required from state and federal agencies in accordance with the hHabitat conservation plan, Broadwing shall obtain all necessary permits, thereby ensuring compliance with the plan.

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

As stated previously, the Ontario to San Diego Longhaul Route originates in Ontario, passes south through several cities and communities, and terminates in San Diego. The project also includes development of two OP-AMP stations, one near Lake Elsinore in the community of Wildomar and the other just south of the Riverside/San Diego county line in the community of Rainbow.

As indicated in [Appendix I](#), sensitive species identified by the CNDDDB and USFWS include six invertebrate, seven fish, five amphibian, seven reptile, 24 bird, seven mammal, and 76 plant species for the counties transected by the proposed route. The relatively large number of sensitive species reflects the occurrence of several types of natural communities, especially Diegan coastal sage scrub, along the proposed route.

In some areas along the proposed project route, heritage trees or other large native trees are present and could be directly affected by construction activities. Pruning or actual tree removal may be necessary to install the cable within the rights-of-way, especially in Rice and Couser Canyons. Western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, and various raptor species (see [Appendix I](#)) nest near the roadway.

Riparian areas and wetland areas are adjacent to some portions of the proposed route rights-of-way. Exclusion zones and buffer setbacks of 25 feet shall be maintained around all riparian areas. Qualified biological monitors shall be retained on site during construction at all riparian areas to ensure that construction activities do not impinge on the 25-foot buffer zone. In many cases, a buffer zone greater than 25 feet shall be utilized for directionally boring under sensitive streams due to the operational requirements of the directional bore drilling equipment (see Chapter 2, "[Project Description](#)," for further information). Riparian areas that are adjacent to the proposed route and run parallel to it in some instances may be located within 25 feet of the edge of the pavement. Construction activities in these areas shall be

limited to the paved road areas, and biological monitors shall place flagging around the riparian vegetation to ensure that no riparian habitat is disturbed by construction activities. The Wetland Delineation Report (see [Appendix J](#)) identifies areas where road rights-of-way are adjacent to wetlands and the edge of pavement is within 25 feet of the wetlands.

In Diegan coastal sage scrub associations, sensitive bird species may be present during the nesting season. Disturbance of species such as the California gnatcatcher often result in nest abandonment and loss of annual productivity. The southern California rufous-crowned sparrow and coastal cactus wren are species of special concern that may also nest near the roadway; these species occur in moderate numbers in the project area and are not listed.

Burrowing owls may be present in areas where the proposed project route runs adjacent to grasslands and other open areas. Burrowing owls use ground squirrel holes in these areas.

Portions of the proposed project route pass through areas in San Diego and Riverside Counties designated by the USFWS Quino Checkerspot Butterfly Survey Protocol as survey areas for the Quino checkerspot butterfly (USFWS, 2000b). Surveys for the larval host plant, *Plantago erecta*, did not identify Quino checkerspot butterfly habitat along or adjacent to the proposed route. A secondary host plant, *Cordylanthus rigidus*, was located adjacent to the proposed route in low densities. Long-distance migration in this species is rare (USFWS, 1997b, 2001a).

Areas adjacent to the proposed project route in San Bernardino and Riverside Counties are known to contain occupied habitat for the Delhi sands flower-loving fly, federally listed as endangered. The species has a single annual flight period in August and September during which eggs are laid in the sand.

Special-status fish species (see [Appendix I](#)) also have the potential to occur on the project route. However, the project is designed to avoid substantial effects on aquatic species through: (1) the use of noninvasive construction methods (directional boring) at streams supporting sensitive resources to avoid direct effects on in-channel habitat, (2) the use of BMPs to minimize the potential for transport of sediment to streams, and (3) the use of measures to return the crossing sites to pre-construction conditions.

The arroyo toad (federally listed as endangered) and other sensitive reptiles and amphibians associated with riparian areas (see [Appendix I](#)) may occur along the proposed project route within and adjacent to river bottoms and sandy washes (arroyos). Broadwing is proposing to directionally bore (rather than trench) across all rivers and streams supporting sensitive resources.

Many special-status plant species (see [Appendix I](#)) have the potential to occur in habitat types adjacent to the proposed project route. Two botanical surveys revealed no special-status plants along the route, but pre-construction surveys could reveal the presence of additional special-status plant populations.

Some areas in the construction right-of-way provide marginal habitat for Stephens kangaroo rat (federally listed as endangered, state listed as threatened). Although these areas are typically comprised of ruderal vegetation and are regularly maintained (e.g., road shoulders) there is a slight potential for Stephens kangaroo rat to occur and be adversely affected by construction activities.

Background noise levels along the project route vary widely depending on the degree of development and general human activity in the area. For example, freeway rights-of-way will typically have greater background noise levels than suburban roads. Typical sources of noise include transportation (e.g., traffic, aircraft, train), mechanical equipment (e.g., air conditioners, manufacturing equipment), and natural sources (e.g., wind, birds, frogs). Background noise levels typically range from 45 to 55 dBA in suburban

areas and 55 to 65 dBA in urban areas. Current USFWS noise threshold levels for protection of nesting bird species is 60 dBA or ambient conditions (Patrice Ashfield, pers. comm.). Noise levels along the proposed project route vary depending on the time of day and road right-of-way. Noise spikes reaching levels of 80 to 90 dBA are common in many areas of the proposed route (e.g., caused by ambulance sirens and heavy trucks). Activities relating to construction generate average noise levels of 85 dBA 50 feet from the source.

Portions of the project route pass through the area covered by the City and County of San Diego Multiple Species Conservation Plan (SDMSCP), a complex of preserve, conservation, and authorized “take” areas identified as part of an incidental take permitting process for federally listed and state-listed species. The San Diego County subarea plan, which excludes the city of San Diego, comprises the Lake Hodges, Metro-Lakeside-Jamul, and South County segments. The proposed project route transects the Lake Hodges segment and traverses a mosaic of “take-authorized” and “no-take” units. Under the current route plan, construction will occur within existing rights-of-way throughout lands subject to the San Diego County subarea MSCP.

The proposed route transects areas within the City of San Diego subarea plan identified as Multi-Habitat Planning Areas (MHPA), which are designed to be core biological resource conservation areas. The largest blocks of MHPA land transected by the proposed route are the lower Lake Hodges area and the City of San Diego Northern Area. In both cases, the transected MHPA lands are riparian zones planned for boring.

The proposed route transects the Marine Corps Air Station (MCAS) Miramar along existing, city-maintained, paved road rights-of-way. MCAS Miramar has in place an Integrated Natural Resources Management Plan (INRMP) designed to allow the air station to manage and conserve its sensitive species. The plan focuses on the California gnatcatcher and sensitive vernal pools adjacent to the proposed route.

In addition to the San Diego area conservation planning efforts, Riverside County is developing the Habitat Conservation Plan for the Stephens’ Kangaroo Rat in Western Riverside County, and San Bernardino County is developing the San Bernardino Valley-Wide Multi-Species Habitat Conservation Plan. The western Riverside County HCP focuses on the Stephens’ kangaroo rat. The San Bernardino valley-wide effort involves a land base east of the proposed project.

Would the project:

- a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. Along the Ontario to San Diego Longhaul Route, riparian zones with sufficient forest structure provide nesting habitat for raptors, least Bell’s vireo, southwestern willow flycatcher, and other sensitive species (see [Appendix I](#)). Construction activities could result in a reduction of habitat suitability for nesting riparian birds and result in nest abandonment or increased exposure of nestlings to predators.

In Diegan coastal sage scrub associations, sensitive bird species could be affected by construction activities in adjacent roads during the nesting season. Construction activities near California gnatcatcher that nest near the roadway could result in nest abandonment and loss of annual productivity. Although areas supporting Diegan coastal sage scrub along the route are frequented roadways, the additional noise and activity associated with boring or trenching could, in combination with existing traffic and human

activity, reduce the suitability of the surrounding habitat. The southern California rufous-crowned sparrow and coastal cactus wren are species of special concern that may also nest near the roadway; however, impacts on these species would not be significant because they occur in moderate numbers in the project area and are not listed species.

In areas where the proposed project route runs adjacent to grasslands and other open areas, impacts on burrowing owls may occur. Because the project will be constructed entirely within existing rights-of-way and burrowing owls use ground squirrel holes in these areas, impacts on owl burrows could occur. Indirect impacts due to construction noise could result in reduced habitat suitability and nest abandonment if construction occurs during the nesting season.

Portions of the proposed project route pass through Quino checkerspot butterfly survey areas (USFWS, 2000b). Surveys for the larval host plant, *Plantago erecta*, did not identify Quino checkerspot butterfly habitat along or adjacent to the proposed route. The butterfly prefers high densities of *Plantago erecta*, and therefore the potential for impacts is low. Even if construction occurs during the flight season of the butterfly, impacts are not expected because long-distance migration in this species is rare (USFWS, 1997b, 2001a).

Some areas adjacent to the proposed project route in San Bernardino and Riverside Counties are occupied habitat for the Delhi sands flower-loving fly. The species has a single annual flight period in August and September, during which eggs are laid in the sand. Impacts could occur if construction activities take place during the flight season or where eggs have been laid.

Special-status fish species (see [Appendix I](#)) have the potential to occur on the project route. However, the project is designed to avoid substantial effects on aquatic species through: (1) the use of noninvasive construction methods (directional boring) at streams supporting sensitive resources to avoid direct effects on in-channel habitat, (2) the use of BMPs to minimize the potential for transport of sediment to streams, and (3) the use of measures to return the crossing sites to pre-construction conditions. Potential impacts on sensitive fish species could occur in the event of a void or frac-out caused by directional boring.

The arroyo toad (federally listed as endangered) and other sensitive reptiles and amphibians associated with riparian areas (see [Appendix I](#)) may occur along the proposed project route within and adjacent to river bottoms and sandy washes (arroyos). Impacts on these species are not anticipated because Broadwing will directionally bore (rather than trench) across all rivers and streams supporting sensitive resources. Potential impacts on sensitive amphibian and reptile species that use these habitats could occur in the event of a void frac-out caused by directional boring.

Many special-status plant species (see [Appendix I](#)) have the potential to occur in habitat types adjacent to the proposed project route. Two botanical surveys revealed no special-status plants along the route, but pre-construction surveys could reveal the presence of additional special-status plant population. Due to the type of construction activities associated with the installation of fiber optic cable conduit (namely, trenching in existing road rights-of-way and directionally boring under sensitive resources), the proposed expansion project has a low potential for impacts on special-status plants.

Mitigation Measure B-1: Avoid Occupied Raptor Habitat during the Nesting Season and Implement Protection Measures, if Necessary. Refer to above discussion under criterion **a** above related to the Northern California Interconnection Projects.

Mitigation Measure B-2: Avoid Occupied Burrowing Owl Habitat during the Nesting Season, and Implement Protection Measures, if Necessary. Refer to above discussion under criterion **a** above related to the Northern California Interconnection Projects.

Mitigation Measure B-5: Avoid Delhi Sands Flower-Loving Fly Habitat and Implement Protection Measures, if Necessary. Refer to above discussion under criterion a above related to the Los Angeles to Ontario Longhaul Route.

Mitigation Measure B-6: Avoid Occupied Least Bell's Vireo Habitat during the Nesting Season, and Implement Protection Measures, if Necessary. If construction occurs during the nesting season, a qualified wildlife biologist shall conduct pre-construction surveys for nesting least Bell's vireos in suitable habitat within 400 meters of the project route. Eight surveys shall be conducted during the nesting period (between April 10 and July 31). Individual surveys shall be conducted at least 10 days apart. Survey methodology shall be consistent with that described in the USFWS survey protocol for the species (USFWS, 1999b). If least Bell's vireos are detected, construction activities shall be prohibited within 1,000 feet of the area between April 10 and ~~July 31~~September 15. Surveys shall be conducted before beginning construction in potential vireo habitat. Should construction occur adjacent to occupied vireo habitat, Broadwing shall seek technical assistance from USFWS to devise methods to reduce construction noise to 60 dBA or ambient levels (Patrice Ashfield, pers. comm.) such as straw bales and baffle boards around construction equipment. The USFWS may also consider alternative/additional mitigation approaches ~~Mitigation measures~~ such as *Arundo donax* removal ~~and~~ cowbird trapping ~~have also been used~~ to offset potential indirect impacts on least Bell's vireo. ~~resulting from~~ These activities have been used as mitigation during other fiber optic projects. If construction activities within suitable habitat for the least Bell's vireo will only occur during the non-breeding season, pre-construction surveys are not required.

Mitigation Measure B-7: Avoid Occupied Willow Flycatcher Habitat during the Nesting Season and Implement Protection Measures, if Necessary. Willow flycatchers are known to occur in habitat adjacent to the Santa Ana River, as well as other drainages are crossed by the proposed route. If construction occurs during the breeding season, a qualified biologist shall conduct five surveys as described in the USFWS survey protocol (2000 revision) for southwestern willow flycatchers (USFWS, 2000c). Surveys shall be conducted in three individual survey periods between May 15 and July 17. During each of the first two survey periods, one survey shall be conducted (May 15 to 31 and June 1 to 21); during the third period, three surveys shall be conducted, each 5 days apart (between June 22 and July 17). If flycatchers are detected, exclusion zones of 1,000 feet shall be established, within which no construction activity will be allowed between May 15 and August 31. Should construction occur adjacent to occupied flycatcher habitat, Broadwing shall seek technical assistance from USFWS to devise methods to reduce construction noise to 60 dBA or ambient levels (Patrice Ashfield, pers. comm.), such as straw bales and baffle boards around construction equipment. The USFWS may also consider alternative/additional mitigation approaches ~~Mitigation measures~~ such as *Arundo donax* removal ~~and~~ cowbird trapping ~~have also been used~~ to offset potential indirect impacts on willow flycatchers. ~~resulting from~~ These activities have been used as mitigation during other fiber optic projects. If construction activities within suitable habitat for the southwestern willow flycatcher will only occur during the non-breeding season, pre-construction surveys are not required.

Mitigation Measure B-8: Avoid Riparian Areas Occupied by Special-Status Riparian Bird Species during the Nesting Season and Implement Protection Measures, if Necessary. Other sensitive riparian species that could be affected by construction activities include western yellow-billed cuckoo, gila woodpecker, and yellow-breasted chat. If construction occurs during the breeding season (~~April~~March 1 through July 31), surveys for these species shall be conducted. If nests are detected, exclusion zones of 1,000 feet shall be established, within which no construction activity will take place. Should construction occur adjacent to occupied habitat, Broadwing shall seek technical assistance from USFWS to devise methods to reduce construction noise to 60 dBA or ambient levels (Patrice Ashfield, pers. comm.), such as straw bales and baffle boards around construction equipment. The USFWS may also consider

~~alternative/additional mitigation approaches~~ Mitigation measures such as *Arundo donax* removal ~~and~~ cowbird trapping ~~have also been used~~ to offset potential indirect impacts on riparian nesting species, ~~resulting from~~ These activities have been used as mitigation during other fiber optic projects. If construction is to occur outside of the breeding seasons of these species, surveys are not required.

Mitigation Measure B-9: Avoid Occupied California Gnatcatcher Habitat during the Nesting Season and Implement Protection Measures, if Necessary. The California gnatcatcher is a federally listed threatened species that could exist in the project study area and vicinity throughout the year. Potential construction impacts include temporary disturbance of birds from noise and human presence associated with construction activities resulting in temporary displacement and possibly nest abandonment during the nesting season. If construction occurs during the breeding season (February 1 to August 30), a qualified wildlife biologist shall conduct pre-construction surveys for California gnatcatchers in all suitable coastal sage scrub habitat and adjacent riparian, grassland, and chaparral stands in the affected proposed project study area before construction begins to determine occupancy; and no-disturbance buffer zones shall be established around each active site. Surveys shall be conducted in accordance with the Coastal California Gnatcatcher [*Polioptila californica californica*] Presence/Absence Survey Guidelines, February 28, 1997 (USFWS, 1997a). Nine surveys shall be conducted during the non-breeding season (between July 1 and March 14) and six surveys shall be conducted during the breeding season (between February 1 and August 30). Individual surveys shall be conducted at least 2 weeks apart during the non-breeding season and at least 1 week apart during the breeding season. If California gnatcatchers are detected, construction activities shall be prohibited within 1,000 feet of the area between February 1 and August 30. If construction is to occur outside the breeding season, surveys are not required. If occupancy of potential habitat is assumed and the following mitigation measures incorporated in accordance with technical assistance provided by the USFWS, surveys are not required (Patrice Ashfield, pers. comm.).

If nests are detected or occupancy assumed, a qualified wildlife biologist shall establish exclusion zones around potential California gnatcatcher habitat during the breeding season. Exclusion zones shall have a 30-foot radius and shall be marked “occupied” in the field with stakes and flagging. Construction-related activities shall be prohibited within these zones. Essential vehicle operation on existing roads and foot travel shall be permitted; all other construction activities, including vehicle operation, material and equipment storage, and other surface-disturbing activities, shall be prohibited within the exclusion zones. Broadwing shall remove stakes and flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

Should avoidance of gnatcatcher habitat during the breeding season be infeasible, Broadwing shall seek technical assistance from the USFWS to devise methods to reduce the indirect impacts associated with construction to less-than-significant levels. Such measures include, but are not limited to, the reduction of construction noise to 60 dBA or ambient levels, and possibly purchasing coastal sage scrub in mitigation banks within San Diego County (Patrice Ashfield, pers. comm.).

Mitigation Measure B-10: Avoid Quino Checkerspot Butterfly Habitat and Implement Protection Measures, if Necessary. Although no primary host plants were found adjacent to the project route, the proposed project route passes through areas designated by USFWS as Quino checkerspot butterfly survey areas. If construction occurs within the flight season of the butterfly in the survey areas (5 weeks between mid-January and late April, depending on the weather), surveys shall be performed in accordance with the USFWS survey protocol for this species (USFWS, 2000b). The surveys shall be conducted by a qualified biologist once per week during a 5-week survey season during appropriate weather conditions. If butterflies are present, construction shall not occur along that portion of the proposed project route during the flight season. If construction is to occur outside of the flight season, surveys are not required.

Mitigation Measure B-11: Avoid Arroyo Toad Habitat and Implement Protection Measures.

Portions of the route traverse drainages known to support the arroyo toad. Potential impacts include temporary increases in sedimentation and turbidity, short-term loss of habitat, accidental seeps of bentonite from boring activities, and accidental spills of hazardous materials. Trenching in rivers and streams that support this species could result in loss of individuals, disruption of dispersal and migration routes, loss of habitat, and/or reductions in habitat suitability. Project construction will not require any in-stream work or removal of riparian vegetation because Broadwing shall not plow or trench across streams known to support arroyo toads. At these streams, Broadwing shall install the cable by boring under the stream, attaching the cable to an existing bridge, or installing the cable under or over an existing culvert to avoid impacts. The potential for a loss of bentonite return due to voids or for accidental bentonite seeps and spills of hazardous materials shall be minimized through implementation of project-specific BMPs. These measures will minimize the potential for sediment generation in streams and avoid direct in-channel habitat effects on threatened and endangered fish and amphibian species.

In the event of a void or frac-out, impacts on arroyo toads and their habitat could occur. To minimize the impacts of a frac-out, boring crews shall be required to strictly monitor drilling pressures, retain containment equipment on site, monitor waters downstream of the crossing sites to quickly identify any seep, and immediately stop work and implement containment measures if seepage into a stream is detected. Crews shall adhere to agency reporting requirements contained in the SWPPP. Containment equipment should include staked and floating silt barriers to isolate frac-out locations from flowing water. In substrates where frac-outs are likely to occur, drilling operations shall be conducted in a manner that will reduce the risk of occurrence, such as using lower pressures and boring at greater depths.

In the event of a loss of bentonite returns due to voids, even if no release to surface water is detected, the CPUC monitor will be notified immediately and consultation will be required with the CDFG or other relevant permitting agency for that bore.

Because the arroyo toad is an amphibian species that uses upland areas, potential direct impacts could result from the presence in uplands of construction equipment staging areas. The potential for impacts is greatest at directional bore staging areas because toads have been known to inadvertently enter bore pits and other construction activity areas during the night when construction machinery is not operating. To minimize impacts, technical assistance from the USFWS was solicited; as a result, the following mitigation measures shall be implemented during construction near drainages known to contain suitable arroyo toad habitat (Patrice Ashfield, pers. comm.). Broadwing shall ensure that in any areas considered potential habitat for the arroyo toad, open bore pits are covered when drilling rigs are not in operation and exclusion barriers are set up around construction equipment to minimize the potential for direct impacts. In addition, qualified biologists shall evaluate the construction zones each morning to determine if toads have entered the area. If toads are discovered in construction areas, the USFWS shall be contacted and toads removed before restarting construction.

Mitigation Measure B-12: Avoid Special-Status Aquatic Species Habitat and Implement Protection Measures, If Necessary.

Several special-status aquatic species could occupy numerous drainages crossed by the proposed project route, such as the Santa Ana River. Special-status fish species that may be affected include the Santa Ana sucker, unarmored threespine stickleback, Mojave tui chub, bonytail chub, arroyo chub, and razorback sucker. Special-status amphibian species that could be present in the project area include the California red-legged frog, arroyo toad, and western spadefoot. Also, one special-status reptile species, the southwestern pond turtle, may be located in the project area. Potential impacts on these species include temporary increases in sedimentation and turbidity, short-term loss of habitat, accidental seeps of bentonite from boring activities, and accidental spills of hazardous materials. Trenching in rivers and streams that support these species could result in loss of individuals, disruption of dispersal and migration routes, loss of habitat, and/or reductions in habitat suitability. Project construction

will not require any in-stream work or removal of riparian vegetation because Broadwing shall not plow or trench across streams that are flowing at the time of construction or that support sensitive fish, amphibian, or reptile species at or downstream of the crossing location. At flowing streams, Broadwing shall install the cable by boring under the stream, attaching the cable to an existing bridge, or passing under or over an existing culvert to avoid impacts on sensitive aquatic species. The potential for a loss of bentonite return due to voids or for accidental bentonite seeps and spills of hazardous materials shall be minimized through implementation of project-specific BMPs. These measures shall minimize the potential for sediment generation in streams and avoid direct in-channel habitat effects on threatened and endangered fish and amphibian species.

In the event of a void or frac-out, impacts on special-status aquatic species could occur. To minimize the impacts of a frac-out, boring crews shall be required to strictly monitor drilling pressures, retain containment equipment on site, monitor waters downstream of the crossing sites to quickly identify any seep, and immediately stop work and implement containment measures if seepage into a stream is detected. Crews shall adhere to agency reporting requirements (i.e., notification of Corps or CDFG) contained in the SWPPP (see [Appendix E](#)). Containment equipment kept on site shall include stakes and floating silt barriers to isolate frac-out locations from flowing water. In substrates where frac-outs are likely to occur, drilling operations shall be conducted in a manner that will reduce the risk of occurrence, such as using lower pressures and greater boring depths.

In the event of a loss of bentonite returns due to voids, even if no release to surface water is detected, the CPUC monitor will be notified immediately and consultation will be required with the CDFG or other relevant permitting agency for that bore.

Directional boring beneath streambeds will require a streambed alteration agreement issued by the CDFG. The streambed alteration agreement and the SWPPP contain monitoring and reporting requirements that will assist in minimizing potential impacts on aquatic species to less-than-significant levels. Trenching through drainages would also require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (Corps). As stated in Chapter 2, "[Project Description](#)," Broadwing will acquire all necessary permits and adhere to all monitoring and reporting requirements during construction.

Mitigation Measure B-13: Avoid Impacts to Threatened, Endangered, Candidate, and Other Special-Status Plant Species by Establishing and Observing Exclusion Zones. [Appendix I](#) contains a list of 76 special-status plants that have the potential to occur along the proposed route. Qualified botanists have conducted a survey along the proposed project route for any special-status plants, including those associated with special-status animals such as the Quino checkerspot butterfly. No special-status plants were found; however, pre-construction surveys may reveal the presence of additional populations of special-status plants. Before construction, follow-up surveys shall be done to ensure that no special-status plants are present along the route. If a new population or individual special-status plant is found, exclusion zones shall be set up to avoid impacts. Exclusion zones shall have at least a 25-foot radius and shall be marked in the field with flags and stakes. All construction-related activities that involve ground disturbance shall be prohibited within the exclusion zones. The fiber optic conduit shall be installed by rerouting the cable around the exclusion zone or by directionally boring under the exclusion zone to a depth sufficient to avoid any impacts on root systems. Broadwing shall remove any flagging demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area. Because vernal pools will be avoided completely, special-status plants associated with vernal pools will also be avoided completely.

- b. *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the County or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. Large trees along some reaches of the project route could be affected by project activities. Impacts on woody riparian vegetation will be substantially avoided by boring underneath drainages that support this habitat type. This impact is considered less than significant because Broadwing has committed to the following mitigation measures.

Mitigation Measure B-14: Identify and Avoid Occurrences of Stephens Kangaroo Rat. Prior to construction, the project route will be surveyed to determine locations where potential habitat for Stephens kangaroo rat occurs within the construction right-of-way. Focused surveys for Stephens kangaroo rat will be conducted in these areas using established USFWS protocols. Although considered unlikely due to habitat conditions, if surveys indicate Stephens kangaroo rat are present, USFWS and DFG will be notified immediately. The extent of the kangaroo rat population will be determined and the area will be avoided. Avoidance measures could include narrowing the construction disturbance area, moving the fiber optic installation activities to the opposite side of the road, installing the cable in the pavement, or directionally boring around or under the area. The most appropriate avoidance measure will be selected based on site-specific conditions. If Broadwing does not wish to conduct protocol level surveys, areas of potential habitat can be considered occupied and appropriate avoidance measures would be implemented.

Mitigation Measure B-1415: Avoid and/or Minimize Disturbance of Woody Riparian Vegetation along Drainages. Impacts on woody riparian vegetation will be substantially avoided by boring underneath drainages that support this habitat type. A minimum 25-foot-wide setback shall be established and staked by a resource specialist before construction activities begin. This buffer shall extend between the edge of the woody riparian vegetation and construction equipment. Woody riparian vegetation close to the project routes that could be indirectly or inadvertently affected by installation activities shall be protected by installation of temporary fencing or staking and flagging of a minimum 25-foot-wide setback. Depending on site-specific conditions, this buffer may be narrower or wider than 25 feet, as determined by the field resource specialist. This could be required when riparian habitat runs parallel to the proposed route less than 25 feet from the edge of the pavement. In these areas, construction activities shall be limited to the paved portion of the road. Identification and protection of woody riparian vegetation close to the work zone shall include either flagging or fencing, depending on site-specific conditions.

Before construction activities are initiated on a route, a qualified biologist shall identify the limits of the work zone. The environmental coordinator or contractor compliance inspector shall routinely inspect construction activities to ensure that protective measures are working and that they remain in place during cable and conduit installation. The environmental inspector also shall confirm that protective measures are in place before construction activities begin on the route. Protective fencing shall remain in place until all construction activities in the area are complete.

In areas where boring is determined to be infeasible, the project environmental coordinator shall coordinate with the appropriate resource agencies to obtain clearance for cutting of woody riparian vegetation, if needed. These areas shall be identified at least 1 week before vegetation removal. The appropriate land management and resource agencies shall be provided with a letter describing existing conditions on the site and photographs of the site. Broadwing shall coordinate with these agencies regarding the potential need for compensation measures and shall implement restoration or other activities as appropriate based on the quantity, quality, functions, and value of the habitat affected. Any needed

habitat restoration/enhancement/creation plans shall be prepared by qualified professionals with experience in the project area and shall be reviewed by the appropriate regulatory agencies. Verbal approval shall be obtained before removal of any woody riparian vegetation.

Shrub vegetation shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration of the species. Cutting shall be limited to the minimum area necessary within the 25-foot-wide cable right-of-way. This type of removal shall be allowed only for shrub species (all trees shall be avoided) and in areas that do not provide habitat for sensitive species (i.e., willow flycatcher). To protect migratory birds, no woody riparian vegetation removal shall be allowed beginning March 15 and ending September 15, as required under the Migratory Bird Treaty Act.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. Proposed project actions will result in a less-than-significant adverse effect on protected wetlands. Broadwing has committed to boring under all streams and drainages with sensitive resources (i.e., wetlands), which will minimize the possibility of direct impacts. Pre-project guidance received from the Corps states that the agency anticipates no impacts on wetlands if all water crossings and wetlands are directionally bored (see letter dated October 11, 2000, in [Appendix M](#)).

As discussed in Chapter 2, “[Project Description](#),” conduit may be installed by trenching across some dry drainages that do not support sensitive biological resources. This construction activity would alter the streambed and therefore would require compliance with Section 404 of the Clean Water Act and authorization from the Corps.

A draft SWPPP (see [Appendix E](#)) has been prepared that contains measures designed to minimize the possibility of impacts on drainages due to runoff from construction activities.

Mitigation Measure B-1516: Establish and Observe Exclusion Zones around Wetland Areas and Riparian Habitats That Support Special Status Species. Before construction, qualified biologists shall stake and flag exclusion zones around all wetland and riparian areas. Exclusion zones shall have a minimum 25-foot radius beyond the limits of riparian vegetation that support habitat for special-status species. Construction-related activities shall be prohibited within these zones. Essential vehicle operation on existing roads and foot travel shall be permitted; all other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities shall be prohibited within the exclusion zone. Construction activities within an exclusion zone shall be accomplished by boring under the zone.

Mitigation Measure B-1617: Minimize Effects on Federally Protected Wetlands as Defined by Section 404 of the Clean Water Act. If trenching across dry drainages is required because of engineering or other constraints, conduit may be installed by trenching across some drainages that do not support sensitive biological resources. This construction activity would require compliance with Section 404 of the Clean Water Act and authorization from the Corps (as well as a Streambed Alteration Agreement from DFG). Disturbed areas within drainages shall be limited to the minimum area necessary to successfully install the fiber optic conduit and cable. The following measures shall be implemented to minimize effects on and ensure restoration of drainageways and associated plant communities:

- ▶ Stabilize exposed slopes and streambanks immediately on completion of installation activities. Drainageways shall be restored in a manner that encourages vegetation to reestablish to its pre-project condition and reduces the effects of erosion on the drainage system.
- ▶ In highly erodible stream systems, stabilize banks using a non-vegetative material, such as a vegetable gum-based liquid that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, geotextile mats, excelsior blankets, or other soil stabilization products shall be used.
- ▶ Remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high-water mark of drainages during construction in a manner that minimizes disturbance of the drainage bed and bank.
- ▶ Implement additional measures (such as development and implementation of restoration plans or off-site mitigation) that may be required as part of the CDFG, Corps, and RWQCB permits that will be obtained for this project route.
- ▶ Implement construction BMPs and applicable measures from the SWPPP, including use of “double trenching” construction methods that remove, store, protect, and reapply the topsoil to facilitate re-vegetation and use of a biodegradable erosion control blanket or riprap to stabilize stream banks, if necessary. The site shall be restored on completion of construction as discussed in Chapter 2, “[Project Description](#).”

These measures shall be incorporated into contract specifications and implemented by the construction contractor. In addition, Broadwing shall incorporate all permit conditions into construction specifications. The contract compliance inspectors and biologists shall routinely inspect construction activities to verify that these protective measures and permit conditions are being implemented.

Portions of the proposed route in San Diego County pass through an area known to contain vernal pools. This area is in and around the Kearny Villa Road right-of-way adjacent to MCAS Miramar property. As such, it falls under the jurisdiction of the Integrated Natural Resources Management Plan in place on the Marine Corps Air Station. Upon consultation with the MCAS Office of Environmental Management, it was determined that the project would have no significant adverse impacts on the vernal pools provided that construction remained within the pavement in that portion of the proposed route.

Mitigation Measure B-4718: Establish and Observe Exclusion Zones around Vernal Pools. To ensure that vernal pools are not affected by construction activities, qualified biologists shall establish exclusion zones around the watershed of vernal pools within or near project work areas. Exclusion zones shall be marked in the field with staking and flagging or barrier fencing and shall extend 25 feet on each side of the ~~pool~~watershed boundary. Construction-related activities will be ~~prohibited~~ restricted to existing paved areas within the exclusion zones. Essential vehicle operation on existing dirt roads and foot travel on unpaved surfaces shall be permitted; all other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities shall be ~~prohibited~~ restricted to existing paved surfaces within the zones. ~~Construction activities within an exclusion zone shall be accomplished by rerouting around the exclusion zone or by~~ Directional boring from outside the zone may be permitted.

Broadwing shall remove all stakes, flagging, and barrier fencing demarcating exclusion zones within 60 days after construction and site restoration have been completed in the area.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

NO IMPACT. The proposed expansion project would result in temporary, minor disturbances, which would be contained within existing road rights-of-way over most of the proposed route. In addition, the

two proposed OP-AMP stations are relatively small in size (less than 3,000 square feet each) and are not located within established wildlife corridors or near wildlife nursery sites. Therefore, the proposed project would not impede wildlife migration or interfere with dispersal and is considered to have no impact.

e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. Large trees along some reaches of the project could be affected by project activities. If heritage trees or trees protected by local ordinances will be affected, Broadwing shall either avoid impacts on these trees, as required by ordinance, or work with the local jurisdiction to minimize impacts. Broadwing shall keep the CPUC informed of agency coordination. Impacts on woody riparian vegetation will be substantially avoided by boring underneath drainages that support this habitat type. This impact is considered less than significant because Broadwing has committed to the following mitigation measures.

Mitigation Measure B-4415: Avoid and/or Minimize Disturbance of Woody Riparian Vegetation along Drainages. Refer to above discussion under criterion **b** above.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?

NO IMPACT. Construction activities associated with the proposed project are temporary and are proposed within existing rights-of-way for most of the route. As described above, the proposed route was evaluated under the existing San Diego County and City MSCP, MCAS Miramar INRMP, Riverside County Habitat Agency, Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County, and San Bernardino Valley-Wide Multi-Species Habitat Conservation Plan, San Bernardino County. The proposed project would not conflict with the policies of these plans or the implementing ordinances developed by the City of San Diego.

4.4.6 CUMULATIVE IMPACTS

Cumulative impacts of the proposed project on vegetation and wildlife are considered less than significant for the following reasons:

- Most of the major habitat types that the proposed project will affect are abundant in the proposed project study area.
- The project routes are linear and narrow, the OP-AMP station sites are relatively small in size, and construction will disturb a small amount of habitat relative to the amount of these habitats available locally and project-wide.
- Construction activities related to conduit installation are temporary and vegetation is expected to recover quickly, particularly within disturbed rights-of-way such as roadsides, railroads, and maintained utility corridors.
- Although regenerator/OP-AMP facilities will result in a small amount of permanent habitat loss, these facilities are sited in areas that support only ruderal vegetation or a common vegetation type such as annual grassland.
- Most proposed project rights-of-way are already disturbed from original construction and ongoing maintenance activities associated with existing roads, railroads, or other utilities.

Mitigation measures have been designed and incorporated into the project design and construction approach to avoid or minimize effects on biological resources to less-than-significant levels. Additionally,

Broadwing has adopted all of the biological mitigation measures identified in this IS/MND as part of the proposed expansion project.

Much of the proposed project will be located primarily within already disturbed or developed rights-of-way. Impacts on listed species will be avoided through incorporation of the mitigation measures into the proposed project design specifications. Therefore, no cumulative impacts on listed species or their habitats are anticipated.

The cumulative impacts of the proposed project on fish and amphibians or their habitats are expected to be minimal. No direct habitat loss or impairment of passage or migration will occur because Broadwing shall use noninvasive drainage crossing methods for flowing sensitive streams (i.e., crossings will not require in-water work or structures). Broadwing shall implement measures to reduce the potential for impacts related to long-term chronic erosion, stabilize site conditions, and reduce accidental spills of materials to surface waters to less-than-significant levels (refer to Chapter 2, “[Project Description](#)”). Therefore, no cumulative impacts on fish or amphibian populations or their habitats are anticipated.

4.5 CULTURAL RESOURCES

4.5.1 PROJECT STUDY AREA

The project study area is defined as that portion of the project route where fiber optic cable and associated facilities will be installed using ground-disturbing techniques. The study area includes both sides of the road, railroad, or utility rights-of-way. The project also includes development of two OP-AMP stations, one near Lake Elsinore in the community of Wildomar and the other just south of the Riverside/San Diego County line in the community of Rainbow.

No new access roads will be required to install the fiber optic cable lines along the project routes. Construction equipment staging areas will be located within previously disturbed areas where there is no potential to adversely affect significant cultural resources.

4.5.2 INVENTORY METHODS

A cultural resource assessment consisting of an archaeological survey and record search has been completed for each project route. The cultural resource inventory reports provide information regarding the potential presence of cultural resources within and adjacent to the proposed project rights-of-way, including the proposed OP-AMP sites. The cultural resource inventories of the project study area consist of archival research; contacts with Native American representatives; and, when appropriate, a surface field survey of the proposed routes.

ARCHIVAL RECORDS RESEARCH

Information has been obtained from several sources concerning any previously recorded cultural resources and previously conducted cultural resource surveys within at least 0.25 mile of the project study areas. For some project routes, the record search covered 0.5 mile to better assess the archaeological resources of the study area. The primary sources for records include the information centers of the California Historical Resources Information System, which contain information on all previous surveys and previously recorded resources, as well as listings of properties on the California Register of Historical Resources, the National Register of Historical Places, California Inventory of Historic Resources, and California Historical Landmarks.

NATIVE AMERICAN CONTACTS

The Native American Heritage Commission (NAHC) was contacted regarding each proposed project route and asked to provide a list of Native American representatives and consult its Sacred Lands File for the project study area. Individuals or groups representing Native American interests in the area have been contacted for information regarding archaeological sites or sacred lands along the proposed routes. Letters have been sent to each of the representatives informing them of the project and requesting information and concerns pertaining to the project and the project study area. Contacts with appropriate Native American individuals and organizations are continuing. A list of Native American representative contacts is included in the cultural resources inventory reports that have been provided to the CPUC.

FIELD SURVEY

Where appropriate, the project study area was examined using a combination of cursory and intensive field survey techniques. Cursory techniques consisted of driving the project route and spot-checking sensitive areas. Sensitive areas were defined as those locations where cultural resources were known to exist and those areas that seemed particularly sensitive for cultural resources based on factors such as topography, proximity to natural resources, and presence of structures on historic maps. Intensive survey techniques consisted of qualified archaeologists performing a pedestrian survey employing transects spaced no more than 20 meters apart. Areas that were paved or landscaped, or that were not natural land surfaces, were not field surveyed. The survey was limited to an inventory of surface artifacts only. No subsurface probing was conducted, and no items were collected. The proposed locations for the two OP-AMP stations were examined using intensive field survey techniques.

Sites indicated by original site forms to be intersected by the proposed project routes were located, re-evaluated, and photographed. Also, the general locations of some sites adjacent to the right-of-way were photographed. Typical road cuts and various terrains along the survey route were photographed to show disturbance. Site forms will be updated for cultural resource sites found to be altered from the information indicated in the site forms. This information will be submitted to the appropriate information centers.

4.5.3 REGULATORY ENVIRONMENT APPLICABLE TO CULTURAL RESOURCES

Because implementation of the proposed expansion project may require approval from federal agencies, and because historic properties could be affected, the proposed expansion project must comply with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800). Section 106 requires federal agencies to take into account the effects of their actions on properties that may be eligible for listing or are listed on the National Register of Historic Places.

This action is also subject to the requirements of CEQA. As the designated state agency for approval of this action, the CPUC is responsible for compliance with CEQA requirements and for the identification and treatment of historic and prehistoric cultural resources (Public Resources Code Sections 21082, 21083.2, and 21084.1 and California Code of Regulations 15064.5).

CEQA requires public or private projects financed or approved by public agencies to assess the effects of the project on cultural resources. Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance.

CEQA states that if a project results in significant effects on important cultural resources, then alternative plans or mitigation measures must be considered; however, only important cultural resources need to be

addressed. Therefore, the importance of cultural resources must be determined before mitigation measures can be developed.

The CEQA Guidelines define a significant historical resource as “a resource listed or eligible for listing on the California Register of Historical Resources (CRHR)” (Public Resources Code Section 5024.1). A historical resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the CEQA Guidelines require consideration of unique archaeological sites [Section 15064.5(c)(3)]. If an archaeological site does not meet the CRHR criteria, but does meet the definition of a unique archaeological resource as outlined in the Public Resources Code (Section 21083.2), it may be treated as a significant historical resource.

If human remains are discovered on nonfederal lands during construction of the proposed project, it will be necessary to comply with state laws pertaining to human burials. The CEQA Guidelines (Public Resources Code Section 5097) specify the procedure to be followed in case of unexpected discovery of human remains on nonfederal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

No cultural resources were evaluated for significance in the course of this study. To meet the requirements and spirit of CEQA, Broadwing is treating all cultural resources as if they were eligible for listing in the CRHR and will avoid impacts on all cultural resource sites.

4.5.4 PALEONTOLOGICAL RESOURCES

Fossils are considered by the Society of Vertebrate Paleontology to be a non-renewable resource. One purpose of a paleontological investigation is to document the presence of fossils in the geologic record to provide a better understanding of the phylogenetic histories of species (in the area or in general) and provide keys to the history of evolution. In addition to revealing which species were present, the fossil record can give indications of previous climates and paleotemperatures, topography, geography, rainfall, and proximity to water bodies. The proposed project routes will generally cross Jurassic- to Recent-age geologic units and have a low to high sensitivity for paleontological resources (see [Table 4.5-1](#)). All identified paleontological resource sites located along the proposed project routes will be avoided.

APPROACH AND METHODOLOGY

A literature search was conducted to determine the paleontological sensitivities of geologic units and paleontological localities previously identified along the project route. The literature search consisted of a search and review of available published and unpublished literature, including locality information from the Museum of Paleontology at the University of California, Berkeley, Natural History Museum of Los Angeles County, San Bernardino County Museum, San Diego Natural History Museum, paleontological survey reports, and paleontological locality maps. Field reconnaissance was not performed.

RESULTS OF PALEONTOLOGICAL INVESTIGATION

Published and unpublished literature indicates that the project route and surrounding areas are underlain by bedrock formations that have a low to high paleontological sensitivity (see Table 4.5-1).

Paleontological sensitivities of geologic units are determined by the potential for the recovery of fossil resources. Determining factors include the known fossil resources in the geologic unit, sedimentary rock types present, and the environment of deposition of the geologic unit.

Regional geologic maps for California identified geologic units, surficial sedimentary rocks, and cool volcanic flows that would be present on the project route (California Division of Mines and Geology 1977, Jones & Stokes Associates 1990). Although the presence of these deposits does not necessarily indicate the presence of fossils, these formations have the highest probability of preserving plant, animal, and invertebrate remains. Table 4.5-1 summarizes the geologic units, age, and paleontological sensitivity of the proposed project routes. Fossilized micro- and macro-flora and fauna of marine and non-marine origin, including marine vertebrates, land mammals, and other vertebrates, have been recovered from formations exposed along some of the proposed project routes. The paleontological resources assessment reports prepared for the proposed routes are included as Appendix L of this IS/MND>

Table 4.5-1 Paleontological Sensitivity of Geologic Units Potentially Occurring in the Project Study Area		
Geologic Units	Age	Paleontological Sensitivity
<i>SAN FRANCISCO END LINK</i>		
Undivided surficial sediments	Quaternary	Low
Sand dune deposits	Quaternary	Low
Slope debris and ravine fill	Pleistocene to Recent	Low
Artificial fill	Recent	None
Metamorphic rock	Jurassic to Cretaceous	Low
Sedimentary rock	Jurassic to Cretaceous	Low
<i>SANTA CLARA DATA CENTER 2</i>		
Flood basin and alluvial fan deposits	Holocene or Recent	Low
<i>HAYWOOD TO PLEASANTON RE-ROUTE</i>		
Undivided alluvial deposits	Pleistocene	High
<i>SACRAMENTO END LINK</i>		
Alluvial deposits	Recent	Low
Victor Formation terrace deposits	Pleistocene	High
River terrace deposits	Quaternary	High
<i>SACRAMENTO END LOOP</i>		
American River deposits	Recent	Low
<i>MODESTO END LOOP</i>		
Alluvial fan deposits	Quaternary	Low
<i>STOCKTON END LOOP</i>		
Alluvial fan deposits	Quaternary	Low
<i>LA TO ONTARIO LONGHAUL ROUTE</i>		
Puente Formation	Late Miocene	High
Terrace deposits and older alluvium	Pleistocene	High
Older fan deposits	Pleistocene	Low
Fernando Formation	Pliocene	High
Fan deposits	Recent	None
Alluvium	Recent	None
<i>ONTARIO TO SAN DIEGO LONGHAUL ROUTE</i>		

**Table 4.5-1
Paleontological Sensitivity of Geologic Units
Potentially Occurring in the Project Study Area**

Geologic Units	Age	Paleontological Sensitivity
Fan deposits and wind-blown sand	Recent	None
Alluvium	Recent	None
Older alluvium	Late Pleistocene	High
Puente Formation	Middle Miocene	High
Silverado Formation	Paleocene	High
Pauba Formation	Pleistocene	High
Igneous rocks	N/A	None
Friars Formation	Middle Eocene	High
Lindavista Formation	Pleistocene	Low

REGULATIONS, APPROVALS, AND PERMITS APPLICABLE TO PALEONTOLOGICAL RESOURCES

The Antiquities Act of 1906 and the Federal Land Policy and Management Act of 1976 mandate the protection of significant paleontological resources on federally owned, managed, or controlled lands. Additionally, California Public Resources Code Section 5097.5 states that it is a misdemeanor for any person to knowingly and willingly excavate, remove, or destroy a vertebrate paleontological site, including fossilized footprints or any other paleontological feature, on public lands without the permission of the public agency having jurisdiction over the land.

4.5.5 PROJECT ROUTE ENVIRONMENTAL SETTINGS

SAN FRANCISCO END LINK PROJECT

The archival literature review revealed 18 significant prehistoric and/or historic-period cultural resources that have been recorded in close proximity to various portions of the proposed project routes. They are formally described as CA-SFR-34, CA-SFR-113, CA-SFR-114, CA-SFR-127H, CA-SFR-128H, CA-SFR-130H, CA-SFR-133H, CA-SFR-27H, CA-SFR-42H, CA-SFR-44H, CA-SFR-53H, CA-SFR-94H, CA-SFR-95H, CA-SFR-116H, CA-SFR-125H, CA-SMA-326H, C-800, and a Historic Building registered with the State of California, Resources Agency’s Office of Historic Preservation as serial number P-38-000133.

Sites CA-SFR-34, CA-SFR-113, and CA-SFR-114 consist of shell mounds, an important shell midden site, and a deeply buried prehistoric habitation/cemetery complex. Sites CA-SFR-113 and CA-SFR-114 are two of the most important prehistoric sites found within downtown San Francisco. Other sites near the project route consist of historic fill material dating from the Gold Rush period, remnants of Tichnenor’s Marine Railway, remnants of several historical structures, ship and maritime artifacts, remnants of a Chinese fishing village, dumpsites, and standing historical buildings. P-38-000133 is the former Saint Mary’s Hospital, which was destroyed in the 1906 earthquake and fire.

This proposed project route travels through a zone of potential prehistoric/protohistoric and historic-period archaeological sensitivity. Because construction is proposed entirely within paved rights-of-way, no field survey was conducted for this route. No historic bridges have been identified along the project route.

The proposed project route generally crosses Jurassic- to Recent-age geologic units and has a low to high sensitivity for paleontological resources where native soils are encountered (see [Table 4.5-1](#)).

SANTA CLARA DATA CENTER ROUTE 2

The archival literature review revealed 19 significant prehistoric and/or historic period cultural resources that have been recorded in close proximity to various portions of the proposed project route. They are formally described as CA-SCL-128H, CA-SCL-39H, CA-SCL-33H, CA-SCL-363H, CA-SCL-376H, CA-SCL-390H, CA-SCL-392H, CA-SCL-442H, CA-SCL-461H, CA-SCL-473H, CA-SCL-551H, CA-SCL-570H, CA-SCL-693H, the Washington Street-El Camino Site, four standing historic-period structures of demonstrated architectural merit that are registered with the State of California, and the Mojave Natural Gas Pipeline.

Site CA-SCL-128H is known informally as the Holiday Inn Site and is one of the most important archaeological sites ever investigated in the San Francisco Bay region. Cultural deposits at this site encompass a span of approximately 1,700 years and include extensive midden deposits and numerous human burials. The site is less than 0.5 mile from the project route. Other sites near the project route consist of extensive areas of historic-period archaeological deposits, buildings, other structures and their remnants, and a historic dumpsite. The Washington-El Camino Site contains deposits of historic and possibly prehistoric remains. The Mojave Natural Gas Pipeline runs along the Southern Pacific Railway.

This proposed project route exists within a zone of potential prehistoric/protohistoric and historic-period archaeological sensitivity. Because construction is proposed entirely within paved rights-of-way, no field survey was conducted for this route. No historic bridges have been identified along the project route. The project route generally crosses Holocene- to Recent-age geologic units and has a low sensitivity for paleontological resources where native soils are encountered (see [Table 4.5-1](#)).

HAYWARD TO PLEASANTON RE-ROUTE

The archival literature review revealed no recorded prehistoric or protohistoric archaeological sites within a 0.25-mile radius of the project study area. Because construction is proposed entirely within paved rights-of-way, no field survey was conducted for this route. No historic bridges have been identified along the project route.

The project route generally crosses Pleistocene-age geologic units and has a high sensitivity for paleontological resources where native soils are encountered (see [Table 4.5-1](#)).

SACRAMENTO END LINK PROJECT

The archival literature review revealed four significant prehistoric and/or historic-period cultural resources that have been recorded in close proximity to various portions of the project route. The prehistoric/protohistoric sites are formally described as CA-SAC-34 and CA-SAC-38. The historic-period cultural resources are described as CA-SAC-394/H and CA-SAC-428/H. The west end of the project is located in downtown Sacramento, which is very historically sensitive; the middle portion is adjacent to Sutter's Fort and other early historic features; and the eastern extension follows the route of the old Coloma Road and is close to the Sacramento Valley Railroad route.

CA-SAC-34 is located at Sutter's Fort and was recorded as a 6-foot by 100-yard mound of undisclosed content. CA-SAC-38, known as the Plaza Park site, consists of fire-cracked rock; flaking debris; groundstone fragments; fire-burnt clay; shell, bird, and mammal bone; charcoal; and one possible human bone. CA-SAC-394/H is characterized by numerous structural remnants and concentrated refuse deposits attributed to the following mid- to late 19th-century establishments: 1) the Golden Eagle Hotel; 2) Cronin's Oyster Saloon; 3) Hillebrand Boot Manufacturer; 4) Aiken & Luce Monumental Masons; and

5) Samuel Nixon, Blacksmith. CA-SAC-428/H includes several historic-period archaeological sites encountered along a portion of the Sacramento Valley Railroad route. In addition, a relatively large number of standing structures of documented architectural merit and historic significance have been identified and recorded within or closely adjacent to the project route.

This project route lies within a demonstrable zone of prehistoric/protohistoric and historic-period archaeological and cultural sensitivity. Because construction is proposed entirely within paved rights-of-way, no field survey was conducted for this route. No historic bridges have been identified along the project route.

The project route generally crosses Pleistocene- to Recent-age geologic units and has a low to high sensitivity for paleontological resources where native soils are encountered (see [Table 4.5-1](#)).

SACRAMENTO, MODESTO, AND STOCKTON END LOOP PROJECTS

The archival literature review revealed no recorded prehistoric or protohistoric archaeological sites within a 0.25-mile radius of the project study areas within Modesto and Stockton.

The archival literature review revealed one significant prehistoric-period cultural resource and one historic-period cultural resource that have been recorded within or in close proximity to the Sacramento End Loop project area. They are formally known as CA-SAC-38 and CA-SAC-394/H and are described above in relation to the Sacramento End Link Project. The project area is located in downtown Sacramento, which is very historically sensitive. A relatively large number of standing structures of documented architectural merit and historic significance have been identified and recorded within or closely adjacent to the proposed project area. The Sacramento End Loop Project area lies within a demonstrable zone of prehistoric/protohistoric and historic-period archaeological and cultural sensitivity.

Because construction is proposed entirely within paved rights-of-way, no field surveys were conducted for these routes. No historic bridges have been identified along these project routes.

The project routes generally cross Quaternary-age geologic units and have a low sensitivity for paleontological resources where native soils are encountered (see [Table 4.5-1](#)).

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

Initial pedestrian surveys were conducted on June 20, 2000, at the beginning of the proposed construction corridor in downtown Los Angeles. On June 25, 2000, investigators conducted a survey in a corridor approximately 5 to 15 feet wide along both sides of the railroad tracks while riding a high rail (a standard motor vehicle equipped to travel on railroad rails) from Ontario to the First Street Bridge over the Los Angeles River. Areas that were built, paved, or in the middle of the I-10 right-of-way were inspected for exposed ground. The eastern terminus of the project corridor along Milliken Avenue was field inspected by pedestrian survey on August 8, 2000. The pedestrian survey in this area was limited to a corridor approximately 5 to 15 feet wide from the western paved edge of Milliken Avenue. Areas with exposed ground were surveyed on foot for evidence of historic and prehistoric cultural resources. All visible ground surveyed within the project corridor was inspected for evidence of past cultural activity, such as flaked stone tools and debris; thermally altered rock; dark, midden-like soils; glass, ceramics, or metal; foundations; and systematic movement or shaping of the ground surface (e.g., ditches). Ground visibility in paved and built areas was nonexistent.

The field surveys of this route yielded no any surface evidence of historic or prehistoric sites. The archival literature review yielded no historic or prehistoric sites and no records of sacred lands along the

rights-of-way. However, the record search did indicate the presence of historic archaeological resources near the proposed project study area. Native American groups indicated that the area falls within traditional tribal boundaries. No historic bridges were identified along the project route.

The proposed project route generally crosses Late Miocene- to Recent-age geologic units and has no to high sensitivity for paleontological resources where native soils are encountered (see [Table 4.5-1](#)).

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

The archival literature review identified 528 recorded cultural resources within 0.5 mile of the proposed route. Seven recorded prehistoric and/or historic-period cultural resources sites, formally known as CA-SDI-12919H, CA-SDI-12920H, CA-SDI-13924H, CA-RIV-3832H, CA-RIV-4112H, PSBR-1H, and PSBR-17H, are within the rights-of-way associated with the proposed project route and 40 recorded sites are directly adjacent to the rights-of-way. The recorded sites within the rights-of-way include three historic trash deposits; an Atchison, Topeka and Santa Fe Railroad bed; a former glass plant; and two historic roads. The 40 adjacent sites include millings stations, bedrock slicks, lithic scatters, brick and concrete artifacts, trash scatters, building remnants, pictographs, and a trail.

The proposed project route was field surveyed between October 17 and 27, 2000. Sections of the route where cultural material could be located (i.e., ungraded areas and lightly altered land surfaces) were pedestrian surveyed on both sides of the existing right-of-way. Beyond the paved edge of the road, this distance was approximately 5 to 15 feet wide. Much of the proposed route, especially in San Diego County and in Riverside County near Lake Elsinore, as well as within Corona and Ontario, was so heavily altered and disturbed by road widening and realignment, business and residential development, landscaping, the installation of various cables and pipelines, and agricultural drainage systems that the possibility of surface manifestations of cultural resources no longer exists. Moreover, road cuts and fill comprise large sections of the route especially along Couser and Rice Canyons.

The field survey identified one previously unrecorded site (BW-I-1) in the right-of-way in front of a residence on Palomar Road in Riverside County. The site consists of one secondary basalt flake, one quartz crystal flake, and one possibly metavolcanic flake and strongly suggests the possibility of buried prehistoric cultural deposits at this location. No historic bridges have been identified along the project route.

Five sites in Riverside County were determined eligible for listing by the Office of Historic Preservation:

- CA-RIV-3832H – the Atchison, Topeka, and Santa Fe Railroad grade through Temescal Canyon;
- CA-RIV-4313H – El Cariso Truck Trail;
- CA-RIV-5871H – associated with the Alberhill Coal and Clay Company;
- CA-RIV-4112H – the P.J. Weisel Glass Plant/Owens-Illinois Glass Plant; and
- CA-RIV-4707H – a prehistoric/historic site.

The proposed project route generally crosses Paleocene- to Recent-age geologic units and has no to high sensitivity for paleontological resources where native soils are encountered (see [Table 4.5-1](#)).

4.5.6 IMPACT SIGNIFICANCE CRITERIA

According to CEQA, an impact is considered significant if it would disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group. In addition to significance criteria **V. a-d** in the environmental checklist (see [Appendix A](#)), the CEQA Guidelines define a significant historical resource as a resource listed or eligible

for listing on the California Register of Historical Resources (CRHR) or any resource included in a local register of historical resources, as defined in Public Resources Code Section 5024.1(K), or that has been as identified as significant in a historical resources survey meeting the requirements of Public Resources Code 5024.1(g). A historical resource may be eligible for inclusion in the CRHR if it:

- ▶ is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- ▶ is associated with the lives of persons important in our past;
- ▶ embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; and/or
- ▶ has yielded, or may be likely to yield, information important in prehistory or history.

Any resource that has been determined eligible for inclusion in the National Register of Historic Places (NRHP) will be considered eligible for the CRHR. Finally, an archaeological site is considered significant if it meets the definition of a unique archaeological resource as defined in Public Resources Code Section 21084.1 and Section 15126.4 of the CEQA Guidelines.

In addition, under federal regulations, a project is determined to have an effect on a historic property when the undertaking could alter the characteristics of the property that may qualify the property for inclusion in the NRHP, including alteration of location, setting, or use. An undertaking may be considered to have an adverse effect on a historic property when the effect may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

- ▶ physical destruction or alteration of all or part of the property;
- ▶ isolation of the property from or alteration of the property's setting when that character contributes to the property's qualifications for listing in the NRHP;
- ▶ introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting;
- ▶ neglect of a property resulting in its deterioration or destruction; and/or
- ▶ transfer, lease, or sale of the property (36 CFR 800.9).

4.5.7 IMPACT ASSESSMENT

Disturbance of cultural resources from implementation of the proposed expansion project could result in impacts on known cultural resources and on buried, unidentified archaeological sites. Cultural resources could potentially be affected during construction of the cable system through the following activities:

- ▶ grading or other site preparation,
- ▶ blading or grading of existing access roads,
- ▶ plowing or trenching,
- ▶ temporary stockpiling of soil,
- ▶ digging bore pits or assist points,
- ▶ use of equipment staging areas, and
- ▶ attachment to a historic bridge.

In addition, cultural resources could potentially be affected during construction of the two proposed OP-AMP stations along the Ontario to San Diego Longhaul Route.

The following analysis for cultural resources identifies potential effects on cultural resources that could occur as a result of implementation of the proposed expansion project and describes mitigation measures

that will avoid or reduce impacts to less-than-significant levels. The cultural resources inventories for the proposed project routes are completed and inventory reports have been prepared and provided to the CPUC. Implementation of the mitigation measures listed below will result in the avoidance of significant impacts on potentially significant cultural resources in compliance with the CEQA Guidelines. No archaeological excavations, artifact analysis, or other specialized studies of cultural artifacts or deposits are proposed at this time based on the understanding that all cultural resource sites will be avoided through rerouting of the conduit and cable or boring under archaeological/cultural resources and by siting the OP-AMP stations on parcels that do not have cultural resources and are not near potentially historic structures. In the unlikely event that potentially significant resources cannot be avoided through one of these measures, additional steps, such as test excavations to determine the significance of resource and data recovery should the resource prove to be significant, may be necessary. A mitigation measure has been included below, which will be followed if site avoidance proves infeasible.

Would the project:

- a. *Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?*
- b. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). The proposed expansion project includes ground-disturbing activities, such as grading, trench excavation, construction of OP-AMP facilities, and excavation of bore pits, needed to install the fiber optic cable system. Ground-disturbing activities could inadvertently affect cultural resources and potentially historic structures. No historic bridges have been identified along the project routes; therefore, there is no potential for impact from attachment to these historic structures. Several archaeological surveys of the proposed routes yielded surface or recorded evidence of historic or prehistoric sites. Research of the literature yielded historic and/or prehistoric sites, and sacred lands could be present along the project routes. The record research indicated the presence of historic archaeological resources inear the proposed project routes. As a result, the mitigation described below is required to reduce this potential impact to a less-than-significant level. This impact is considered less than significant because Broadwing shall adopt the following mitigation measure as part of the construction strategy for the proposed expansion project.

Mitigation Measure C-1: Avoid Potential Impacts on Buried Resources in Culturally or Archaeologically Sensitive Areas. Broadwing shall implement the following measures to ensure that potential impacts on buried resources are avoided:

- A. **Develop and implement avoidance procedures.** Cultural resource inventories for the proposed project routes are complete, and all sites that could be affected by the project routes have been identified. To ensure that identified resources are avoided, the assigned project archaeologist and the project engineer shall review the possible avoidance measures for each potentially significant cultural resource site to determine which avoidance method is appropriate. Depending on the characteristics of individual sites, impacts shall be avoided by rerouting the conduit around identified cultural resource sites or by boring beneath sites. When an avoidance measure has been agreed on, implementation shall be coordinated with the appropriate agency staff. When applicable, methods of avoiding impacts may also be determined in consultation with the California State Historic Preservation Officer, in compliance with Section 106 of the National Historic Preservation Act.

Avoidance measures for each potentially significant site are outlined in the cultural resources inventory report prepared for each proposed project route, as appropriate. The cultural resources inventory reports shall be reviewed and approved by the CPUC before construction begins. The agreed-on avoidance measure shall be included in the appropriate construction specifications and marked on construction drawings. Where appropriate, sites or exclusion zones may be field marked.

- B. Develop and implement a cultural resources monitoring plan.** A cultural resources monitoring plan (distinct from the draft MMP contained in [Appendix D](#)) shall be developed for each sensitive area. The plan shall outline where and how qualified archaeologists shall conduct archaeological monitoring. The plan shall identify the locations of areas that will be monitored, as well as the methods and procedures for selecting archaeological monitoring areas. The areas selected for monitoring shall be those areas considered particularly sensitive for the presence of buried cultural resources. In addition, Native American groups will likely recommend monitoring by their representatives, if the proposed project area falls within traditional tribal boundaries. Native American monitoring shall focus on sensitive areas and sites, rather than entire routes or route segments.
- C. Determine the significance of resources that cannot be avoided, and develop and implement appropriate treatment measures for significant resources.** If avoidance of potentially significant resources proves to be infeasible, test excavations shall be conducted to determine the significance of each resource that cannot be avoided. If the resource is found to be significant, appropriate treatment measures shall be developed in consultation with the CPUC, the State Historic Preservation Officer, and other appropriate agencies. Implementation of this measure will result in avoidance of a substantial adverse change in the significance of historical or archaeological resources.

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to the Ontario to San Diego Longhaul Route). Siting OP-AMP stations near historic resources could cause impacts on significant or potentially significant historic resources because the OP-AMP stations may be architecturally incompatible with the setting of these historic resources. Not all resources have settings that contribute to their significance; however, where a property's historic setting does contribute to the significance of a historic resource, the siting of OP-AMP facilities in the vicinity could cause an adverse impact on the resource. The two proposed OP-AMP stations are not located near any historic resources that could be compromised by the presence of the facilities. However, alternative siting of some OP-AMP stations may be required (see Chapter 2, "[Project Description](#)"). The relocated OP-AMP stations could be located in an area where adverse affects on the setting associated with a historic resource could occur. This potential impact is considered less than significant because Broadwing shall implement the following mitigation measure.

Mitigation Measure C-2: Avoid Siting Alternative OP-AMP Stations in Areas with Historically Significant Resources. If alternative sites must be found for OP-AMP stations, they shall not be located near potentially significant and known significant historic resources where those resources are determined to have a historic setting that could be compromised.

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). Buried cultural resources that are not identified during field and record surveys could inadvertently be unearthed during ground-disturbing activities, which could result in demolition or substantial damage to significant cultural resources. This impact is considered less than significant because Broadwing shall adopt the following mitigation measure as part of the construction strategy for the proposed expansion project.

Mitigation Measure C-3: Stop Work if Cultural Resources Are Discovered during Ground-Disturbing Activities. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are inadvertently discovered during ground-disturbing activities, work shall stop immediately in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with the CPUC, the State Historic Preservation Officer, and other appropriate agencies. Implementation of this mitigation measure will result in avoidance of a substantial adverse change in the significance of historical or archaeological resources that could be inadvertently discovered during construction.

c. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). The proposed expansion project includes ground-disturbing activities, such as grading and trench excavation, that are needed to install the fiber optic cable system. In general, the proposed project routes are located on previously disturbed land within road and railroad rights-of-way in areas extensively disturbed by development. However, ground-disturbing activities could inadvertently affect paleontological resources where native soils are still present. This impact is considered less than significant because Broadwing shall adopt the following mitigation measure as part of the construction strategy for the proposed expansion project.

Mitigation Measure C-4: Retain a Qualified Paleontologist to Oversee Construction Activities and Prepare a Report, if Necessary. In areas known to be of high sensitivity for paleontological resources, full-time monitoring by a qualified paleontologist may be required, based on the construction method used and other factors (i.e., a paleontological monitor shall be present 80% to 100% of the time during ground-disturbing activities in areas with high paleontological sensitivity). In areas of low sensitivity, spot-checking may be required (i.e., a paleontological monitor shall be present 0% to 20% of the time during ground-disturbing activities in areas with low paleontological sensitivity). The paleontologist shall monitor ground-disturbing activities and salvage and catalog fossils where necessary. No monitoring shall be required where the entirety of ground-disturbing activities (depth and width) occurs in non-native or imported fill (e.g., road beds, railroad ballast).

A qualified paleontologist shall be present at the pre-construction conference on routes with known areas of high paleontological sensitivity and shall establish procedures for paleontological resource surveillance. In cooperation with the contract compliance inspectors and environmental resource coordinator, procedures also shall be established for temporarily halting or redirecting work to permit sampling, identification, and evaluation of the fossils.

The role of the paleontological monitor shall be to recover, analyze, process, catalog, curate, and document significant fossil remains. Paleontological monitors shall be available and equipped to salvage fossils as they are unearthed to avoid construction delays and remove samples of sediments that are likely to contain the remains of small fossil vertebrates. Paleontological monitors shall be able to temporarily halt or divert construction equipment to allow removal of large specimens. The qualified paleontologist, in cooperation with the contract compliance inspector and environmental resource coordinator, shall determine appropriate actions to ensure proper exploration and salvage of encountered paleontological resources (fossils).

If major paleontological resources or significant concentrations of fossils are encountered that require long-term halting or redirection of construction activities or that cannot be collected during normal monitoring periods, salvage operations shall be initiated and completed as quickly as feasible. These operations shall be conducted at the direction of the qualified paleontologist and coordinated with the construction contractor. The environmental resource coordinator shall be notified as soon as possible regarding any required paleontological salvage operation.

Implementation of this mitigation measure will result in the salvage of unique paleontological resources or sites and unique geologic features. A final paleontological report shall be submitted to the CPUC on completion of the project that indicates where areas of high or low sensitivity have been identified. The report shall include monitoring dates, methodologies, an itemized inventory of specimens and analysis of the significance of encountered fossils, curation of collected fossils to the point of identification, and accession of the fossils to a museum repository with a retrievable storage system. The final report and inventory, when submitted to the CPUC, will signify completion of the program to reduce or avoid impacts on paleontological resources.

d. Disturb any human remains, including those interred outside of formal cemeteries?

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). The proposed expansion project will affect known cemeteries or burials; however, previously unrecorded buried human remains could be inadvertently unearthed during excavation activities, which could result in damage to these human remains. This impact is considered less than significant because Broadwing shall adopt the following mitigation measure as part of the construction strategy for the proposed expansion project.

Mitigation Measure C-5: Comply with State Laws Pertaining to the Discovery of Human Remains.

If human remains are discovered or recognized, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county has been informed and has determined that no investigation of the cause of death is required. If the coroner determines that the remains are of Native American origin, the coroner shall contact the NAHC within 24 hours. If human remains of Native American origin are discovered during ground-disturbing activities on nonfederal lands, state laws relating to the disposition of Native American burials will apply. The Native American Heritage Commission (NAHC) will have jurisdiction (Pub. Res. Code Sec. 5097). The NAHC shall identify the person or persons it believes are the most likely descendent of the deceased Native American.

4.5.8 CUMULATIVE IMPACTS

With implementation of the identified mitigation measures, the proposed expansion project will avoid impacts on cultural resources. The project will not cause a substantial adverse change in the significance of a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or unique geologic feature, or cause unauthorized disturbance of any human remains. No impacts on cultural resources (including historical resources, paleontological resources, and human remains) will result from implementation of the proposed expansion project that will make a cumulative considerable contribution to a cumulative impact on cultural resources.

4.6 GEOLOGY AND SOILS

This section describes impacts and mitigation pertaining to geologic, seismic, and soil conditions along the proposed expansion project routes. Potential water quality impacts caused by erosion and resulting sedimentation are described in “Hydrology and Water Quality,” and impacts on agricultural lands are

described in “Agricultural Resources.” Geologic and earthquake fault activity maps prepared by the California State Division of Mines and Geology (1977 and 1994, respectively) were used to describe existing geologic and seismic conditions along the project routes. The description of existing soil characteristics was based on general soils maps and knowledge of typical soil conditions along roads, railroads, and utility rights-of-way.

4.6.1 GEOLOGY AND SEISMICITY

The proposed expansion project routes pass through a wide range of slope conditions. The slope of the long axis (as opposed to the sideslope) along most of the routes is generally less than 10% because the routes tend to follow the gently sloping grades of road and railroad.

The project routes cross a wide variety of geologic formations and landforms. The rocks and sediments may range from deep, unconsolidated sediments in valley areas to hard rock within inches of the ground surface. However, most of the routes pass through stable terrain. No unique geologic features are known to be present along any of the project routes.

The proposed project routes pass through areas that are subject to strong earthquake-induced ground shaking and may pass over active and/or potentially active earthquake faults. The faults are subject to ground surface displacement, which may occur in a variety of relative motions depending on the type of fault involved. In a few areas, the sediments underlying the routes are subject to earthquake-induced liquefaction, which may cause differential ground settlement and lateral spreading. Conditions most conducive to liquefaction include a fault capable of causing ground shaking and the presence of clean, loose, saturated sandy soils within 50 feet of the ground surface.

4.6.2 SOILS

Soil characteristics vary widely throughout the areas crossed by the project routes. This variation is due in large part to a wide range of topography, parent material, climate, vegetation, and disturbances associated with past construction in the project route rights-of-way (e.g., road, railroad, pipeline, utility). Textures of the soils along the project routes vary from rocky and sandy to clayey. In some areas, the soils have been compacted as a result of past construction in the rights-of-way. The soils also vary in terms of drainage characteristics, depth to rock, fertility, expansion potential, amount and type of protective vegetation cover, and other characteristics.

Soils along the proposed project routes have variable susceptibility to erosion, ranging from slight to high erosion hazard ratings. Portions of some of the routes, such as along existing utility rights-of-way, have permanent erosion control measures, such as water bars, already in place.

A SWPPP (which includes erosion and sediment control measures) is required by the EPA to comply with National Pollutant Discharge Elimination System (NPDES) requirements. The EPA has delegated authority to the state RWQCBs to administer the NPDES program. SWPPPs are required to be prepared for proposed projects that entail soil disturbance of 5 acres or more and are submitted to the applicable RWQCB for approval before a proposed project begins construction. Because construction of the Northern California Interconnection Projects will not entail soil disturbance in excess of the 5-acre threshold, preparation of a SWPPP for these routes is not required. A SWPPP for the Los Angeles to Ontario and Ontario to San Diego Longhaul Routes has been prepared and shall be implemented as part of the proposed expansion project (see [Appendix E](#)). Three RWQCBs have jurisdiction over these two routes: the Los Angeles Region, the Santa Ana Region, and the San Diego Region.

4.6.3 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts on geology and soils is based on the criteria **VI. a-e** in the environmental checklist (see [Appendix A](#)). In addition, the project could also result in a significant impact if it would cause substantial accelerated soil erosion rates on or off site. Geology, seismicity, and soil impact mechanisms include initiation of shallow landslides through improper alignment of the cable route and improper installation of the cable and accelerated erosion caused by soil disturbance. To avoid damage to the cable and conduit and the environment, Broadwing has committed to engineering practices and system design that minimize landslide or seismic risk.

4.6.4 IMPACT ASSESSMENT

Would the project:

- a. ***Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:***
 - i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*
 - ii. *Strong seismic groundshaking?*
 - iii. *Seismic-related ground failure, including liquefaction?*
 - iv. *Landslides?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). The proposed project routes pass through areas that are subject to strong earthquake-induced ground shaking. Strong ground shaking from one of these faults will not expose people to potential adverse effects but could damage the OP-AMP structures proposed to be located along the Ontario to San Diego Longhaul Route. The impact is considered less than significant because the prefabricated structures will not be inhabited, the structures are certified by the manufacturer to meet necessary seismic design standards, and any damage will not affect humans or the environment.

Ground surface displacement of earthquake fault traces could damage the fiber optic cable system where the cable passes through faults. Although the fault movement could disrupt the operation of the cable system, no physical impact on humans or the environment would result. This impact is considered less than significant because the cable system will be designed to allow the cable to accommodate earthquake fault offsets at the soil surface and because damage to the system will not have a significant adverse effect on humans or the environment.

- b. ***Result in substantial soil erosion or the loss of topsoil?***

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Erosion is a natural process; however, accelerated erosion (the rate of erosion beyond that of natural processes) generally occurs as a result of human activities. Soils along the proposed project routes, many of which are already disturbed, vary widely with respect to their erosion hazard. Ground-disturbing activities, including removal of vegetation, can cause increased water runoff rates and concentrated flows and may cause accelerated erosion, with a consequent loss of soil productivity. The eroded material (i.e., sediment) could degrade the quality of receiving waters.

Broadwing has prepared a draft SWPPP for the two longhaul project routes (Los Angeles to Ontario and Ontario to San Diego), which includes mitigation measures to control accelerated erosion and sedimentation (see [Appendix E](#)). SWPPPs must be prepared for proposed projects that entail soil disturbance of 5 acres or more and must be submitted to the applicable RWQCB for approval before the proposed project begins construction. Because construction of the Northern California Interconnection Projects will not entail soil disturbance in excess of the 5-acre threshold, preparation of a SWPPP for these routes is not required. Broadwing has prepared this SWPPP, as well as BMPs to control erosion and sedimentation as part of the proposed expansion project (refer to [Chapter 2, “Project Description,”](#) for mitigation that has been incorporated into project design). Because the area of soil disturbance will be small within a given area, there will not be a significant opportunity for erosion to occur, except for those routes that are aligned on steep slopes. The erosion and sediment control measures, if properly prescribed, implemented, and maintained, are expected to reduce erosion rates during and after construction to near pre-construction rates. By implementing the SWPPP and BMP erosion control mitigation measures, this impact is considered less than significant.

- c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). The proposed project routes may pass through areas that are subject to earthquake-induced liquefaction. Liquefaction and resulting differential ground settlement and lateral spreading could damage the cable system. The impact is considered less than significant because damage to the system will not have an adverse physical effect on humans or the environment.

Most of the proposed expansion project routes are located in gently sloping and stable terrain. However, in a few areas installation may require excavation into steep slopes, some of which may be subject to mass movement (i.e., land slides). In such areas, runoff water from areas upslope of the trench could percolate into the trench, saturate the soil, and increase soil-pore water pressures in a localized area. Such a condition could increase the potential for a mass movement.

Areas of existing and potential instability shall be avoided to the extent practicable. A geotechnical analysis shall be conducted in areas where a project route must pass through a potentially unstable area. The geotechnical analysis, which will be submitted to the CPUC for review and approval, may recommend that the conduit be rerouted or be bored or trenched beneath the failure plane of the unstable area and that manholes and handholes not be constructed in the area. It is unlikely that people or structures will be located downslope of the increased mass movement hazard area. For these reasons, this impact is considered less than significant.

- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Some of the proposed project routes may pass through areas of soils that are considered expansive by the Uniform Building Code and by the U.S. Natural Resources Conservation Service. If not properly engineered, seasonal soil expansion and contraction could eventually damage the fiber optic system. This impact is considered less than significant because proper engineering and construction techniques will eliminate this hazard and because any damage that does occur will not have a significant adverse physical effect on humans or the environment.

- e. Leave soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?*

NO IMPACT (Applicable to all project routes). No septic tanks or alternative wastewater disposal systems will be installed as part of the proposed expansion project. The presence of the fiber optic system will not preclude future installation of septic tanks or alternative wastewater treatment systems. Future installation of these systems will require avoidance of all subsurface utilities, including the fiber optic conduits installed as part of the proposed expansion project. No impacts will occur to the ability of any soils to support septic tanks or alternative wastewater treatment facilities.

4.6.5 CUMULATIVE IMPACTS

Development in California has the cumulative impact of bringing additional people into potential contact with geologic hazards. In some instances, such as where mass grading occurs, a project may directly contribute to increased landslide hazard or soil erosion.

The proposed expansion project consists of the installation of fiber optic conduit and cable through plowing, trenching, and subsurface boring. As described above, the proposed expansion project will not expose persons to substantial risk of loss, injury, or death relative to geologic hazards; result in substantial soil erosion; potentially result in landslides or other mass movement; create substantial risks due to expansive soils; or produce wastewater from septic tanks, sewers, or other disposal facilities. The contribution of the proposed expansion project to the cumulative impact is less than considerable.

4.7 HAZARDS AND HAZARDOUS MATERIALS

Hazards and hazardous materials issues include handling of hazardous materials, disposal of hazardous waste (unexpectedly encountered during trenching and construction activities), training of construction workers (responsibility of the construction contractor), the potential risk of exposing the community to an unexpected release or spill, and fire hazards. The CEQA environmental checklist (see [Appendix A](#)) identifies eight areas of potential concern under the issue of hazards and hazardous materials.

A search of federal, state, and local government databases regarding hazardous materials was conducted for the proposed project routes. The collective databases list regulated and unregulated hazardous waste generators, leaking tank sites, toxic spills, and other sites affecting the environment. An information technology firm was retained to perform a search of site-specific environmental hazards within at least 0.25 mile of the centerline of the project route. The information obtained from the multiple databases was sorted and standardized. The result is a comprehensive inventory of environmental information related to hazardous materials that can be translated into mapped and site-specific reports for all aspects of a hazards analysis. The following databases were included in the search:

- ▶ National Priority List (NPL)
- ▶ Resource Conservation and Recovery Act (RCRA) Corrective Actions (CORRACTS)
- ▶ RCRA-permitted treatment, storage, and disposal facilities (TSD)
- ▶ State-equivalent priority list (SPL)
- ▶ State-equivalent Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list (SCL)
- ▶ sites under review by EPA (CERCLID/NFRAP)
- ▶ Leaking Underground Storage Tanks (LUST)
- ▶ solid waste landfills, incinerators, or transfer stations (SWLF)
- ▶ additional federal, state and regional lists, where available
- ▶ Toxic Release Inventory database (TRIS)

- registered underground storage tanks (UST)
- registered aboveground storage tanks (AST)
- RCRA-registered small or large generators of hazardous waste (GNRTR)
- RCRA violations/enforcement actions
- Emergency Response Notification System and state spills lists

The results of the database search have been used to assist in reviewing the project route and OP-AMP station sites to ascertain existing contaminated areas and potential areas where hazardous substances should be avoided during construction activities. A Contamination Screening Assessment (CSA) was conducted for each proposed project route to identify potential contaminant sources adjacent to and within the right-of-way that may adversely affect the construction process. The CSA includes the results of the above database search for the general location of potential contaminant sources, as well as results of a field reconnaissance of each potential contaminant source along the routes and a review of local, state, and federal regulatory agency files for site-specific contaminant distribution information. Field reconnaissance surveys were completed in October through December 2000.

A variety of regulatory issues pertain to the handling and disposal of hazardous materials and waste, including proper training of personnel handling such materials. Workers exposed to hazardous waste (unexpectedly encountered during construction) shall be properly trained in accordance with Occupational Safety and Health Administration (OSHA) guidelines¹. This training allows for worker safety, proper handling, knowledge of testing instruments and safety equipment (e.g., respirators). Hazardous waste shall be handled and disposed of in accordance with the RCRA (40 CFR Part 260). Local jurisdictions (e.g., city or county health departments) may have additional area-specific requirements that shall also be met.

Consultation and coordination with regulatory land managers shall be conducted as needed along portions of the proposed project routes that may be susceptible to fire hazards.

4.7.1 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance of impacts related to hazards and hazardous materials is based on criteria **VII. a-h** in the environmental checklist (see [Appendix A](#)) and on the following factors:

- potential hazards and/or hazardous materials encountered during trenching or any subsurface excavation, and
- proper disposal of hazardous materials encountered during trenching or any subsurface excavation.

4.7.2 IMPACT ASSESSMENT

Potential impacts associated with the proposed expansion project could include:

- potential exposure to existing contaminated soils, contaminated groundwater, abandoned underground storage tanks and piping, and contaminated material from existing undocumented dumping and landfilling;
- potential exposure to, and releases of, hazardous materials such as oils, grease, lubricants, and solvents used during normal construction operations; and
- ignition of wildfires during normal construction activities.

¹ OSHA's Hazardous Waste Operations and Emergency Response fact sheet 93-31 specifies training for workers at hazardous material sites (available at http://www.osha-slc.gov/OshDoc/Fact_data/FSNO93-31.html).

Would the project:

- a. *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b. *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). The proposed expansion project will not require long-term storage, treatment, disposal, or transport of hazardous materials; however, small quantities of hazardous materials will be stored, used, and handled during construction. The hazardous materials anticipated to be used are small volumes of petroleum hydrocarbons and their derivatives (e.g., gasoline, oils, lubricants, solvents) required to operate the construction equipment. These materials may be released in accidental spills.

Subsurface hazardous materials may be encountered during construction. A CSA has been conducted for each proposed route to identify known contaminated sites so that they can be avoided. The results of the database search have been used by Broadwing to avoid known contaminated sites. However, during construction, the construction team may encounter unexpected materials that may be considered hazardous waste once they are exposed. Federal, state, and local regulations establish procedures of proper reporting, handling, and disposal. Broadwing's contractors shall be trained in these procedures before construction begins.

This impact is considered less than significant because Broadwing has prepared and shall implement a SWPPP and BMPs, as described in Chapter 2, "[Project Description](#)," that include methods to protect water quality in response to emergency spills (see [Appendix E](#)). Additionally, Broadwing has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure H-1: Ensure Proper Labeling, Storage, Handling, and Use of Hazardous Materials. The construction contractor shall ensure proper labeling, storage, handling, and use of hazardous materials in accordance with BMPs and the Occupational Safety and Health Administration's Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements. The construction contractor shall ensure that employees are properly trained in the use and handling of these materials and that each material is accompanied by a material safety data sheet. Additionally, any small quantities of hazardous materials stored temporarily in staging areas shall be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials shall be stored separately, as appropriate.

To avoid unexpected releases of hazardous materials, the construction contractor team shall include individuals trained in accordance with OSHA HAZWOPER requirements. Additionally, the construction team shall have a written plan outlining how to respond if hazardous materials are unexpectedly encountered. The plan shall specify procedures for the identification, handling, reporting, and disposal of hazardous materials. All hazardous waste materials removed during construction, to the extent necessary to ensure the area can be safely traversed, shall be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility. Broadwing shall require in its contracts that contractors meet federal, state, and local requirements.

- c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

NO IMPACT (Applicable to all project routes). No hazardous emissions will be generated by the proposed expansion project. No hazardous emissions or acutely hazardous materials, substances, or waste, shall be handled within 0.25 mile of an existing or proposed school. The construction contractor shall not locate a staging area within approximately 500 feet of an existing or proposed school. Project personnel shall follow all institutional controls governing the storage, transportation, use, handling, and disposal of hazardous materials during construction of the project.

- d. Would the proposed project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). As noted above, a regulatory database search has been conducted to locate areas along the project routes that may be viewed as potential areas of hazardous materials contamination or locations where various hazardous waste activities are permitted. In addition, an analysis of existing environmental documentation along the railroad right-of-way has been conducted for the Los Angeles to Ontario Longhaul Route.

State and federal laws regulate the manner in which contamination and hazardous conditions are investigated and remediated. Contaminated sites (i.e., gasoline stations and automotive repair facilities) can be expected along some of the proposed project routes, particularly in highly urbanized and industrialized areas such as San Francisco End Link and Los Angeles to Ontario routes. The EPA and California Environmental Protection Agency maintain databases listing known contaminated sites. These databases include information on leaking underground storage tanks; hazardous waste generators; treatment, storage, and disposal facilities; sites known to have contaminated groundwater; and sites currently undergoing remediation or corrective action. Coordination of waste disposal activities with local regulatory agencies will also be required along the project routes. This impact is considered less than significant because all listed hazardous materials sites shall be identified before construction and avoided through reroutes or by proper siting of alternative OP-AMP stations, if needed, as described in Chapter 2, “[Project Description](#).”

- e. Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the proposed project area?*

NO IMPACT (Applicable to all project routes). The proposed expansion project involves the underground installation of fiber optic cable and conduit within existing road and railroad rights-of-way. No resultant structures will impair airport operations or endanger people residing in the area or other land uses. As a result, the proposed expansion project will have no impact.

- f. Be located in the vicinity of a private airstrip, and result in a safety hazard for people residing or working in the proposed project area?*

NO IMPACT (Applicable to all project routes). As discussed above, the proposed expansion project will not result in a safety hazard for people residing or working in the surrounding area. In addition, trenches or holes will not be left open overnight, and equipment or construction materials will not be left accessible to the public during periods when construction is not occurring. As a result, the proposed expansion project will have no impact.

g. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). The proposed expansion project will involve the operation of heavy machinery, primarily within road and railroad rights-of-way. Emergency response times could be affected in areas where the proposed routes are adjacent to or within road rights-of-way. However, emergency access shall be regulated as a condition of the road encroachment permits by the applicable regulatory agency. Also, Broadwing shall prepare a traffic control plan (see Chapter 2, “[Project Description](#)”) that will be approved by the CPUC and adopted by local regulatory agencies as part of their road encroachment permitting processes. The traffic control plan will further reduce impacts on traffic and emergency response vehicles and programs to less-than-significant levels.

h. *Expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

NO IMPACT (Applicable to the Northern California Interconnection Projects and the Los Angeles to Ontario Longhaul Route). The proposed project will not expose people or structures to a significant risk of loss, injury, or death attributable to wildland fires because the project routes are located in highly urbanized areas.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Ontario to San Diego Longhaul Route). This project route poses the potential for limited fire danger because of the presence of coastal sage scrub and other vegetation adjacent to portions of the project rights-of-way. However, the proposed project is not considered to expose people or structures to a significant risk of loss, injury, or death attributable to wildland fires because, as stated in Chapter 2, “[Project Description](#),” Broadwing has prepared a draft fire prevention and management plan for this route (see [Appendix F](#)) that will be reviewed and approved by the CPUC and shall be implemented during construction. Through implementation of the fire prevention and management plan, risks associated with wildfire are considered less than significant.

4.7.3 CUMULATIVE IMPACTS

The proposed expansion project is not expected to make a considerable contribution toward hazard or hazardous materials impacts. Contaminated soils or other materials may be unexpectedly encountered along some of the proposed project routes and shall require appropriate handling and disposal by a licensed contractor. Because the characteristics and the volume of hazardous materials that could be unexpectedly encountered during construction cannot be determined, the possible cumulative impact is only speculative. Some materials encountered along the proposed project routes may be recyclable, which will reduce any impact on hazardous waste disposal/landfill capacity to a less-than-significant level. The cumulative impact of disposal of contaminated materials unexpectedly encountered along the project routes is considered a less-than-significant impact because of regulatory safeguards that limit exposure and require controlled handling and disposal.

4.8 HYDROLOGY AND WATER QUALITY

Streams along the proposed expansion project routes are subject to great changes in volume because of seasonal variations in precipitation and runoff. Headwater streams are generally cool and clear; water quality is good and linked closely to the condition of the bed and banks of the stream channel. Degraded conditions most often consist of high sediment loads, which are a function of mass wasting (naturally unstable lands and management-influenced failures) and surface erosion processes (roads, developments,

and other nonpoint sources). Removal of riparian vegetation also interrupts processes that maintain stream water quality.

As water enters the valleys, waters become warmer and tend to accumulate increased sediment and other pollutants in urban communities and agricultural areas. Water quality decreases because of the additional influences of urban and industrial development, diversions, agricultural runoff, additional loss of riparian vegetation, and other factors.

Beneficial water uses of water bodies that will be crossed by the project routes generally include domestic and municipal water supply, recreation, agriculture, industrial uses, and protection of fish and wildlife. No aspect of this project will change surface or subsurface flows; thus, the proposed expansion project will not permanently affect groundwater or surface water sources for these beneficial uses.

Federal Emergency Management Agency- (FEMA-) designated floodplains are identified for large streams, including the San Jacinto River, Temecula Creek, San Luis Rey River, and San Dieguito River. Floodplain information is rarely available for small rural streams in unpopulated areas. The project route also crosses designated inundation areas that will be created in the event of dam failures for Skinner Reservoir, upstream of Temecula Creek, and Lake Hodges, located on the San Dieguito River. No aspect of this project will substantially change flood conveyance or floodplain characteristics of drainage channels in the project study areas.

California's nine RWQCBs are primarily responsible for identifying beneficial uses of surface and groundwater resources and establishing water quality standards and implementation programs to protect those uses.

If soil disturbance exceeds five acres, a general construction activity permit under the NPDES program (Section 402 of the Clean Water Act) requires preparation and implementation of a SWPPP. The SWPPP specifies BMPs to reduce and control storm water discharges related to project construction. Construction activities subject to the NPDES permit restrictions will be administered by the appropriate RWQCB for each project route segment. Only the two longhaul routes exceed the 5-acre threshold, and Broadwing has prepared a draft SWPPP for these routes (see [Appendix E](#)). Three RWQCBs have jurisdiction over these two routes: the Los Angeles Region, the Santa Ana Region, and the San Diego Region. Broadwing shall acquire authorization from the applicable RWQCB under the general NPDES permit before starting construction.

The proposed project routes shall be designed to avoid all perennial streams and drainages with sensitive resources by boring or attaching to bridges (when boring is not viable and authorization from bridge owners has been obtained). Trenching within drainages, if needed (and only in those drainages with no sensitive resources), would require a Section 404 permit (see letter dated November 11, 2000, in [Appendix M](#)). Consequently, a Section 401 water quality certification (or waiver) may also be required. Broadwing shall obtain any required permits related to water crossings as required by the appropriate regulatory agency.

The CDFG regulates streambed alterations (including the release of materials into streams) under Section 1603 of the California Fish and Game Code (see "Biological Resources" for further information). Broadwing shall obtain streambed alteration agreements from the DFG where necessary.

Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It requires:

- avoidance of incompatible floodplain development;
- consistency with the standards and criteria of the National Flood Insurance Program; and
- restoration and preservation of the natural and beneficial floodplain values.

Local county flood control and water conservation districts typically are responsible for coordinating flood control programs and emergency preparedness and response plans. Local agencies use FEMA maps to designate floodplain areas in an effort to avoid flood-related loss of life or property and to manage flood insurance programs.

4.8.1 PROJECT ROUTE ENVIRONMENTAL SETTINGS

SAN FRANCISCO END LINK PROJECT

This proposed project route is in a highly urbanized area along the west side of San Francisco Bay and involves no stream crossings. Average annual precipitation ranges from 15 to 20 inches. The project route is within the South Bay watershed and the San Francisco Bay RWQCB jurisdictional area.

SANTA CLARA DATA CENTER ROUTE 2

This proposed project route is in a highly urbanized area south of San Francisco Bay and involves no stream crossings. Average annual precipitation ranges from 15 to 20 inches. The project route is within the Santa Clara watershed and the San Francisco Bay RWQCB jurisdictional area.

HAYWARD TO PLEASANTON RE-ROUTE

This proposed project route is in a highly urbanized area between San Francisco Bay and Sunol Ridge and involves no stream crossings. Average annual precipitation ranges from 15 to 20 inches. The project route is within the San Pablo watershed and the San Francisco Bay RWQCB jurisdictional area.

SACRAMENTO END LINK PROJECT

This proposed project route is in a highly urbanized area southwest of the confluence of the American and Sacramento Rivers and involves no stream crossings. Average annual precipitation is approximately 17 inches. The project route is within the Sacramento Delta watershed and the Central Valley RWQCB jurisdictional area.

SACRAMENTO, MODESTO, AND STOCKTON END LOOP PROJECTS

These proposed project routes are all in highly urbanized areas within the Central Valley and involve no stream crossings. Average annual precipitation ranges from 10 to 17 inches. The Sacramento End Loop Project is within the Sacramento Delta watershed. The Modesto End Loop Project is within the San Joaquin Valley Floor watershed. The Stockton End Loop Project is within the North Valley Floor watershed. All three of these projects are within the Central Valley RWQCB jurisdictional area.

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

The proposed project route originates in the Los Angeles River watershed, crosses the San Gabriel River watershed, and terminates within the Santa Ana River watershed. The project route is within the Los Angeles and Santa Ana RWQCB jurisdictional areas. The route is generally located within the San Gabriel Valley and passes through primarily urban areas, skirting the northern edge of the Puente Hills. Mean annual precipitation is about 10 to 20 inches per year. Most waterways are concrete-lined, but the

San Gabriel River has a soft-bottom channel. Because of the arid conditions, most drainages are intermittent. A total of 16 stream crossings were identified along the Los Angeles to Ontario route (see the Wetland Determination in [Appendix J](#) for further information).

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

The proposed project route crosses several geographically separated drainage areas of the generally arid inland areas of central Riverside and west San Diego Counties, including the Santa Ana River, San Jacinto Valley, Santa Margarita River, San Luis Rey, Carlsbad, San Dieguito, Penasquitos, and San Diego watersheds. The project route is within the Santa Ana and San Diego RWQCB jurisdictional areas.

In Riverside County, the project route originates north of the Santa Ana River and crosses generally small, dry desert washes that have flows only during storm events in winter. The project route continues south, generally aligned within canyon corridors along Temescal Wash, on the east side of the Santa Ana and Elsinore Mountain ranges, and crosses Murrieta, Temecula, Alberhill, and Pechanga Creeks. South of the boundary between Riverside and San Diego Counties, the project route crosses the wide valley floor of the San Luis Rey River. The southern extent of the project route follows several canyon corridors east of the Merriam Mountains and crosses Keys Creek and Escondido Creek. The route crosses the San Dieguito River valley south of Escondido at Lake Hodges, as well as Penasquitos, Beeler, Carroll, Rose, and San Clemente Canyons, before its terminus in San Diego. A total of 90 stream crossings were identified along the Ontario to San Diego route (see the Wetland Determination in [Appendix J](#) for further information).

Precipitation over the inland portions of the proposed project route is generally low, ranging from 10 to 15 inches annually. Precipitation in the interior mountainous valleys can be higher and ranges from 15 to 30 inches. Annual rainfall along the southern portion of the project route near the coast is generally 10 inches. The climate is moderate and temperature extremes are minimal on the coast, whereas seasonal temperatures can vary by 100°F at inland locations.

4.8.2 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts of the proposed expansion project is based on criteria **VIII. a-j** in the environmental checklist (see [Appendix A](#)). Additionally, the potential for significant impacts on hydrologic conditions and water quality from construction activities was evaluated based on the intensity, duration, and timing of the anticipated project disturbances on aquatic and riparian resources. State and federal agencies implement policies aimed at managing these three factors and keeping the risk of water quality degradation within safe levels to protect human and aquatic life. With the evolution of ecosystem management, not only the magnitude of each factor is important but also the ecological processes that it affects.

The intensity of an impact relates not only to its location and areal extent, but also to “typical mean and extreme values observed in the ecosystem.” State water quality standards (WQSs) set criteria for parameters with these ranges of values in mind to represent threshold values over (or under) which the exceedance may become significant. In addition to WQSs, aquatic and riparian habitat parameters, such as spawning area and recruitment of woody debris, have baseline conditions that must be maintained. In all cases, the location and magnitude of an impact influence whether a parameter will be substantially affected. Agencies may issue a variance, recognizing that certain exceedances of standards are permissible for limited periods.

The timing of water quality impacts is important because it can affect whether reproductive and migratory cycles of aquatic biota or other seasonal beneficial uses are affected. State resource agencies have

established preferred construction windows (if in-water work is needed) to minimize the potential impacts of in-water construction on the reproductive and migratory cycles of aquatic organisms.

4.8.3 IMPACT ASSESSMENT

Potential construction-related impact mechanisms for water quality include the following:

- Conduit and cable installation and associated soil disturbance could cause road embankment or channel bed and bank erosion. Construction equipment can compact soils, leading to accelerated runoff and concentration in localized areas prone to sheet erosion and gulying. Disturbing ditch lines, which function as extensions of the stream network, also could result in deposition of fine sediment into natural stream courses.
- Removal of riparian vegetation can weaken stream bank structure and increase its susceptibility to erosion. Disturbance to the geomorphic characteristics and stability of the channel bed and banks may initiate long-term readjustments (chronic erosion) in self-formed alluvial channels.
- Hazardous materials associated with the proposed expansion project will be limited to those substances associated with construction equipment, such as gasoline, diesel fuels, engine oil, and hydraulic fluids. An accidental spill of these substances could contaminate drainages, soils, wetlands, and other environmentally sensitive areas.
- Use of guided boring equipment could result in a loss of bentonite returns due to voids or an accidental bentonite spill into, or adjacent to, stream channels. Bentonite is a non-toxic drill lubricant made from a mixture of clay and water.

Would the project:

a. Violate any water quality standards or waste discharge requirements?

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Proposed project construction will not be required within any concrete-lined or unlined drainage with flowing water, including drainages that support sensitive resources (i.e., streams that support sensitive fish, amphibians, or other riparian and water-dependent species or waters that are water quality impaired by sediments). Conduit and cable installation at these crossings shall be limited to boring under streams and drainages. If boring is not feasible due to subsurface conditions, the conduit could be attached to an existing bridge, if permitted. Typically, seasonally dry drainages pass underneath the existing road rights-of-way through culverts that are at a sufficient depth to allow trenching above or below the culvert without directly affecting the drainages. Along the Ontario to San Diego Longhaul Route, if culvert depths are not suitable or construction is not feasible due to engineering design constraints, trenching may be required within a dry drainage (see below for further discussion). Possible impacts of installation of conduit at sensitive stream crossings or those that contain flowing water are considered less than significant because Broadwing shall use noninvasive construction methods (i.e., directional boring) as part of project design that do not disturb the beds or banks of streams and drainages.

Potential exists for surface runoff to transport upland side-cast trench spoils into streams, which could result in temporary increases in turbidity and sedimentation in watercourses downstream of the project routes. Temporary increases in turbidity or sedimentation could be adverse if the rate of sediment generation exceeds the rate of sediment transport in a stream, a frequent occurrence during wet weather. Excessive sediment in the water column (increased turbidity) can interfere with fish feeding behavior and with photosynthesis in aquatic flora. Sediment deposition on the channel bed can displace aquatic fauna and prevent adequate water circulation through fish eggs in spawning beds.

Because soil disturbance for the Los Angeles to Ontario and Ontario to San Diego Longhaul Routes would each exceed 5 acres, a general construction activity permit under the NPDES program (Section 402 of the Clean Water Act) will require implementation of a SWPPP. The NPDES permit will be administered by the applicable RWQCB. As part of this permit, Broadwing has prepared and shall implement a draft SWPPP for the two longhaul routes and appropriate erosion control BMPs for all construction activities that could discharge contaminated runoff into offsite drainages (see [Appendix E](#)). BMPs include measures to minimize erosion and sediment transport to streams, including water diversion and sediment containment devices, protection of trench spoils, and installation of water bars. Trench spoils generated during construction shall be backfilled at the end of each workday. Where backfilling the trench is not feasible, proper erosion control features shall be established to eliminate or minimize exposure of sediments to runoff. Erosion control measures include storing trench spoils outside the stream or ditch corridor (above the ordinary high-water mark) and protecting receiving waters from these erosion source areas with sedimentation fences or other effective sediment control devices. Possible subsurface soil erosion of the trench backfill material shall be controlled using trench plugs. Additionally, stream channels may be protected from surface runoff along the proposed project route with sedimentation fences or other sediment control devices placed in roadside drainage ditches downstream of construction. Construction sites shall be compacted and re-graded to match adjacent natural areas and shall be seeded and mulched or allowed to naturally revegetate, as described in Chapter 2, “[Project Description](#).”

Impacts on water quality are considered less than significant because Broadwing shall isolate flow from construction areas in non-sensitive streams and shall use aggressive construction BMPs to minimize sediment transport to streams.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Ontario to San Diego Longhaul Route).

Where possible, Broadwing shall avoid trenching and installation of fiber optic cable across dry drainages. Often these drainages flow underneath the existing road through culverts at a sufficient depth to allow trenching above or below the culvert without directly affecting the drainages. If culvert depths are not suitable or construction is not feasible due to engineering design constraints, trenching may be required within a drainage. Trenching across dry drainages to install conduit and cable could disrupt the bed and bank sediments. This sediment disruption could result in some suspension of sediment in the water column and a corresponding increase in turbidity and sediment downstream during subsequent precipitation events that contribute flow to the channel. Although trenching methods disturb the bed and banks of streams, the potential impacts on water quality are not considered significant because: (1) flows, if present, will be very small to nonexistent; (2) the drainages will not support resources that are considered sensitive; and (3) if temporary, localized elevations in turbidity should occur or are anticipated, construction BMPs shall be implemented. These include use of “double trenching” construction methods that remove, store, protect, and reapply the topsoil to facilitate revegetation and use of a biodegradable erosion control blanket or riprap to stabilize stream banks, if necessary. The site shall be restored on completion of construction, as discussed in Chapter 2, “[Project Description](#).” Any alterations to the beds and banks and methods to minimize potential effects will also be covered in the CDFG streambed alteration agreement. The potential impacts of installing conduit and cable through dry drainages are considered less than significant because Broadwing shall use construction BMPs; implement a SWPPP and other applicable agency permit conditions (e.g., CDFG, Corps); and regrade and compact backfilled drainages and trenches to match natural, adjacent site conditions as part of the construction mitigation strategy for the project (see [Appendix E](#)).

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Ontario to San Diego Longhaul Route).

Removing riparian vegetation along drainages could weaken stream bank structure and increase susceptibility to erosion. Disturbing the geomorphic characteristics and stability of the channel bed and banks may initiate long-term readjustments (chronic erosion) in self-formed, alluvial channels. A significant impact could occur if large amounts of riparian vegetation are removed, the channel bed and

banks on several crossings of one channel or within one watershed are disturbed, or sensitive crossing sites that have been disturbed mechanically are further disturbed by high-flow events before they are stabilized. However, this impact is considered less than significant because the proposed project route will be within existing disturbed rights-of-way that generally do not contain riparian vegetation (except where some vegetation has encroached on the rights-of-way) and Broadwing shall use noninvasive construction methods at stream crossings and drainages with sensitive resources as part of the project design. Broadwing has also adopted additional mitigation measures related to avoidance of riparian and wetland habitats, described in “[Biological Resources](#),” as part of the construction mitigation strategy for the proposed expansion project.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Hazardous materials associated with the proposed expansion project shall be limited to those substances associated with construction equipment, such as gasoline, diesel fuels, engine oil, and hydraulic fluids. Accidental spills of these substances could contaminate drainages, soils, wetlands, and other environmentally sensitive areas. This impact is considered less than significant because Broadwing has prepared and shall implement a SWPPP for the two longhaul routes, as required, including spill prevention measures that shall be strictly implemented as part of the construction mitigation strategy for the project (see [Appendix E](#)). The contractor shall follow the SWPPP and perform measures to ensure that petroleum products are not discharged into drainages or bodies of water. The plan shall also address measures to minimize the potential for bentonite seeps (discussed further below). Elements of the plan include a description of potentially hazardous and non-hazardous materials that could be spilled accidentally during construction (e.g., fuels, equipment lubricant, human waste and chemical toilets, and bentonite); potential spill sources and causes; proper storage and transport methods; spill containment and recovery; agency notification; and responsible parties. The SWPPP shall stipulate that hazardous substances are stored in staging areas located at least 100 feet from streams and other surface waters. Refueling and vehicle maintenance shall be performed at least 100 feet from these receiving waters for mobile equipment. Directional drilling equipment may be excluded from this restriction while conducting a bore. Sedimentation fences, certified weed-free straw bales, sand bags, berms, and baffles may be used as additional sources of protection for waters, ditches, and wetlands.

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Los Angeles to Ontario and Ontario to San Diego Longhaul Routes). As mitigation built into the construction approach, Broadwing shall install conduit and cable under concrete-lined and many unlined streams and drainages by boring under the streams (see Chapter 2, “[Project Description](#)”). During the boring operation, bentonite is used to lubricate the bore and help remove cuttings from the borehole. Although unlikely, the bentonite mixture can seep to the surface within a stream channel. Seepage could happen if bores encounter fractures in the underlying rock, and bentonite pressures are great enough to allow the material to surface. Loss of bentonite returns can also occur as a result of voids.

This impact is considered less than significant because Broadwing shall strictly implement the SWPPP to minimize the potential for bentonite seepage to streams (see [Appendix E](#)). Several measures are included in the draft SWPPP to minimize the potential for bentonite seeps, including requiring boring crews to strictly monitor drilling fluid pressures, retaining spill containment equipment onsite, monitoring waters downstream of the crossing sites to identify any seeps quickly, immediately stopping work if seepage into a stream is detected, immediately implementing containment measures, adhering to agency reporting requirements (i.e., notification of Corps or CDFG before proceeding), and identifying responsible parties. In addition, measures to minimize the potential for bentonite seeps to streams will likely be covered in the CDFG streambed alteration agreement.

In the event of a loss of bentonite returns due to voids, even if no release to surface water is detected, the CPUC monitor will be notified immediately and consultation will be required with the CDFG or other relevant permitting agency for that bore.

- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?***

NO IMPACT (Applicable to all project routes). The proposed expansion project consists of the installation of cable and conduit through a variety of means. Depth of the cable typically will not exceed 48 inches, except under special circumstances such as boring under rivers. The project will have no impact on ground water supplies. Other than the two OP-AMP stations, little to no development of impermeable surfaces will be associated with the proposed expansion project. Therefore, groundwater recharge will not be affected.

- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?***

NO IMPACT (Applicable to all project routes). The proposed expansion project has been designed so that no in-water work in sensitive water bodies (i.e., water bodies supporting critical habitat or listed or proposed species) will occur during construction. The project will not alter existing drainage patterns through the alteration of a stream, river course, or upland areas because the rights-of-way will be regraded to pre-construction contours or repaved. No impact will occur.

- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?***

NO IMPACT (Applicable to all project routes). The proposed expansion project has been designed so that no in-water work in sensitive water bodies (i.e., water bodies supporting critical habitat or listed or proposed species) will occur during construction. The project will not alter existing drainage patterns through the alteration of a stream or river course. Other than the two OP-AMP stations, little to no development of impermeable surfaces will be associated with the proposed expansion project. Therefore, no impact will occur.

- e. Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?***

NO IMPACT (Applicable to all project routes). The proposed expansion project will not create or contribute runoff water to drainage systems. Other than the two OP-AMP stations, little to no development of impermeable surfaces will be associated with the proposed project. Therefore, no impact will occur.

- f. Otherwise substantially degrade water quality?***

NO IMPACT (Applicable to all project routes). The proposed expansion project will not substantially degrade water quality, for the reasons discussed previously related to questions a through e above. Therefore, no impact will occur.

- g. *Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?***

NO IMPACT (Applicable to all project routes). The proposed expansion project does not include the construction or placement of housing. Therefore, no impact will occur.

- h. *Place within a 100-year flood hazard area structures that would impede or redirect flood flows?***

NO IMPACT (Applicable to all project routes). FEMA's flood insurance rate maps show that the proposed expansion project routes cross numerous 100-year floodplains. Conduit and cable installation will not affect floodplain capacity and will not impede or redirect flood flows because the fiber optic cable will be installed approximately 4 feet below the ground surface. The two proposed OP-AMP stations along the Ontario to San Diego Longhaul Route (and any alternative sites, if necessary) shall not be located within designated 100-year floodplains. Therefore, no impact will occur.

- i. *Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?***

NO IMPACT (Applicable to all project routes). The proposed expansion project will not affect any surface water flows, increase the risk of flooding, or install structures in locations that will expose people or structures to flooding risk. Therefore, no impact will occur.

- j. *Contribute to inundation by seiche, tsunami, or mudflow?***

NO IMPACT (Applicable to all project routes). The proposed expansion project will not affect the potential for inundation by seiche, tsunami, or mudflow. Therefore, no impact will occur.

4.8.4 CUMULATIVE IMPACTS

The cumulative effect of a temporary, small increase in sediment load will be minimal. Because the direct and residual effect of trench spoils erosion will be minor, no cumulative impacts are expected. Successful spill prevention will result in no cumulative impacts.

Regarding flood hazards, if construction is necessary within a 100-year floodplain, the proposed expansion project will be required to obtain applicable local permits. This will result in no contribution to a cumulative impact because the local permit system, in accordance with flood insurance rates set by the FEMA, is designed to avoid development that will cumulatively result in flood hazard.

4.9 LAND USE AND PLANNING

Land use planning is the province of local government in California. Each city and county is required to adopt a general plan that establishes goals and policies for long-term development, protection from environmental hazards, and conservation of identified natural resources. Typically, a general plan lays out the pattern of future residential, commercial, industrial, agricultural, open space, and recreational land uses within a community. Zoning, the primary means of implementing these plans, identifies the specific types of land uses that may be allowed on a given site. Zoning also establishes the standards that will be imposed on new development.

Local approaches to zoning vary considerably around the state. In general, zoning requirements are more restrictive along the coast and less restrictive in unincorporated portions of counties. The proposed fiber

optic cable system expansion will be installed mostly within existing road, railroad, or utility rights-of-way; in many cases, cable and conduit will be located alongside other utilities. Local permitting and approval requirements associated with trenching within existing roadways include road encroachment permits, grading permits, longitudinal permits, and street opening permits.

The two OP-AMP stations associated with the proposed expansion project will be subject to zoning requirements that may relate to setbacks, access requirements, height restrictions, color of building, building materials, and landscaping of real estate. Broadwing is in the process of identifying local zoning and permit requirements and approvals for the two proposed OP-AMP sites. The OP-AMP stations are sited on properties where this use is consistent with local general plans.

Zoning regulations vary from jurisdiction to jurisdiction along the proposed routes. In some jurisdictions, construction is permitted “by right” (i.e., without the need for a hearing) as an allowable use under the zoning ordinance. In others, a conditional use permit or similar discretionary action will be needed. Typically, discretionary actions require a noticed public hearing on the proposal. At the hearing, the local zoning board or zoning administrator will consider the proposal, public testimony, and the findings of CEQA review. If approved, the proposed expansion project would be made subject to conditions relating to its design, appearance, and construction intended to comply with local ordinance and environmental quality requirements.

4.9.1 PROJECT ROUTE ENVIRONMENTAL SETTINGS

The land use settings of the project routes are described below.

SAN FRANCISCO END LINK PROJECT

The proposed project route is within the city of San Francisco in San Francisco County and the city of Brisbane in San Mateo County. The project route is made up of urban land uses for its entire length. Generally, the setting of the project route is within city street right-of-way. Adjacent land uses are primarily commercial and residential. No OP-AMP sites are proposed along this project route.

SANTA CLARA DATA CENTER ROUTE 2

The proposed project route is located within the cities of Santa Clara and San Jose within Santa Clara County. The project route comprises urban land uses for its entire length. Generally, the setting of the project route is within city street right-of-way. Adjacent land uses are primarily commercial and residential, with limited areas of industrial land use. No OP-AMP sites are proposed along this project route.

HAYWARD TO PLEASANTON RE-ROUTE

The proposed project route is located within the city of Hayward in Alameda County. The project route is made up of urban land uses for its entire length. Generally, the setting of the project route is within city street right-of-way. Adjacent land uses are primarily commercial and residential. No OP-AMP sites are proposed along this project route.

SACRAMENTO END LINK PROJECT

The proposed project route is located within the city of Sacramento within Sacramento County. The project route comprises urban land uses for its entire length. Generally, the setting of the project route is

within city street right-of-way. Adjacent land uses are primarily commercial and residential. No OP-AMP sites are proposed along this project route.

SACRAMENTO, MODESTO, AND STOCKTON END LOOP PROJECTS

These proposed project routes are located individually within the cities of Sacramento (in Sacramento County), Modesto (in Stanislaus County), and Stockton (in San Joaquin County). The project routes comprise urban land uses for their entire lengths. Generally, the settings of the project routes are within city street rights-of-way. Adjacent land uses are primarily commercial. No OP-AMP sites are proposed along these project routes.

LOS ANGELES TO ONTARIO LONGHAUL ROUTE

The proposed project route is located within the cities of Los Angeles, Alhambra, El Monte, City of Industry, Baldwin Park, Irwindale, West Covina, Covina, San Dimas, La Verne, Pomona, and Claremont in Los Angeles County and in Montclair, Upland, Ontario, and Rancho Cucamonga in San Bernardino County. The project route constitutes urban or suburban land uses for its entire length. Generally, the setting of the project route is within railroad rights-of-way or within city street (Milliken Avenue) right-of-way. Adjacent land uses are primarily industrial, commercial, and residential. No OP-AMP sites are proposed along this project route.

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

The proposed project route is located within the cities of Ontario in San Bernardino County; Norco, Corona, Lake Elsinore, Murrieta, and Temecula in Riverside County; and Escondido, Poway, and San Diego in San Diego County. Land uses vary along the project route from intensive urban, commercial, and industrial land uses to agricultural and open space uses. Generally, the setting of the project route is within street rights-of-way. Adjacent land uses are urban, suburban, semi-rural, and rural in nature.

Two OP-AMP sites are proposed along this route, one near Lake Elsinore in the community of Wildomar (Tranquil Lane site) and the other just south of the Riverside/San Diego county line in the community of Rainbow (Warder site). The Tranquil Lane site is at the corner of Tranquil Lane and Grand Avenue and is zoned rural residential (RR). The proposed OP-AMP station is a permitted use in the rural residential zone. Adjacent land uses include single-family residences and mobile homes, with commercial land uses in the vicinity along Grand Avenue. The Warder site is at the corner of Rainbow Valley Boulevard and Rainbow Creek Road and is zoned agricultural (A-70). The proposed OP-AMP station is a permitted use within the A-70 zone with acquisition of a minor use permit. Adjacent land uses include a public water supply pump station directly across Rainbow Valley Boulevard, agricultural production (nurseries and orchards), and rural residences.

It is anticipated that any alternative OP-AMP stations (see Chapter 2, “[Project Description](#)”) would also be located in unincorporated areas within Riverside and San Diego Counties.

4.9.2 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts of the proposed expansion project is based on criteria **IX. a-c** in the environmental checklist (see [Appendix A](#)) and on the following factors:

- substantial changes to land uses along the cable right-of-way,
- incompatibility with long-term uses on adjacent properties, or
- conflict with applicable land use plans.

4.9.3 IMPACT ASSESSMENT

All cities and counties within California are required to adopt a general plan establishing goals and policies for their future development. To implement their plans, local jurisdictions adopt zoning, subdivision, grading, and other ordinances. A proposed project may have an impact on the local general plan by proposing actions that would conflict with planning goals, policies, or regulations adopted to avoid or minimize environmental impacts. A proposed project may disrupt land use patterns by physically dividing a community (e.g., freeway construction).

Would the project:

a. *Physically divide an established community?*

NO IMPACT (Applicable to all project routes). The proposed expansion project consists of the installation of fiber optic conduit and cable within existing road, railroad, and utility rights-of-way. Conduit, cable, and handholes/manholes shall be installed underground and shall cause minimal disruption during construction. Marker posts shall be installed aboveground approximately every 700 to 1,000 feet on the shoulder of the roads along the right-of-way. The proposed project shall be constructed in accordance with local zoning ordinances. One pre-cast concrete building (approximately 34 by 85 feet in size) shall be installed at each of the two OP-AMP sites. The proposed fiber optic system shall not create any structures or other features large enough or intrusive enough to divide an established community.

b. *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). CEQA evaluates physical changes in the environment that may result from the implementation of a project and whether those changes are significant (CEQA Guidelines Section 15378). The proposed expansion project is not anticipated to conflict with local land use plans and regulations adopted for the purpose of avoiding and mitigating an environmental effect. In accordance with Section 15064(h) of the CEQA Guidelines, this impact is considered less than significant as long as the proposed project complies with these standards. The proposed Tranquil Lane OP-AMP station is a permitted use in its existing rural residential zone. The proposed Warder OP-AMP station is a permitted use within its existing A-70 zone, with acquisition of a minor use permit. As part of the proposed expansion project, Broadwing shall obtain necessary local zoning permits before construction of facilities and shall comply with the applicable conditions of approval. Copies of all applicable permit conditions shall be provided to the CPUC before construction.

c. *Conflict with any applicable habitat conservation plan or natural community conservation plan?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). The proposed expansion project shall be constructed within several areas having existing resource conservation plans including:

- Multiple Species Conservation Program (MSCP), San Diego County;
- Multiple Species Conservation Program, City of San Diego MSCP Subarea Plan;
- Riverside County Habitat Conservation Agency, Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County;

- ▶ Western Riverside County Multiple Species Habitat Conservation Plan;
- ▶ San Bernardino Valley-Wide Multi-Species Habitat Conservation Plan, San Bernardino County.
- ▶ Integrated Natural Resource Management Plan, Marine Corps Air Station Miramar

Construction within existing rights-of-way, as will occur under the proposed expansion project, will not conflict with these local habitat and natural community conservation plans. This issue is described in more detail in “[Biological Resources](#).”

LESS-THAN-SIGNIFICANT IMPACT (Applicable to the Ontario to San Diego Longhaul Project). According to the Riverside County Planning Department, the Tranquil Lane OP-AMP site is located outside of the area addressed by the Habitat Conservation Plan for the Stephens’ Kangaroo Rat in Western Riverside County and outside the core reserve (fee) area for the Stephens Kangaroo Rat (Granado, 2001). The site is within the boundary of the Western Riverside County Multiple Species Habitat Conservation Plan and is designated as private land. This plan was released for public review in 1995 and the approval process is scheduled to begin in 2002. The Tranquil Lane site is not located in an existing conservation area or in a potential new conservation area “identified as biologically valuable and considered desirable for conservation.” According to the San Diego County Department of Planning and Land Use, the Warder OP-AMP site is not located within any habitat conservation plan area, including the Multiple Species Habitat Conservation Program for San Diego County (Bloom, 2001). Therefore, no conflicts with habitat conservation plans are anticipated.

4.9.4 CUMULATIVE IMPACTS

The proposed expansion project will not result in the physical division of a community or leave evidence of its existence other than marker poles and the two OP-AMP stations. Further, no conflicts are identified with any habitat conservation plan or local zoning regulation. The proposed project will make a *de minimis* contribution to any cumulative effect.

4.10 MINERAL RESOURCES

Sand and gravel deposits are the minerals most likely to be found along all the proposed expansion project routes. Such deposits are typically found in streambeds and valley bottoms.

Land use documents, including general plans, specific plans, and the CEQA environmental checklist, typically include policies that limit development of facilities in areas that contain mineral resources. The California Department of Conservation oversees the state’s mining and mineral extraction. The California Surface Mining and Reclamation Act (SMARA) (Pub. Res. Code Section 2710 et seq.) establishes statewide mineral conservation policies that are implemented by counties and cities through local surface mining ordinances. These policies discourage local governments from allowing new incompatible uses (essentially defined as permanent, urban uses) in areas identified by the state geologist as containing mineral resources that are either locally important or of statewide value.

The conduit and cable for the proposed project will be installed within existing rights-of-way, to a depth of 4 feet below grade, and will not involve mineral excavations that would require SMARA. The lines will not obstruct the recovery of mineral deposits to any greater extent than exists now because they will be installed within existing rights-of-way. The two OP-AMP sites are less than 3,000 square feet in size, will be located directly adjacent to road rights-of-way, and will not be located in areas of mineral extraction. Because the conduit and cable and the OP-AMP sites will not have any effect on mineral resources, the proposed project will not require compliance with SMARA.

4.10.1 PROJECT ROUTE ENVIRONMENTAL SETTINGS

ALL PROJECT ROUTES

Conduit and cable will be installed within existing urban areas and/or disturbed rights-of-way and will not impede mineral extraction. Therefore, mineral zone classifications of the proposed project routes are irrelevant and were not examined in detail.

ONTARIO TO SAN DIEGO LONGHAUL ROUTE

The proposed project route includes development of two OP-AMP stations, one near Lake Elsinore in the community of Wildomar and the other just south of the Riverside/San Diego county line in the community of Rainbow. According to the applicable county planning departments, neither of the proposed OP-AMP sites are located in areas defined as having important mineral resources.

4.10.2 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts of the proposed expansion project is based on criteria **X. a** and **b** in the environmental checklist (see [Appendix A](#)). Proposed projects with the potential for reducing the availability of mineral resources are those that would:

- build over the resources;
- place incompatible uses such as housing or schools adjacent to mines, thereby restricting their operations; or
- shut off access to the mineral resource.

4.10.3 IMPACT ASSESSMENT

Would the project:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? or*
- b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

NO IMPACT (Applicable to all project routes). The fiber optic conduit and cable routes are located within existing rights-of-way (i.e., roads, railroad, utilities), which limits the availability for surface mining. Because the fiber optic facilities will be installed within existing rights-of-way, they will not obstruct the recovery of mineral deposits to any greater extent than currently exists.

NO IMPACT (Applicable to the Ontario to San Diego Longhaul Route). Both of the OP-AMP stations sites will be located on private property adjacent to road rights-of-way. Therefore, the OP-AMP sites will have a greater potential for mineral resource recovery than the route itself. Locating OP-AMP stations within areas of possible mineral deposits could limit future access to those areas. However, the sites are not located in areas of mineral extraction or within areas defined as having important mineral resources; therefore, no impact is anticipated.

4.10.4 CUMULATIVE IMPACTS

The proposed expansion project will make only a *de minimis* contribution to any cumulative impact on mineral resources. The installation of conduit and cable in existing rights-of-way will not affect the ability

to access mineral resources within the rights-of-way. The proposed OP-AMP stations are not located in existing or designated mineral resource areas. Broadwing’s commitment to keep alternate OP-AMP sites, if needed, out of 100-year floodplains where sand and gravel deposits are typically located greatly limits the potential that any alternate OP-AMP site would interfere with an existing or future mineral resource recovery operation.

4.11 NOISE

Noise is defined as unwanted sound. Sound, traveling waves from a specific source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB). Zero dB corresponds roughly to the threshold of human hearing and 120 to 140 dB corresponds to the threshold of pain. Human response to noise is subjective and can vary greatly from person to person. Factors that can influence individual response include intensity, frequency, and time pattern of the noise; the amount of background noise present before the intruding noise; and the nature of work or human activity that is exposed to the noise. The adverse effects of noise include interference with concentration, communication, and sleep. At high levels, noise can induce hearing damage.

Environmental noise is usually measured in A-weighted decibels (dBA). Environmental noise typically varies over time, and different types of noise descriptors are used to account for this variability. Typical noise descriptors include maximum noise level (L_{max} - the highest instantaneous noise level observed in a given period), the energy-equivalent noise level (L_{eq} - the energy-equivalent noise level, or “average” noise level, is the equivalent steady-state continuous noise level), and the day-night average noise level (L_{dn} - the day-night average noise level is a weighted 24-hour noise level).

The L_{dn} noise descriptor is commonly used in establishing noise exposure guidelines for specific land uses. The noise level experienced at a particular site depends on the distance between the source and a specific receptor (humans, wildlife or sensitive places), presence or absence of noise barriers and other shielding features, and the amount of noise reduction provided by the intervening terrain. Some land uses are considered more sensitive to noise levels than others due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved.

California Government Code Section 65302(f) requires that city and county general plans include a noise element. The general plan noise elements are used as planning guidelines to ensure that long-term noise generated by a source is compatible with adjacent land uses. The California Department of Health Services (DHS) has studied the correlation of noise levels and their effects on various land uses and has published land use compatibility guidelines for the noise elements of local general plans (Office of Planning and Research 1990). The guidelines are the basis for most noise element land use compatibility guidelines in California. The DHS noise element guidelines identify the normally acceptable noise level range for several different land uses. Recommended maximum acceptable noise levels for various land uses are shown in [Table 4.11-1](#).

Land Use	Suggested Maximum L_{dn}*
Residential – low density	60
Residential – high density	65
Transient lodging	65
Schools, libraries, churches, hospitals	70
Auditoriums	70

Playgrounds, parks	70
Commercial	70
Industrial	75

*L_{dn} – day-night sound level

Source: Office of Planning and Research 1990

As shown in [Table 4.11-1](#), low-density residential areas are most sensitive to noise intrusion with noise levels of 60 dBA L_{dn} and below considered acceptable. Acceptable noise levels are up to 70 L_{dn} for schools, libraries, churches, hospitals, and parks and up to 70 and 75 L_{dn} respectively for commercial and industrial land uses.

Cities and counties can also adopt noise control requirements within their zoning ordinances or as separate ordinances. Noise ordinances serve as enforcement mechanisms for controlling noise. The level of specificity in noise ordinances used in California cities and counties vary widely. Noise ordinances generally set limits on acceptable noise levels at the property line of the affected land use based on the background noise level, the noise level from the source in question, the duration of the noise event, and the time of day for which the noise generating activity could occur.

Many noise ordinances are based on the model noise ordinance published by DHS, which recommends daytime and nighttime noise level limits of 40 and 50 dBA-L₅₀ respectively for rural uses, 45 and 55 dBA-L₅₀ respectively for suburban uses, and 50 and 60 dBA-L₅₀ respectively for urban uses. Noise ordinances typically limit the absolute sound levels that can be generated by construction and other activity, or they restrict the times of day when such noise can occur. Noise ordinances often contain exemptions for construction activities, provided the construction takes place during the hours specified by affected local jurisdictions.

4.11.1 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts of the proposed expansion project is based on criteria **XI. a-f** in the environmental checklist (see [Appendix A](#)). Additionally, city and county governments typically use noise elements, which are part of the general plan to evaluate long-term noise-related land use compatibility for development of an area, and noise ordinances to regulate noise from specific noise sources such as un-muffled automobiles, music and parties, industrial activities, and construction. The proposed project would not likely affect respective community noise elements, but because the proposed project involves installation of fiber optic conduit and cable using construction equipment, local noise ordinances would apply.

No standardized criteria have been developed for assessing construction noise impact. Consequently, criteria must be developed on a project-specific basis unless local ordinances apply. Generally, local noise ordinances are not very useful in evaluating construction noise. These ordinances usually relate to nuisances and hours of allowed activity and sometimes specify limits in terms of maximum levels, but they are generally not practical for assessing the impact of a construction project. Project construction noise criteria should take into account the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. For purposes of this analysis, a noise impact is considered significant if project-related noise at a noise-sensitive land use or receptor has the potential to exceed typical noise ordinance standards. To keep this analysis reasonably conservative, the analysis does not presume that construction activity is exempt from regulations.

There are no established noise thresholds for most wildlife species; accordingly, noise impacts on wildlife are generally addressed qualitatively. For purposes of this analysis, noise environments considered to be

acceptable for human use are considered acceptable for wildlife species, unless otherwise specified in “[Biological Resources](#).”

4.11.2 IMPACT ASSESSMENT

Residencies such as private homes, hospitals, libraries, educational facilities, and rest homes are typically considered to be sensitive to noise. The number and type of noise sensitive uses along the project routes varies depending upon the degree of development in the area. In some areas, residences or other sensitive uses are located within 50 feet of the proposed project route. In other areas, the distance between the route and the nearest noise-sensitive uses is several thousand feet. However, because the project routes are primarily located within existing rights-of-way, any sensitive receptors are often already exposed to noise sources (i.e., railroad and roads).

Background noise levels along the project routes vary widely depending on the degree of development and general human activity in the area. For example, railroad and road rights-of-way will typically have greater background noise associated with trains and automobiles. Typical sources of noise include transportation (e.g., automotive and truck traffic, aircraft, trains), mechanical equipment (e.g., air conditioners, manufacturing equipment), and natural sources (e.g., wind, birds, crickets, frogs). Background sound levels typically range from 45 to 55 dBA (A-weighted decibels) in suburban areas to 55 to 65 dBA in urban areas.

For this analysis, potential noise impacts will include: (1) temporary noise increases along the route due to noise from construction equipment during cable installation, and (2) long-term noise increases from operation of emergency backup generators at the OP-AMP stations. Both temporary and long-term noise increases would have the potential to affect sensitive land use such as residences along route segments and in the vicinities of the OP-AMP stations. The construction-related noise sources will be typical construction equipment commonly used intermittently at construction sites with the exception of the directional boring activity. Directional boring (drilling) will be a continuous operation throughout the workday and has a greater potential to exceed regulatory noise thresholds.

The effect of increased noise levels will be somewhat diminished because most construction activity is expected to take place during daylight hours when background noise levels are generally the highest and people’s tolerance is the highest. Because construction crews are expected to move quickly, construction noise associated with conduit installation will typically be audible from a specific location for only one day or less. Noise generated from the project is expected to be less than noise currently generated by trains or automobiles using various rights-of-way.

Would the project:

- a. ***Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?***

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). Noise-generating activities associated with the proposed expansion project are related primarily to construction activities. Typical construction equipment to be used includes rubber-tired backhoes, tracked vehicles, tractors, and directional boring equipment. Most activity associated with construction within road, railroad, and utility rights-of-way and construction of the OP-AMP stations is anticipated to occur during daylight hours, except for possible limited nighttime boring activities in isolated areas and where local jurisdictions request nighttime construction to avoid conflicts with vehicular traffic.

Construction of the OP-AMP stations will also involve the use of noise-generating equipment. Grading is expected to be the noisiest activity associated with the construction of these facilities and improvements. [Table 4.11-2](#) summarizes typical noise levels produced by the construction equipment expected to be used for grading and in-ground fiber optic cable installation.

Equipment	Sound Level dBA (Lmax) at 50 ft.
Backhoe	80
Bulldozer	85
Grader	85

Source: Federal Transit Administration 1995.

Noise associated with the proposed expansion project is expected to come primarily from cable installation and construction of the OP-AMP stations. Noise may also be associated with operation of emergency backup generator and other support equipment, such as heating, ventilation, and air conditioning (HVAC) equipment at the OP-AMP stations. In California, noise from these types of operations is regulated only at the local level.

A bulldozer is expected to be the noisiest piece of equipment used at any construction site, and other highly noisy equipment will likely not be used concurrently with a grader. Therefore, the assessment of potential noise impacts associated with in-ground conduit and cable installation or other construction activity is based on a worst-case source level of 85 dBA at 50 feet. Noise levels that could potentially occur in the vicinity of cable installation or other construction sites based on this source level are summarized in [Table 4.11-3](#). This table includes attenuation factors for distance, molecular absorption, and anomalous excess attenuation (Hoover 1996). Locations within about 2,000 feet of an active construction site have the potential to be exposed to noise in excess of 50 dBA. Many local noise ordinances use sound levels in the range of 50 to 55 dBA as thresholds for violation at residential uses during daylight hours. Residences or other sensitive receptors will be located within 2,000 feet of many portions of the cable routes and may be exposed to noise in excess of local standards. Construction noise may temporarily result in a substantial increase in noise above background sound levels. However, construction within existing railroad or road rights-of-way will typically not be expected to generate noise that will be significantly greater than noise generated by trains or automobiles.

Distance to Receptor (feet)	Sound Level at Receptor (dBA)
50	85
100	79
200	73
500	64
600	62
800	60
1,000	57
1,500	53
2,000	50
2,500	47
3,000	44
4,000	40

Distance to Receptor (feet)	Sound Level at Receptor (dBA)
5,280	36
7,500	39

Note: The following assumptions were used:
 Basic sound level drop-off rate: 6.0 dB per doubling of distance
 Molecular absorption coefficient: 0.7 dB per 1,000 feet
 Anomalous excess attenuation: 1.0 dB per 1,000 feet
 Reference sound level: 85 dBA
 Distance for reference sound level: 50 feet
 This calculation does not include the effects, if any, of local shielding that may reduce sound levels further.

This impact is considered less than significant because Broadwing has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure N-1: Employ Noise- and Vibration-Reducing Construction Practices. When installing and constructing fiber optic cable system, Broadwing shall employ the following measures to reduce noise and vibration:

- ▶ Restrict construction activity along routes and at staging areas within 1,000 feet of residences to daytime hours (7:00 a.m. to 7:00 p.m.). No construction shall occur within 3,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 7:00 p.m. and 7:00 a.m. on other days, unless expressly required by local jurisdictions.
- ▶ All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an un-muffled exhaust.
- ▶ As directed by the local jurisdiction, Broadwing shall implement appropriate additional noise mitigation measures to comply with the applicable local noise ordinance including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary and mobile construction noise sources.
- ▶ If traffic control devices requiring electrical power are employed within 500 feet of sensitive receptors, the devices shall be battery/solar powered instead of powered by electrical generators.

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to the Los Angeles to Ontario Longhaul Route). Typical construction equipment to be used includes rail plows, rubber-tired backhoes, tracked vehicles, tractors, and directional boring equipment. Noise generated with the rail plow is primarily associated with the diesel locomotive needed to pull the plow. For the portion of the proposed project within the Milliken Avenue right-of-way, construction activities would occur during the day (except where local jurisdictions request nighttime construction to avoid conflicts with vehicular traffic) and noise levels would not exceed local noise ordinance standards. Along the remainder of the proposed project route, however, construction activity within the railroad right-of-way is expected to occur entirely during nighttime hours, resulting in noise levels that will likely exceed standards established in the local noise ordinances, particularly as they relate to residential areas located adjacent to the railroad right-of-way.

The proposed project will require exemption from local noise ordinances because within the Metropolitan Transportation Authority (MTA) right-of-way construction can only occur at night to avoid existing Metrolink operations. Broadwing shall address these issues with the appropriate cities before permit application with the city. The effect of increased nighttime noise levels will be somewhat diminished

because construction crews are expected to move quickly (up to 2,000 feet/hour); as a result, construction noise would be audible in an urban environment for less than two hours.

A diesel-powered locomotive will tow the rail plow and conduit and cable will be plowed into the ground adjacent to the railroad tracks. Therefore, noise from this type of installation would be dominated by the locomotive, as it provides the necessary power to pull the cable. No noise criteria are available for this type of construction activity. In the absence of criteria, and due to the fact that the project will be constructed almost entirely within MTA’s railroad right-of-way, MTA criteria are used for a baseline of analysis.

Based on MTA Construction Specifications, nighttime operations noise limits have been established by MTA Project Noise and Vibration Criteria. According to these criteria, the maximum allowable nighttime continuous noise level of total construction site noise for residential areas not along major roads is 50 dBA (Lmax); for residential areas along major roads, the continuous noise level is 55 dBA. For commercial and industrial areas the continuous noise level for nighttime construction ranges between 70 dBA and 80 dBA.

Based on these MTA Project Noise and Vibration Criteria, the maximum allowable short-term (less than two hours) noise level at night for residential areas not along major roads is 60 dBA (Lmax); for residential areas along major roads, the continuous noise level is 65 dBA. For commercial and industrial areas the continuous noise level for nighttime construction ranges between 85 dBA and 90 dBA.

The MTA has also provided criteria for noise emission limits for construction equipment used during the nighttime hours. Noise emission limits for the types of equipment that may be used for the installation of the fiber optic facilities are included in [Table 4.11-4](#). The construction contractor is prohibited from operating equipment at night that does not meet the following nighttime noise emission limits.

Equipment Category	Noise Level dBA (Lmax) at 50 ft.
Backhoe	80
Boring Jack Power Unit	80
Compactor	80
Compressor	65
Dozer	85
Excavator	85
Generator	69
Grader	85
Horizontal Boring Hydraulic Jack	80
Rock Drill	85
Trenching Machine	82
Vacuum Excavator	85

As shown above, the nighttime noise equipment limits often exceed the established maximum short-term and continuous nighttime noise levels established by the MTA. Mitigation will be required to reduce anticipated temporary noise impacts related to construction equipment within acceptable regulatory limits. Noise impacts are considered less than significant because Broadwing shall adopt the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure N-2: Comply with MTA Noise Reduction Specifications When Constructing in Railroad Rights-of-Way. As part of project implementation, Broadwing shall produce a Noise Control Plan, based on the specifications provided by the MTA and with input from the affected jurisdictions. The noise control plan shall be reviewed and approved by the CPUC before project construction. As directed by the local jurisdictions, Broadwing shall implement appropriate additional noise mitigation measures to comply with applicable local noise ordinances, including, but not necessarily limited to:

- using construction equipment with effective noise-suppression devices;
- changing the location of stationary construction equipment to avoid residential and other sensitive receptor sites;
- shutting off idling equipment;
- scheduling of construction activity in a manner that will minimize, to the extent possible, the disturbance to the public in areas adjacent to railroad right-of-way;
- notifying adjacent residents in advance of construction work;
- installing acoustic barriers around stationary and mobile construction noise sources, which may include noise barrier fences and noise control curtains, as specified in the MTA Construction Noise and Vibration Control Manual; and
- using battery/solar powered traffic control devices instead of those powered by electrical generators.

b. *Expose persons to or generate excessive groundborne vibration or groundborne noise levels?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). Directional boring and drilling and operation of heavy equipment will likely result in temporary exposure of residences or other sensitive receptors to localized groundborne vibration and noise. Groundborne noise is noise radiated by vibrating ground and structures supported on vibrating ground. The effect of increased vibration and noise levels is somewhat diminished because the installation of the fiber optic facilities will be within railroad and road rights-of-way, where noise is expected. Construction within active railroad rights-of-way will not create significantly more ground vibration than passing trains.

The project's groundborne noise and vibration impact is considered less than significant because the construction activities are contained within existing road and railroad rights-of-way, potential groundborne vibration and noise are anticipated to be temporary and highly localized, and because Broadwing shall adopt the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure N-1: Employ Noise- and Vibration-Reducing Construction Practices. Refer to above discussion under criterion **a** above.

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to the Los Angeles to Ontario Longhaul Route). Construction activity within the railroad right-of-way is expected to occur entirely during nighttime hours, resulting in a temporary increase in groundborne vibration and noise. Installation of the cable through the use of the rail plow pulled by a diesel locomotive, directional boring equipment, and the operation of other heavy equipment will generate localized groundborne vibration and noise that will be perceptible at residences or other sensitive receptors close to the railroad right-of-way. However, the effect of increased nighttime noise levels will be reduced because construction crews are expected to move quickly (up to 2,000 feet per hour); as a result, construction noise could be expected to be audible for a particular location within an urban environment for less than two hours. In locations where boring is required to install the conduit and cable under roadways and waterways, construction activities would be completed in one night.

The impact is considered to be less than significant because the construction activities are contained within existing road and railroad rights-of-way, potential groundborne vibration and noise are anticipated to be temporary and highly localized, and because Broadwing shall adopt the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure N-1: Employ Noise- and Vibration-Reducing Construction Practices. Refer to above discussion under criterion a above.

c. Result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?

NO IMPACT (Applicable to the Northern California Interconnection Projects and the Los Angeles to Ontario Longhaul Route). Construction of these projects will only temporarily increase noise levels. No permanent noise increases will result from implementation of these projects.

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to the Ontario to San Diego Longhaul Route). A permanent source of noise associated with ongoing operation of the proposed expansion project is an emergency backup generator to power each OP-AMP station in case of a power outage. Other support equipment, such as HVAC equipment, may also generate noise. The generator shall be located outside the concrete pre-cast structure that houses the OP-AMP equipment and shall be operated temporarily only during a power outage or when the generator is being tested or serviced. Generators used at these facilities are typically powered by a 255-horse power diesel-driven reciprocating engine. An engine of this type and size will produce a sound level of about 84 dBA at 50 feet (Hoover 1996). HVAC equipment shall be used to control the climate in the facility to protect electronics.

The backup generators shall be installed with a standard sound-attenuating enclosure. A standard enclosure is expected to provide approximately 15 dB of sound reduction. With an enclosure in place, the 84-dB source level will be reduced to approximately 69 dBA. The noise level produced by HVAC equipment will vary depending on climate. Noise produced by this equipment could potentially be equal to the noise produced by the backup generator. Based on this source level, noise-sensitive uses within about 500 feet of an OP-AMP facility could be exposed to noise in excess of 50 dBA. Noise-sensitive uses within 1,400 feet of a facility could be exposed to noise in excess of 40 dBA. An emergency power outage could require extended use of the generator and result in exposure of nearby sensitive receptors to noise in excess of local day and night noise ordinance standards or to excessive noise increases. Noise from HVAC equipment could have similar results. This impact is considered less than significant because Broadwing has adopted the following mitigation measure as part of the construction mitigation strategy of the proposed expansion project.

Mitigation Measure N-3: Design and Locate Emergency Backup Generators and Other Support Equipment to Limit Noise from the Engine Generator. Broadwing shall design and locate the emergency backup generators and other support equipment at OP-AMP stations such that the noise produced does not exceed local noise ordinance criteria. Potential methods for achieving this level include locating the facility away from noise-sensitive uses and using local shielding from the building structure, topography, landscaping, or sound walls to reduce noise transmission to sensitive receptors.

d. Result in a substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Construction activity will result in a temporary increase in noise. There is not expected to be a permanent increase in noise levels as a result of this project because the OP-AMP stations will be located adjacent to highways and roads, which have relatively high ambient noise levels. Refer to the responses to questions **a** and **c** above.

- e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the proposed project area to excessive noise levels?*

This question is not applicable to the project.

- f. Be located in the vicinity of a private airstrip and expose people residing or working in the proposed project area to excessive noise levels?*

This question is not applicable to the project.

4.11.3 CUMULATIVE IMPACTS

There are no cumulative noise impacts associated with the proposed expansion project because noise impacts are anticipated to be temporary and/or highly localized.

4.12 POPULATION AND HOUSING

Implementation of the proposed expansion project will not affect or generate additional population or affect or create the demand for new housing along the project routes. Therefore, no discussion of the setting for population and housing is necessary.

4.12.1 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance of impacts of the proposed expansion project is based on criteria **XII. a-c** in the environmental checklist (see [Appendix A](#)). Proposed projects that would introduce substantial population growth or make it possible for such growth to occur (i.e., new sewer line or road) would significantly impact population and housing. In addition, proposed projects that would displace substantial housing or necessitate the construction of replacement housing might also have a significant impact.

4.12.2 IMPACT ASSESSMENT

Would the project:

- a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?*

NO IMPACT (Applicable to all project routes). The proposed expansion project will provide point-to-point communication services through fiber optic cables. The project is not a form of infrastructure similar to roads, water, or sewer lines, which can induce population growth within specific areas. The availability of high-speed, high-volume communications associated with the fiber optic facilities being proposed is one factor among many (e.g., cost of living, economic opportunities, market availability, quality of schools, salary levels, tax levels) in the decision by people and businesses to locate in California. Therefore, the proportional contribution of the project to California's future growth is too remote and speculative for analysis. Also, the volume of communications traffic originating or

terminating in California cannot be differentiated from the amount of traffic passing through California. The indirect impact of this project and others of its type on such growth is only speculative. No direct impact will occur.

- b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere? Or*
- c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?*

NO IMPACT (Applicable to all project routes). The proposed expansion project will serve existing and future telecommunications demand through a fiber optic cable system and will not induce substantial population growth in any particular area, nor make a noticeable contribution to population growth. Construction of the fiber optic facilities will occur within existing railroad and road rights-of-way and will not displace any housing or people. The two proposed OP-AMP sites may have supported mobile homes in the past, but are currently undeveloped. There will be no impact on population or housing as a result of implementation of the proposed expansion project.

4.12.3 CUMULATIVE IMPACTS

The proposed expansion project will neither produce nor displace housing. It will have no impact on population or housing and will not contribute to cumulative effects.

4.13 PUBLIC SERVICES

Public services are typically provided to development projects by a variety of local purveyors (i.e., city, county, special district, water agency, school district). The services available vary depending on the level of development in the area. The project will not result in an increased demand for public services, such as police protection, schools, parks, or other public facilities, because project construction will be temporary and located mostly within existing rights-of-way. Any impact on fire protection services will be less than significant with incorporated mitigation. A draft fire prevention and management plan has been prepared (see [Appendix F](#)) and will be implemented where appropriate. Because public services will not be affected, no discussion of the public services setting is necessary.

4.13.1 IMPACT SIGNIFICANCE CRITERIA

The assessment of significance for impacts of the proposed expansion project is based on criterion **XIII. a** in the environmental checklist (see [Appendix A](#)). Proposed projects that create a demand for public services may result in a significant if this demand results in a requirement for the construction of public facilities.

4.13.2 IMPACT ASSESSMENT

Would the project:

- a. *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: Fire protection? Police protection? Schools? Parks? Other public facilities?*

NO IMPACT (Applicable to all project routes). The proposed expansion project is the installation of fiber optic conduit and construction of related small facilities along existing rights-of-way. Construction will be temporary, quick, and self-sustaining. The two un-staffed OP-AMP stations associated with the Ontario to San Diego Longhaul Route will require minimal public services (e.g., potential fire protection). The proposed expansion project will not create a new demand for governmental services or facilities and will not require construction, alteration, or expansion of any such facilities to provide acceptable service levels. As discussed in Chapter 2, “[Project Description](#),” the proposed expansion project shall incorporate a fire prevention and management plan during construction, where necessary, thereby eliminating the need for new permanent or temporary fire protection facilities (see [Appendix F](#)). The proposed project will not result in any employment or population growth. Therefore, the project would not increase the enrollment of students at schools or increase the demand for park space.

4.13.3 CUMULATIVE IMPACTS

The proposed expansion project will need only very limited public services. It will therefore not substantially contribute to a cumulative effect.

4.14 RECREATION

Cities, counties, and special districts provide public recreation facilities. The types and uses of these recreation facilities vary greatly. The proposed expansion project is installation of a fiber optic cable system. The proposed project will be located mostly within road, railroad, and utility rights-of-way and will not cross any parks or land where recreational facilities exist. The project will not affect recreational opportunities in any of the areas where the project will be implemented; use of existing recreational facilities will not increase and construction of additional facilities will not be necessary. Therefore, no further discussion of the recreation setting is necessary.

4.14.1 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts of the proposed expansion project is based on criteria **XIV. a** and **b** in the environmental checklist (see [Appendix A](#)). Additionally, an impact on recreation would be considered significant if it would:

- increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or
- include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Proposed projects that create a demand for recreation may result in the construction or expansion of recreational facilities. This construction may result in a significant effect when associated with significant adverse physical changes.

4.14.2 IMPACT ASSESSMENT

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? and*
- b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?*

NO IMPACT (Applicable to all project routes). The proposed expansion project is the installation of fiber optic cable and conduit and construction of ancillary facilities mostly along existing road, railroad, and utility rights-of-way. It will not result in new population along the routes, nor will there be a demand for recreation facilities during construction. Accordingly, it will not result in any increase in the use of parks or recreation facilities, nor will it construct or lead to the expansion of any recreational facilities. The proposed expansion project will have no impact on recreational opportunities or facilities.

4.14.3 CUMULATIVE IMPACTS

The proposed expansion project will need no recreational services. It will therefore not contribute to cumulative effects.

4.15 TRANSPORTATION/TRAFFIC

California is served by a well-developed network of freeways, highways, and surface streets, as well as mass transit facilities in the larger urban areas of the state, such as the San Francisco, Los Angeles, and San Diego metropolitan areas. The proposed expansion project routes pass through rural, suburban, and urban areas of the state. In suburban and urban settings, development tends to directly abut surface streets. In rural areas, the rights-of-way beyond the road pavement are generally undeveloped.

The proposed project routes will follow a combination of state highways, local roads, and railroad rights-of-way (see Chapter 3, “[Project Route Descriptions](#),” for complete descriptions of the project routes and [Appendix C](#) for project route maps). State highways are under the jurisdiction of the California Department of Transportation (Caltrans), which controls the design, operation, and maintenance of these roadways. Local roadway systems are comprised of roads that are under the jurisdiction of a particular city or county public works department. The majority of conduit and cable installation along the Los Angeles to Ontario Longhaul Route will be located within the MTA’s Metrolink rail line right-of-way. As described in Chapter 2, “[Project Description](#),” the installation of fiber optic cable will be accomplished by plowing, trenching, or directional boring along one side of roadways or railroad tracks. These rights-of-way provide convenient corridors for locating routes, typically without interfering with their ability to carry freight or passengers.

Caltrans will require Broadwing to obtain an encroachment permit to perform construction activities in state highway rights-of-way along the project routes, which will require development of a Traffic Management Plan (TMP). The TMP is a program of operational and demand management strategies designed to maintain acceptable levels of traffic flow during periods of construction activities. A major consideration in developing and implementing the TMP is its interaction with the planning, designing, constructing, and funding phases of transportation projects. The TMP coordinates the efforts of planners, engineers, construction workers, law enforcement agencies, and local governments to minimize congestion and delays caused by construction and to make construction zones safer for motorists and workers. The primary benefits of the TMP are that congestion through the construction zones is minimized, construction zones are safer, and construction time and cost are reduced.

Local traffic and transportation policy is implemented through city and county plans and law enforcement agencies. An encroachment permit will be required from each local jurisdiction (cities and counties) for construction and installation activities within public road rights-of-way. Encroachment permit requirements vary from agency to agency, although they are typically contingent on approval of a TMP by the local agency. Broadwing is currently identifying all of the required encroachment permits.

The MTA will require Broadwing to obtain an easement for installation of fiber optic cable and conduit facilities within their right-of-way. Construction activities within the Metrolink railroad right-of-way will require specific coordination with the MTA to ensure that the railroad's needs for safe system operation and maintenance are met during and after construction.

4.15.1 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts of the proposed expansion project is based on criteria **XV. a-g** in the environmental checklist (see [Appendix A](#)). Additionally, the proposed project would have a significant impact on the environment if it causes a substantial deterioration of the roadway surface because of construction activities or substantial increases in traffic and rail service delays.

Proposed projects that create a significant increase in traffic, exceed adopted traffic service standards, increase safety hazards, interrupt rail service, result in inadequate emergency access, or exceed parking capacity may result in a significant effect. Typically projects that could cause a significant impact would generate or attract traffic at a particular location or would obstruct traffic for a given period of time.

4.15.2 IMPACT ASSESSMENT

Assessment of impacts related to construction and operation of the fiber optic facilities involves evaluation of the effects of the proposed expansion project on traffic and circulation resulting from increases in traffic, loss of travel lanes and parking areas, disruptions of public transit (e.g. bus and rail), and potential safety effects associated with construction.

Following construction, the project will not use roadways as a means of transportation, but rather as a corridor for the placement of underground fiber optic cable. Most cable installations will occur in urban areas and will require trenching and replacement of existing pavement. Fiber optic cable installation along rural and low-density suburban road rights-of-way will also require trenching and replacement of existing pavement; some limited areas will be plowed or trenched outside the pavement but within the road right-of-way. Highway and larger road crossings, as well as certain urban installations, will be accomplished by boring beneath that roadway surface. Transportation and traffic impacts will result from construction-related activities and are considered short-term and temporary in nature. Operation and/or maintenance of project facilities (e.g., OP-AMP stations) will require only occasional inspection visits; therefore, operations-related traffic is considered minimal.

Would the project:

- a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?***

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). The fiber optic cable will be buried in road or railroad rights-of-way or will be hung from existing bridges if necessary and permitted. Access to the proposed project routes will be by existing roads, and those adjacent to railroad rights-of-way, in which fiber optic conduit and cable will be

installed. Work within railroad rights-of-way will occur at night, under agreement with the railroad, and will not unduly interrupt rail traffic (see response to question **d** below).

Most conduit and cable installations in road rights-of-way will occur within the paved surface of the roads and highways. In these areas, road pavement will be cut and replaced (under permit from the appropriate public agency). Major road crossings will be bored, minimizing the need for major road closures during construction.

Nearly all of the proposed expansion project's traffic impacts will result from temporary construction-related work that will occur within road rights-of-way during conduit and cable installation. The only permanent facilities resulting from the project will be two un-staffed OP-AMP stations that will require only occasional inspection visits. New conduit installation within or across streets would temporarily reduce the number or width of travel lanes on roads and highways along the project route, resulting in short-term disruption of traffic flows and increases in traffic congestion. Conduit installation activities along streets would temporarily disrupt existing transportation and circulation patterns in the vicinity. Lane blockages or street closures during conduit installation would result in a reduction in travel lanes and curb parking. Conduit installation work along or across high traffic volume arterials could significantly impact traffic flow and operations at these locations.

As discussed in Chapter 2, "[Project Description](#)," the construction crews will be comprised of a preparation crew, a fiber optic cable installation crew, and a cleanup crew. Installations along road rights-of-way, particularly within paved roads in urban areas, will have less need for the preparation and cleanup crews than installations in unpaved right-of-way shoulders in non-urban areas. Most of the traffic and traffic disruption that may occur during fiber optic cable installation will result from the installation crews.

Plowing, trenching, and directional boring methods will be used adjacent to roadways, depending on the physical characteristics of the site. Trenching will be the method of installation within paved roadways. Typically, the equipment used by a trenching crew will include an asphalt cutter, a backhoe/excavator, a roller/compactor, a spool truck, and pickup trucks. For comparison, given the narrowness of the required trenching (12 inches) and the types of equipment used, pavement work will generally be less invasive than domestic water main replacement, which typically requires a 24-inch-wide trench. Additionally, Broadwing will be required to obtain road encroachment permits from various local and state agencies that dictate required traffic control. Broadwing shall provide copies of all required permits to the CPUC before construction begins. The proposed project may temporarily disrupt traffic during installations adjacent to or within traffic lanes. As discussed in Chapter 2, "[Project Description](#)," a traffic control plan will be prepared and implemented to minimize the impacts of lane closures, if necessary, and any traffic flow disruptions. This impact is considered less than significant because Broadwing has adopted the following mitigation measure as part of the construction mitigation strategy for the project.

Mitigation Measure T-1: Prepare and Implement a Traffic Management Plan in Accordance with Caltrans and Local Agency Encroachment Permit Criteria. Broadwing shall prepare and implement a Traffic Management Plan that shall include operational and demand management strategies designed to maintain acceptable levels of traffic flow during periods of construction activities, in accordance with Caltrans or other applicable local regulatory agency directives. The Traffic Management Plan shall be approved by the CPUC and submitted for approval by each local jurisdiction requiring an encroachment permit. Applications for encroachment permits shall be prepared in accordance with each applicable jurisdiction's criteria and shall be submitted with sufficient lead time for the applicable regulatory agency Permit Engineer and/or permit review branches to review the project and its impacts to the applicable right-of-way. If these reviews require additional studies and clearances, Broadwing will conduct the studies and obtained the necessary clearances through close coordination with the CPUC. At a minimum,

the Traffic Management Plan and encroachment permit applications shall address the following elements associated with the proposed construction activities:

- maintenance of adequate emergency access, public transit services, and parking availability;
- maintenance of adopted traffic service standards;
- measures to ensure no substantial deterioration of the roadway surface; ~~and~~
- Creation of potential traffic obstructions or public and worker safety hazards; and
- Measures to ensure traffic and bicycle safety.

Encroachment permits shall also deal with issues such as lane closures, access, staging areas, and vehicular parking. Traffic control measures, such as the placement of warning signs, the use of traffic control personnel when appropriate, and coordination with local emergency response providers, shall be implemented. Broadwing shall comply with all applicable conditions of approval outlined in the state and local road encroachment permits and shall provide copies of all required traffic plans and permits to the CPUC before construction begins.

b. Cause, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways to be exceeded?

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). The proposed expansion project will have only temporary effects on traffic. Level-of-service standards for roads established by county congestion management agencies (CMA) are intended to regulate longer term traffic increases that result from construction of traffic generators such as offices, stores, and residential developments or changes in traffic patterns. As such, the proposed expansion project will not exceed level-of-service standards established by the applicable county CMA for designated roads and will have no impact.

Traffic-generating construction activities related to conduit and cable installation consist of daily commuter trips of construction workers at each work site, truck trips for hauling equipment and materials to the work site, and truck trips for hauling excavated spoils from the work site. Truck trips will be considerably less than worker commuter trips because the construction equipment will remain at the site during work hours, arriving and leaving once daily from designated staging areas. Spool trucks will make two or three trips per day, depending on the speed of installation and need for conduit. For the initial screening of impacts resulting from project-related traffic increases, the Institute of Transportation Engineers (ITE) recommends that an impact be examined more closely if it involves an increase of 50 or more trucks, 100 passenger vehicles, or an equivalent combination of vehicles per hour in the peak direction during the peak hour at any roadway intersection (Institute of Transportation Engineers 1989). For purposes of analysis, impacts associated with increased project-related traffic may be considered substantial if the number of project-generated vehicle trips will exceed any of these thresholds. Although more than one crew may be working on the project route at a given time (because of the length of the longhaul routes), trucks and vehicles will typically gain access to construction sites from different sets of roadways and intersections. At no time would the amount of traffic associated with installation of fiber optic facilities exceed the above ITE thresholds.

The proposed expansion project, with its associated vehicles, will temporarily increase traffic and disrupt traffic flow as installation crews move along road rights-of-way. These effects will be less than the study threshold established by the ITE. The increases in traffic will not be substantial and the project's impacts are considered to be less than significant.

The proposed project may temporarily disrupt traffic during installations adjacent to or within traffic lanes. As discussed in Chapter 2, "[Project Description](#)," a traffic control plan shall be implemented to

minimize the impacts of lane closures, if necessary, and any traffic flow disruptions. As a result of the plan, the disruption of traffic are considered to be less than significant.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

NO IMPACT (Applicable to all project routes). The proposed expansion project will involve underground installation of fiber optic conduit and cable and will not result in construction of any towers or other impediments to air traffic. There will be no impact as a result of implementation of the proposed expansion project.

d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

NO IMPACT (Applicable to the Northern California Interconnection Projects and the Ontario to San Diego Longhaul Route). The proposed expansion project would neither increase hazards because of a design feature or because of incompatible use. The fiber optic conduit and cable will be installed underground and the facilities are compatible with existing utilities and railroad facilities.

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to the Los Angeles to Ontario Longhaul Project). This proposed route includes installation of fiber optic conduit mostly within existing Metrolink rail line right-of-way, resulting in potential hazards due to conflicts between train operations and construction activities. The Metrolink rail line is mostly used by passenger commuter trains and operates 28 trains daily, 14 eastbound and 14 westbound, Monday through Saturday, from 4:30 a.m. to 10:00 p.m. Occasionally the rail line is also utilized by freight trains between 4:30 a.m. and 10:00 p.m. on Saturdays or Sundays. Metrolink added five passenger trains on Sundays as of June 25, 2000. To minimize potential conflicts with train operations, railroad track crossings will be directional drilled and the conduit installed approximately five feet beneath the tracks. In addition, construction parallel to the tracks is proposed to occur during nighttime hours from 10:00 p.m. to 4:30 a.m., Monday through Friday, and from 10:00 p.m. on Saturdays through 4:30 a.m. on Mondays. Installation of the conduit utilizing a rail plow would not occur on Sundays, but other construction activities within the right-of-way (i.e., directional boring) would be on going. Because Broadwing has committed to implement the following mitigation measure, no interruptions in rail service or safety hazards are anticipated.

Mitigation Measure T-2: Minimize Safety Hazards Associated with Construction in Railroad Rights-of-Way. Broadwing shall consult with Metrolink to make sure that its needs for safe system operation and maintenance are met during and after construction. Installation of the conduit utilizing a rail plow and other construction activities within the railroad right-of-way shall be subject to “stand down” construction requirements. This consists of direct communication between train engineers, flagmen along the track, and construction area supervisors, who ensure that construction activities stop and the right-of-way is cleared before trains can enter the flagged area.

e. Result in inadequate emergency access?

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). The proposed expansion project will have temporary effects on traffic flow, particularly where the routes are located within road rights-of-way. In those instances where the installation will encroach on traffic lanes, traffic will be managed in accordance with the traffic control plan to be developed for this project, which will allow priority passage by emergency vehicles. Project effects on emergency access are considered less than significant because Broadwing shall adopt a traffic

control plan and the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure T-1: Prepare and Implement a Traffic Management Plan in Accordance with Caltrans and Local Agency Encroachment Permit Criteria. Refer to above discussion under criterion a above.

f. Result in inadequate parking capacity?

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION (Applicable to all project routes). The proposed expansion project will create limited new, temporary parking demand as crews move along the installation corridors. Any vehicle parking during construction will be limited to areas delineated in the encroachment permit issued by the appropriate governing agency. Construction equipment will be kept in designated staging areas when not in use and will not create new parking demand. OP-AMP stations will be un-staffed and will not create a long-term, permanent parking demand. Project effects on parking are considered less than significant because Broadwing has adopted the following mitigation measure as part of the construction mitigation strategy for the proposed expansion project.

Mitigation Measure T-1: Prepare and Implement a Traffic Management Plan in Accordance with Caltrans and Local Agency Encroachment Permit Criteria. Refer to above discussion under criterion a above.

g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

NO IMPACT (Applicable to all project routes). The proposed expansion project consists of the installation of conduit and cable and related facilities within or adjacent to existing rights-of-way. After construction all affected areas will be returned to their pre-construction state. Using alternative transportation modes for installation crews, such as bicycles or buses, will not be consistent with the project objective of rapid construction or with construction methods. The proposed project will have no lasting affect on alternative transportation or on alternative transportation facilities (e.g., bus stops, park and ride lots).

4.15.3 CUMULATIVE IMPACTS

The proposed expansion project will not result in any increase in vehicular traffic beyond the marginal temporary increase caused by installation crews and OP-AMP maintenance staff. The proposed project may result in temporary obstructions of traffic, but the traffic plan being instituted, as part of the proposed expansion project will reduce the impacts of such obstructions on traffic flow and emergency access. As a result, the proposed expansion project will not make a cumulatively considerable contribution to traffic impacts.

4.16 UTILITIES AND SERVICE SYSTEMS

Utilities are typically provided to development projects by a variety of local purveys (e.g., city, county, special district, water agency, or school district). The services available vary depending on the level of development in the area. The proposed expansion project will not exceed wastewater treatment requirements of the RWQCB, require expansion of existing wastewater treatment facilities, or require construction of additional facilities. The proposed project will not require the expansion of existing storm water drainage facilities or the construction of additional facilities. The project will require only limited

water during construction for dust control and other uses, so it will not significantly affect water resources. The project will not contribute significant amounts of materials to landfills and will comply with any applicable federal, state, and local statutes that pertain to solid waste. The project will require electrical power only for the two OP-AMP stations. Because of the lack of utilities and services required by the project, no further discussion of the utilities and service systems setting is necessary.

“Dig Alert,” “One-Call,” or similar underground utility contractors shall be contacted to determine the locations of subsurface utilities before construction. All railroad companies shall be notified of construction activities before construction. In areas where construction will occur along railroads, construction staff may be required to participate in special training before any activities can occur within the respective rights-of-way. Such training shall be completed as necessary.

4.16.1 IMPACT SIGNIFICANCE CRITERIA

The analysis of significance for impacts of the proposed expansion project is based on criteria **XVI. a-g** in the environmental checklist (see [Appendix A](#)). Proposed projects that create a demand for public utilities and service systems may result in the construction or expansion of public facilities such as storm drainage systems and wastewater treatment facilities. This construction may result in a significant effect when associated with significant adverse physical changes.

4.16.2 IMPACT ASSESSMENT

Construction of the proposed expansion project will occur quickly, with no demands on outside utilities. Due to elements of the proposed project design, this proposed project will have no impact on demand for utilities and service systems during construction. Electrical power for the two OP-AMP stations will be a permanent demand on utilities. However, this demand will be minimal and will have no impact on the overall demand for utilities and service systems.

a. *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

NO IMPACT (Applicable to all project routes). The proposed expansion project will incorporate the requirements of the NPDES in the draft SWPPP (including erosion control and spill prevention and countermeasures) prepared for the two longhaul project routes (Los Angeles to Ontario and Ontario to San Diego) (see [Appendix E](#)). The draft SWPPP specifies measures to minimize erosion and production of drainage water and has been prepared to meet the requirements of approval by the applicable regional water quality control board. Broadwing has committed to implementation of BMPs for erosion and sedimentation control as part of the construction strategy proposed for the project (see Chapter 2, “[Project Description](#)”).

b. *Require, or result in the construction of, new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

NO IMPACT (Applicable to all project routes). The proposed expansion project does not require water for operation or maintenance and would not result in population growth that may require the construction of new water or wastewater facilities, or the expansion of existing facilities. Compliance with the NPDES permit and implementation of BMPs for erosion and sedimentation control meets the requirement for storm water quality established by the applicable RWQCBs.

- c. Require, or result in the construction of, new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

NO IMPACT (Applicable to all project routes). The proposed expansion project will create only minimal new impermeable surfaces, primarily at the OP-AMP stations. This small amount of impermeable surface will not substantially increase drainage runoff beyond that existing without the proposed expansion project. Accordingly, the proposed expansion project will not require or result in the construction of storm water drainage facilities.

- d. Have sufficient water supplies available to serve the proposed project from existing entitlements and resources, or would new or expanded entitlements be needed?*

NO IMPACT (Applicable to all project routes). Existing domestic water supply systems, which can accommodate the relatively small amount of water needed, will provide water required during construction. Following construction, the proposed expansion project will require no external water supply. Sufficient water supplies exist without requiring new or expanded entitlements.

- e. Result in a determination by the wastewater treatment provider that serves or may serve the proposed project that it has adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments?*

NO IMPACT (Applicable to all project routes). The project will not affect wastewater treatment services, as no wastewater will be generated by the proposed project.

- f. Be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs?*

LESS-THAN-SIGNIFICANT IMPACT (Applicable to all project routes). Installation of the fiber optic conduit and cable by plowing, trenching, or boring does not remove soil from the route. It is not anticipated that significant excess soil material will be generated. Spoils that are generated will be disposed of at an approved facility, typically a permanent landfill. The project's solid waste disposal needs may consist of spoil material from limited cement fill construction activities and spools and other packaging material associated with the conduit and cable. This will not add significantly to the waste stream at local landfills. Landfill capacity will be sufficient to meet the needs of the proposed expansion project. Therefore, the impact is considered to be less than significant.

- g. Comply with federal, state, and local statutes and regulations related to solid waste?*

NO IMPACT (Applicable to all project routes). Solid wastes associated with the proposed expansion project may include soil displaced by installation of the conduit, cable, and OP-AMP stations, spoil material from limited cement fill construction activities, and spools and other packaging material associated with the conduit and cable. The proposed project will not produce substantial amounts of solid waste. Soil removed during trenching operations will be replaced and the surface returned as close to pre-project conditions as possible or practicable. Areas around boring operations and around OP-AMP stations will similarly be cleaned up during the final phase of the operation. Plowing operations will not remove soil. Excess spoil material from limited cement fill construction activities will be transported to an appropriate disposal facility. Spools and other packaging for conduit and cable will be taken away for reuse, recycling, or disposal at a landfill. Once installation is complete, the proposed expansion project will produce no solid wastes.

4.16.3 CUMULATIVE IMPACTS

The proposed expansion project will need no utilities or service systems except for a minimal amount of electrical power and landfill capacity. These demands on utilities are minor and are easily accommodated by existing facilities. Therefore, the proposed project will not contribute to adverse cumulative impacts.

4.17 MANDATORY FINDINGS OF SIGNIFICANCE

- a. Does the proposed project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of major periods of California history or prehistory?*

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. The proposed expansion project will have effects on biological and cultural resources, air quality, water quality, land use planning, and ambient noise levels that are potentially significant; however, these will be mitigated through project design, as discussed in [Chapter 2](#), “Project Description,” and by the mitigation measures described herein, which Broadwing has adopted as part of the construction mitigation strategy for the project. The specific impacts, as well as the project design elements and mitigation measures that will reduce all potentially significant impacts to less-than-significant levels, are described in their respective sections. All impacts have been either avoided or reduced to a less-than-significant level.

- b. Does the proposed project have impacts that are individually limited, but cumulatively considerable?*

LESS-THAN-SIGNIFICANT IMPACT. CEQA Guidelines Section 15064 provides that when assessing whether a cumulative effect requires preparation of an environmental impact report, the lead agency must consider both whether the cumulative impact is significant and whether the incremental effects of the proposed expansion project are cumulatively considerable. No environmental impact report is required if the proposed project’s effects are not cumulatively considerable. The lead agency may determine that a proposed project’s contribution is less than cumulatively considerable when either:

- the contribution would be rendered less than considerable through mitigation measures; or
- the proposed project would comply with the requirements of a previously approved mitigation program or plan that provides specific requirements that would avoid or substantially lessen the proposed project’s effects.

Cumulative impacts in the categories of air quality, biological resources, cultural resources, noise, water resources, traffic, population and housing, and agriculture may be considered significant at either the statewide, regional, or local level.

As discussed in the air quality section, some of the affected air basins are nonattainment areas for one or more criteria air pollutants. Activities that emit criteria pollutants within these air basins have a significant cumulative impact on air quality. Air basins classified as non-attainment areas for the NAAQS must prepare state implementation plans that describe the specific steps that will be taken to bring the non-attainment area into compliance. Those steps primarily include rules and regulations to limit air emissions from specific stationary and mobile sources. The air basins having jurisdiction over the proposed expansion project routes are established under state and federal law to preserve air quality and have adopted plans intended to reduce pollutant levels over time. The districts have established rules and programs under their respective air quality plans that limit proposed project-specific contributions to the overall problems. The contributions of the proposed expansion project are not cumulatively considerable

because the proposed project will comply with applicable air district rules and plans for construction activities and any required permits will be obtained before the conduit is installed and before operation of the backup generators at the OP-AMP stations.

Biological resources, particularly threatened, endangered, candidate, and other listed species, are cumulatively affected by development that reduces the extent or productivity of habitat. The state and federal governments, through DFG, the Corps, USFWS, and NMFS, have promulgated a regulatory process that limits impacts on these species. The incremental and cumulative effects of the proposed project are rendered less than significant due to mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species. The mitigation measures imposed, the provisions included in the project description (e.g., pre-construction surveys and resource staking, presence of an environmental resource coordinator, contractor training), and Broadwing's commitment to reroute the cable around or bore under sensitive resources render the proposed expansion project's contribution less than cumulatively considerable.

With implementation of the identified measures, the proposed expansion project will avoid impacts on cultural resources, will not cause a substantial adverse change in the significance of a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or unique geologic feature, or cause unauthorized disturbance of any human remains. No impacts on cultural resources (including historical resources, paleontological resources, and human remains) will result from implementation of the proposed project that will make a cumulative considerable contribution to a cumulative impact on cultural resources.

At the local level, noise may exceed established standards due to the cumulative contributions of activities within the community. The proposed project's contributions to noise are not cumulatively considerable because of mitigation measures requiring compliance with state and local noise standards and ordinances and the temporary nature of the construction noise being generated.

The proposed expansion project does not contribute to the statewide cumulative effect of the loss of agricultural land to other uses, including urbanization. The impacts of the proposed expansion project and similar telecommunications proposed projects on agricultural land will be limited to the two OP-AMP stations, generally considered a compatible use within agricultural operations, and will have no discernable effect on the rate of agricultural conversion.

Temporary traffic-related impacts may occur at the local level along the project routes. The temporary traffic disruption resulting from cable installation is not cumulatively considerable because of the traffic control plan that will be implemented as part of the proposed expansion project and the standard traffic control requirements of the state and local encroachment permits that must be obtained before installing cable conduit in or adjacent to roads. In the long-term, the impacts of the proposed project will be minimized because, on completion of the proposed project, environmental conditions on the overlying roads will be essentially the same as if the proposed expansion project had not been implemented.

California's continuing population growth has statewide cumulative impacts on population and housing. The effect of the proposed expansion project and similar telecommunications proposed projects on population growth is indistinguishable from the general mix of factors that lead people to move to California and is not a critical component in most such decisions. Public services (e.g., fire protection, police protection) may be at or near their limit in some localities along the project routes. This proposed expansion project creates no new demand for those services. Utilities and service systems (e.g., sewer capacity, water supply) may also be at or near their capacity in some localities. This proposed project creates no new demand for those services in locations where needed services (electricity and solid waste disposal) would be adversely affected by limited project demands.

In summary, the impacts of the proposed expansion project would be negligible or less than significant. As discussed above, through compliance with standards established for environmental protection and incorporation of project elements and mitigation measures designed to primarily avoid or reduce impacts below the level of significance, the proposed expansion project would not make a cumulatively considerable contribution to any significant cumulative impact.

c. Does the proposed project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

LESS-THAN-SIGNIFICANT IMPACT WITH MITIGATION IMPLEMENTATION. The proposed expansion project will not cause substantial adverse effects on human beings. The project will have no effect on housing or recreation. Effects on air quality, noise, and land use have all been determined to be less than significant with implementation of mitigation measures. Potential adverse effects such as slope destabilization and hazardous materials release have been determined to be less than significant due to specified elements of the proposed project's design and the mitigation measures identified herein.