

WETLAND DETERMINATION

for the

Broadwing Communications Services, Inc.
California Fiber Expansion Cable Project

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1 PURPOSE

This wetland determination has been prepared for Broadwing Communications Services, Inc. (Broadwing) California Fiber Optic Cable Projects longhaul routes. The purpose of this wetland determination is to identify and locate the boundaries of the waters of the U.S. along the routes, including wetlands, that likely fall under U.S. Army Corps of Engineers (ACOE) jurisdiction. Since all impacts to wetlands will be avoided by directionally boring under them or incorporating other construction methods that do not encroach upon the wetland boundaries, the project proponent will not be required to apply for ACOE authorization pursuant to Section 404 of the Clean Water Act. In addition, no fill of a jurisdictional wetland feature will occur as a result of the proposed project. Wetland boundaries have been identified in the field and will be mapped on future engineering drawings to ensure that all project contractors and monitors know the exact locations of features to be avoided during construction.

2 SETTING

The Los Angeles to Ontario project route traverses highly urbanized metropolitan areas, mostly within railroad rights-of-way that have been cleared of vegetation (see [Figures A-1 through A-6 in Appendix A](#)). The majority of the route occurs in urban landscapes consisting of ornamental plant species, although small pockets of annual grassland, agricultural lands, and riparian habitat may be present. The route crosses several urban drainages, streams, and rivers, most of which have been placed into concrete-lined channels.

The Ontario to San Diego project route traverses habitats ranging from naturally occurring shrublands in steep mountain terrain, to highly urbanized areas near the San Diego and Ontario metropolitan areas (see [Figures B-1 through B-19 in Appendix B](#)). The naturally occurring shrub habitats include mixed chaparral, coastal oak woodland, and small areas of coastal scrub (Mayer and Laudenslayer 1988). These areas are composed of dry brush lands dominated by evergreen shrub species with steep slopes and numerous intermittent channels that drain the slopes during precipitation events. In areas with a higher moisture regime, eucalyptus and montane riparian vegetation is present as habitat stringers following the more prominent drainages. The project also traverses agricultural lands, which occur primarily as pasture and orchards. Pasturelands tend to be in alluvial plains and other relatively flat areas and are primarily composed of grasses and forbs. The orchards (citrus and avocado) sometimes appear on steep slopes in canyon areas. In the vicinity of the cities, the vegetation has been altered by ornamental plantings and many of the creek beds are confined to concrete lined channels.

3 STUDY AREA LIMITS

All wetlands that cross or occur within 25 feet of the proposed alignment were identified and included in the analysis. This 25-foot distance is designed to provide a buffer around each wetland feature crossed by or bordering the project. For the San Diego County segment, engineering plans were sufficient to identify on which side of the road construction will occur. In these areas, only the side of the road on which the project will be constructed was analyzed, as the approximately 35-foot roadway width provides a buffer greater than 25 feet. For the Riverside County segment, both sides of the road were analyzed due to lack of available engineering plans. At the time of the field visit, the staging area locations had not been identified, and therefore were not included in the analysis. Broadwing is committed to containing construction-related activities to within the 25-foot corridor.

4 DEFINITIONS

4.1 U.S. ARMY CORPS OF ENGINEERS WETLAND TERMINOLOGY

Waters of the U.S. Including Wetlands: For the purposes of this wetland determination, waters of the U.S., including wetlands, follow the definition in the 1987 Army Corps of Engineers Wetland Delineation Manual and the identified sections of the Clean Water Act. As all of these features must be avoided, any waters of the U.S. and/or wetland feature will be referred to as “wetlands” in the body of the text. The definitions below are provided to establish what types of features are considered jurisdictional. Also for the purposes of this determination, if wetland characteristics were present in what appeared to be an “isolated water,” it was included in the analysis as a wetland feature, regardless of whether it is within the ACOE jurisdiction. A conservative approach has been taken to ensure that no jurisdictional wetland feature will be impacted by the proposed project.

Waters of the U.S.: As defined in the Clean Water Act {Sec. 328.3(e)}, Waters of the U.S. include all of the following:

- Waters used in interstate or foreign commerce
- Waters subject to ebb and flow of tide
- All interstate waters including interstate wetlands
- All other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, the use, degradation, destruction could affect interstate foreign commerce, and/or could be used for recreation by interstate/foreign travelers, fish/shellfish sold in interstate/foreign commerce, industrial purposes in interstate commerce
- Impoundments of waters
- Tributaries of waters
- Territorial seas
- Wetlands adjacent to waters (other than waters that are themselves wetlands)

Non-Waters of the U.S.: Include (preamble, Sec. 328.3):

- Non-tidal drainage/irrigation ditches on dry land
- Artificially irrigated areas
- Artificial lakes/ponds on dry land used for stock watering, irrigation, settling basins, rice fields
- Artificial reflecting, swimming, ornamental pools on dry land
- Incidental construction and borrow pits until abandoned

Wetlands: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Isolated Waters: Those non-tidal waters of the U.S. that are:

- Not part of surface tributary in interstate/navigable waters
- Not adjacent to such tributary water bodies.

4.2 PROJECT-SPECIFIC WETLAND TERMINOLOGY

Stream Crossings: Stream crossings were the most common wetland feature observed along the project alignment. Field indicators of a potentially jurisdictional stream channel were a scoured channel (bed and bank feature) with a normal high-water mark that passed beneath the right-of-way alignment (road) through a culvert or under a bridge. These channels may or may not have wetland vegetation associated with them. The boundaries were drawn where the wetlands transitioned to upland features and/or vegetation, or where the extent of the defined bank stopped.

Bordering Wetlands: Any wetland that lies within 25 feet of the edge of pavement on the side of the road where the project is proposed to be constructed.

Lake Hodges: Lake Hodges is a shallow reservoir on the San Dieguito River in San Diego County. The project proposes to cross Lake Hodges at the upstream end of the reservoir, in the vicinity of the Interstate-15 (I-15) crossing. This portion of the Lake is very shallow and composed of emergent vegetation and hydrophytic shrubs. As of the date of the field visit, the final alignment crossing Lake Hodges had not been determined, however the most current alignment has been included in this analysis. North State Resources, Inc. (NSR) will re-visit this area to locate and map the wetlands as soon as the alignment and construction methods have been finalized.

5 METHODS

The field analysis for the wetland determination was conducted between March 26, 2001 and April 13, 2001 by North States Resources, Inc. personnel (Julian Colescott and Adrian Pitts). The analysis was completed by driving the route, looking for indicators of wetland habitat (described below), and stopping to examine each potential wetland area. Each identified wetland feature was located with a global positioning system (GPS) unit and mapped on 7.5-minute U.S. Geological Survey (USGS) quadrangle maps (see [Figures A-1 through A-6](#) and [Figures B-1 through B-19](#)). These maps will be used to support the environmental analyses associated with obtaining California Environmental Quality Act (CEQA) approval. The boundaries of all wetland features were also flagged to allow for more precise survey mapping by NSR and/or the engineering contractors. The engineering scale maps will be used during the permitting phase of the project, and will ultimately identify the environmentally sensitive wetland areas for the contractors, biological monitors, and other construction personnel.

Wetland Indicators. This analysis was not a formal wetland delineation utilizing the three-parameter approach as defined by the 1987 Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), since no soils studies were conducted. Instead, a determination of wetland habitats and boundaries depended on the vegetation and hydrology parameters, which resulted in a conservative estimate. Dominant plant genera that typically have a hydrologic indicator status of FAC¹ (Reed 1988) or wetter when combined with hydrology indicators were considered to be good indicators of wetlands. Common plant genera (common name, most prevalent hydrologic indicator status for the genus) observed during the field visit included: *Platanus* (sycamore, FACW), *Washingtonia* (fan palm, FACW) *Alnus* (alder, FACW), *Populus* (cottonwood, FACW), *Tamarix* (tamarix, FAC or FACW), *Salix* (willow, FAC

¹ Facultative (FAC) = Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).

Facultative Wetland (FACW) = Usually occur in wetlands (estimated probability (67%-99%)), but occasionally found in non-wetlands.

Obligate Wetland (OBL) = Occur almost always (estimated probability >99%) under natural conditions.

to OBL), *Rorippa* (yellow- or watercress, FAC to OBL), *Carex* (sedges, FAC to OBL), *Juncus* (rushes, FAC to OBL), *Scirpus* (bulrushes, OBL), *Typha* (cattails, OBL), *Vitis* (wild grape, FACW), and *Rumex* (dock, FAC to OBL).

Where hydrophytic vegetation was present, the presence of wetlands was confirmed by wetland hydrology indicators. Examples of wetland hydrology indicators include inundated or saturated soil (or indications that the soils had been inundated), watermarks, drift lines, drainage patterns in the wetland, sediment deposits, and water-stained leaves or rocks.

The boundary of each wetland feature, as defined using the characteristics described above, was either measured and mapped to scale or flagged for future surveying as described above. If there was a lack of certainty regarding the actual limits of a wetland feature, a conservative approach was adopted and the furthest limit was identified and mapped or flagged. Since all wetlands will be avoided, no distinction was made between the types of jurisdictional feature present (i.e., emergent wetland, riverine, or intermittent creek). The boundaries were drawn to show the distinction between wetland and upland areas.

Stream Crossings. Prior to the site visit, NSR identified all the “blue-line streams” that appear on 7.5-minute USGS quadrangle maps and which intersect the proposed routes. Where completed, the draft engineering drawings for the identified stream crossings were reviewed during the field analysis of each stream crossing. NSR did one of the following during the field analysis:

1. Confirmed that the stream was drawn correctly on the base map to the right dimensions. If correct, this was noted as no additional survey work or mapping being required.
2. If the base map required only minor revisions, the change was drawn onto the map, and noted to be included electronically on the final drawings.
3. If the base map was significantly different from the actual stream crossing, then flagging was used to mark the wetland features for surveying with sub-meter accuracy GPS and incorporation into the revised engineering drawing base maps.

While driving the Ontario to San Diego route additional stream crossings were identified as jurisdictional wetlands, in addition to the above “blue-line streams.” Each of these additional crossings were located with GPS for mapping on the 7.5-minute USGS quadrangle maps and flags were hung at the wetland/upland transition for surveying and precise mapping on future engineering drawings.

Bordering Wetlands. In several areas on the Ontario to San Diego route, wetlands are present within 25 feet from the edge of pavement on the side of the road where construction is proposed. Since the project will be constructed within or directly adjacent to the paved surface of the roadway, these bordering wetlands will likely be avoided completely. However, to assure that all personnel associated with the project know that these areas are environmentally sensitive, NSR mapped the locations of the bordering wetland features for inclusion on 7.5-minute USGS quadrangle maps and future engineering drawings.

Directional bore entry and exit pits will incorporate a 25-foot setback from any wetlands that cross the alignment. In the case of bordering wetlands, the project may sometimes encroach within the 25-foot buffer. However, since the project will be constructed within or directly adjacent to the pavement of road rights-of-way, and will include best management practices (BMPs) to prevent sedimentation or deposition of fill or contaminant, direct construction-related impacts are not anticipated. The mapping of bordering wetlands is intended to prevent indirect impacts associated with construction staging, equipment storage, vehicle parking, and construction-worker traffic. Wetlands greater than 25 feet from the edge of pavement

were not mapped, but will be protected through other mitigation measures as described in Proponent's Environmental Assessment (PEA).

6 RESULTS

For the purposes of CEQA compliance, the wetlands were mapped on 7.5-minute USGS quadrangle maps as colored dots. [Figures A-1](#) through [A-6](#) show the locations of the sixteen (16) stream crossings along the Los Angeles to Ontario Longhaul Route. [Figures B-1](#) through [B-19](#) show the locations of the ninety (90) stream crossings and twelve (12) bordering wetlands along the Ontario to San Diego Longhaul Route. [Table 1](#) provides detailed stream-crossing information and [Table 2](#) provides bordering wetland information. A total of one hundred eighteen (118) features were recorded, including one hundred six (106) that cross the route alignments, and twelve (12) bordering wetlands. To provide documentation of the sites for use by contractors, inspectors, biological monitors and other project personnel at the job site, each wetland feature will also be mapped onto the future engineering drawings. During construction, the biological monitors will flag and sign each wetland feature on the ground to assure that all construction personnel are aware that a sensitive environmental feature exists and should be avoided, per the conditions of the project mitigation monitoring plan.

7 REFERENCES

- Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss. 100+ pp.
- Mayer K. E., William F. Laudenslayer Jr., Editors. 1988. A Guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. 166 pp.
- Reed, P. B., Jr. 1988. U.S. Fish and Wildlife Service, 1988. National List of Plant Species That Occur in Wetlands: California (Region 0). U.S. Fish and Wildlife Service Biological Report 88 (26.10). 135 pp.

TABLE 1
PROPOSED STREAM CROSSINGS AND CONSTRUCTION METHODS

#	Name of Drainage	Right-of-Way	Tributary To:	City (County)	Section-Township-Range or Rancho Name	Latitude/Longitude	USGS 7.5' Quad Map	Features/Dominant Vegetation Type	Proposed Crossing Method
Los Angeles to Ontario Longhaul Route									
1	Alhambra Wash	Metrolink/ I-10	Rio Hondo River	Rosemead (LA Co.)	S24-T1S-R12W	034°04'19"N 118°05'45"W	El Monte	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
2	Rubio Wash	Metrolink/ I-10	Rio Hondo River	Rosemead (LA Co.)	S19-T1S-R11W	034°04'20"N 118°04'28"W	El Monte	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
3	Eaton Wash	Metrolink/ I-10	Rio Hondo River	Rosemead/ El Monte (LA Co.)	S20-T1S-R11W	034°04'21"N 118°03'17"W	El Monte	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
4	Rio Hondo River	Metrolink/ I-10	Los Angeles River to Pacific Ocean	El Monte (LA Co.)	S20-T1S-R11W	034°04'23"N 118°02'42"W	El Monte	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
5	San Gabriel River	Metrolink	Pacific Ocean	El Monte/ Baldwin Park (LA Co.)	Rancho San Francisquito (Dalton)	034°03'26"N 118°00'21"W	El Monte	Concrete sides-unlined bottom/ very low quality vegetation	Bridge hang
6	Walnut Creek Wash	Metrolink	San Gabriel River	City of Industry/ Baldwin Park (LA Co.)	Rancho La Puente	034°03'47"N 117°58'52"W	Baldwin Park	Concrete lined/ unvegetated	Bridge hang
7	Big Dalton Wash	Metrolink	Walnut Creek Wash	Irwindale/ West Covina (LA Co.)	S8&17-T1S-R10W	034°05'32"N 117°56'37"W	Baldwin Park	Concrete lined/ unvegetated	Bridge hang
8	Walnut Creek	Metrolink	Walnut Creek Wash	San Dimas (LA Co.)	Rancho San Jose (Dalton et al)	034°06'04"N 117°48'33"W	San Dimas	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
9	Puddingstone Channel	Metrolink	Live Oak Channel	La Verne (LA Co.)	Rancho San Jose (Dalton et al)	034°06'03"N 117°47'22"W	San Dimas	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
10	Marshall Canyon Wash	Metrolink	Live Oak Channel	La Verne (LA Co.)	Rancho San Jose (Dalton et al)	034°05'57"N 117°46'57"W	San Dimas	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
11	Live Oak Channel	Metrolink	Emerald Wash	La Verne (LA CO.)	Rancho San Jose (Dalton et al)	034°05'50"N 117°46'29"W	San Dimas	Concrete lined/ unvegetated	Trench in railroad ballast within existing at-grade bridge
12	Thompson Creek Wash	Metrolink	San Jose Creek to San Gabriel River	Pomona (LA Co.)	Rancho San Jose (Dalton et al)	034°05'37"N 117°45'18"W	San Dimas	Concrete lined/ unvegetated	Bore

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13	San Antonio Creek Channel	Metrolink	Chino Creek	Montclair (San Bernardino Co.)	S10-T1S-R8W	034°05'38"N 117°41'57"W	Ontario	Concrete lined/ unvegetated	Bore
14	West Cucamonga Channel	Metrolink	Percolation basin	Upland (San Bernardino Co.)	S8-T1S-R7W	034°05'35"N 117°37'55"W	Ontario	Concrete lined/ unvegetated	Trench over within railroad ballast
15	Cucamonga Canyon Channel	Metrolink	Cucamonga Creek Flood Control Channel	Rancho Cucamonga (San Bernardino Co.)	Rancho Cucamonga	034°05'32"N 117°36'30"W	Guasti	Concrete lined/ unvegetated	Bore
16	Deer Creek	Metrolink	Cucamonga Creek Flood Control Channel	Rancho Cucamonga (San Bernardino Co.)	Rancho Cucamonga	034°05'31"N 117°34'55"W	Guasti	Concrete lined/ unvegetated	Bore
Ontario to San Diego Longhaul Route									
1	Santa Ana River	Hamner Ave.	Pacific Ocean	(Riverside Co.) and City of Norco	Rancho Jurupa (Stearns)	033°56'44"N 117°33'27"W	Corona North	Flowing water, arundo dominated, occasional willow & cottonwood, baccharis, potential Arroyo Toad, Arroyo Chub, & Least Bell's Vireo habitat.	Bore
2	Temescal Wash	Cota St.	Temescal Creek to Santa Ana River	Corona (Riverside Co.)	Rancho La Sierra (Yorba)	033°53'28"N 117°34'06"W	Corona North	Riprap to west, concrete to east/ unvegetated	Bore
3	Unnamed drainage	Cota St.	Temescal Wash	Corona (Riverside Co.)	Rancho La Sierra (Yorba)	033°53'13"N 117°34'14"W	Corona North	Box culvert/ scoured, unlined channel with sparse vegetation	To be determined by future engineering design
4	Main Street Wash	Ontario Ave.	Temescal Wash to Temescal Creek to Santa Ana River	Corona (Riverside Co.)	Rancho La Sierra (Yorba)	033°51'20"N 117°33'51"W	Corona South	Concrete lined/ unvegetated	Bore
5	Joseph Wash	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S16-T4S-R6W	033°49'41"N 117°30'45"W	Corona South	Arundo, eucalyptus, sycamore, disturbed riparian wetlands	Bore

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6	Unnamed drainage (1)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S27-T4S-R6W	033°47'28"N 117°29'44"W	Lake Mathews	Herbaceous vegetation	To be determined by future engineering design
7	McBride Canyon	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S27-T4S-R6W	033°47'14"N 117°29'29"W	Lake Mathews	Concrete lined/ unvegetated	Bore
8	Unnamed drainage (2)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S27-T4S-R6W	033°47'09"N 117°29'24"W	Lake Mathews	Eucalyptus, arundo, baccharis	To be determined by future engineering design
9	Unnamed drainage (3)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S34-T4S-R6W	033°47'02"N 117°29'19"W	Lake Mathews	Culvert/ willow, baccharis, eucalyptus	To be determined by future engineering design
10	Unnamed drainage (4)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S34-T4S-R6W	033°46'59"N 117°29'16"W	Lake Mathews	Culvert/ castor bean (<i>Richus communis</i>), grasses	To be determined by future engineering design
11	Unnamed drainage (5)	Temescal Canyon Rd.	Coldwater Canyon to Temescal Wash	(Riverside Co.)	S3-T5S-R6W	033°46'03"N 117°29'11"W	Lake Mathews	Culvert/ intermittent creek, no wetland vegetation	To be determined by future engineering design
12	Coldwater Canyon	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S3-T5S-R6W	033°45'51"N 117°29'07"W	Lake Mathews	Oak, sycamore woodland (sparse), baccharis, wetlands	Bore
13	Unnamed drainage (6)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S2-T5S-R6W	033°45'39"N 117°28'31"W	Lake Mathews	Culvert/ baccharis, tamarisk	To be determined by future engineering design
14	Unnamed drainage (7)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S2-T5S-R6W	033°45'40"N 117°28'29"W	Lake Mathews	Culvert/ baccharis, tamarisk	To be determined by future engineering design
15	Unnamed drainage (8)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S2-T5S-R6W	033°45'46"N 117°28'10"W	Lake Mathews	Intermittent creek, scoured, unlined channel with sycamores to East	To be determined by future engineering design
16	Unnamed drainage (9)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S1-T5S-R6W	033°45'46"N 117°27'52"W	Lake Mathews	Culvert/ baccharis, sparse vegetation	To be determined by future engineering design

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17	Indian Wash	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S7-T5S-R5W	033°44'58"N 117°26'55"W	Alberhill	Unvegetated	Bore
18	Indian Canyon	Temescal Canyon Rd.	Lee Lake	(Riverside Co.)	S7-T5S-R5W	033°44'54"N 117°26'46"W	Alberhill	Sparse baccharis, occasional willow, no riparian in area of disturbance	Bore
19	Unnamed drainage (10)	Temescal Canyon Rd.	Lee Lake	(Riverside Co.)	S7-T5S-R5W	033°44'39"N 117°26'21"W	Alberhill	Deep culvert/ willow, baccharis, tamarisk	To be determined by future engineering design
20	Horsethief Canyon	Temescal Canyon Rd.	Temescal Wash to Lee Lake	(Riverside Co.)	S8-T5S-R5W	033°44'36"N 117°25'54"W	Alberhill	Baccharis, tobacco bush	Bore
21	Unnamed drainage (11)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S17-T5S-R5W	033°44'34"N 117°25'47"W	Alberhill	Large wash/ baccharis, choya cactus	To be determined by future engineering design
22	Unnamed drainage (12)	Temescal Canyon Rd.	Temescal Wash	(Riverside Co.)	S17-T5S-R5W	033°44'18"N 117°25'17"W	Alberhill	Concrete culverts/ willow, tamarisk	To be determined by future engineering design
23	Temescal Wash	Temescal Canyon Rd.	Lee Lake	(Riverside Co.)	S17-T5S-R5W	033°44'09"N 117°24'59"W	Alberhill	Dense cottonwood/willow, black cottonwood, tamarisk, baccharis understory, few oaks, possible Yellow Breasted Chat and Willow Flycatcher habitat	Bore
24	Unnamed drainage (13)	Temescal Canyon Rd.	Alberhill Creek to Temescal Wash	(Riverside Co.)	S16-T5S-R5W	033°43'56"N 117°24'19"W	Alberhill	Culvert/ baccharis	To be determined by future engineering design
25	Unnamed drainage (14)	Temescal Canyon Rd.	Alberhill Creek	(Riverside Co.)	S16-T5S-R5W	033°43'52"N 117°24'03"W	Alberhill	Culvert/ sparse vegetation	To be determined by future engineering design
26	Alberhill Creek	Temescal Canyon Rd.	Temescal Wash to Lee Lake	Lake Elsinore (Riverside Co.)	S15-T5S-R5W	033°43'43"N 117°23'44"W	Alberhill	Eucalyptus, riparian with some black willow	Bore

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27	Unnamed drainage	Lake Street	Unknown	Lake Elsinore (Riverside Co.)	S34-T5S-R5W	033°41'51"N 117°23'22"W	Alberhill	Sparse, weedy vegetation, no wetland vegetation	To be determined by future engineering design
28	Leach Canyon	Grand Avenue	Unknown	(Riverside Co.)	S3&4-T6S-R5W	033°40'37"N 117°23'51"W	Alberhill	Box culvert/ sparse baccharis, willow, tamarisk	Bore
29	Unnamed drainage (1)	Grand Avenue	Lake Elsinore	Lake Elsinore and (Riverside Co.)	Rancho La Laguna (Stearns)	033°39'54"N 117°23'09"W	Alberhill	Concrete lined/ unvegetated	To be determined by future engineering design
30	Unnamed drainage (2)	Grand Avenue	Lake Elsinore	Lake Elsinore (Riverside Co.)	Rancho La Laguna (Stearns)	033°39'36"N 117°22'38"W	Alberhill	Concrete lined/ unvegetated	To be determined by future engineering design
31	Unnamed drainage (3)	Grand Avenue	Lake Elsinore	(Riverside Co.)	Rancho La Laguna (Stearns)	033°39'09"N 117°21'56"W	Lake Elsinore	Culvert/ willows, cattails	To be determined by future engineering design
32	Unnamed drainage (4)	Grand Avenue	Lake Elsinore	(Riverside Co.)	Rancho La Laguna (Stearns)	033°39'02"N 117°21'43"W	Lake Elsinore	Culvert/ no wetland vegetation	To be determined by future engineering design
33	Unnamed drainage (5)	Grand Avenue	Lake Elsinore	(Riverside Co.)	Rancho La Laguna (Stearns)	033°38'20"N 117°20'37"W	Lake Elsinore	Culvert/ concrete lined bottom of channel, unlined scoured sides, no wetland vegetation	To be determined by future engineering design
34	Unnamed drainage (6)	Grand Avenue	Lake Elsinore	(Riverside Co.)	Rancho La Laguna (Stearns)	033°37'39"N 117°19'32"W	Lake Elsinore	Concrete lined/ unvegetated	To be determined by future engineering design
35	Unnamed drainage (7)	Grand Avenue	Lake Elsinore	(Riverside Co.)	Rancho La Laguna (Stearns)	033°36'47"N 117°18'05"W	Wildomar	Concrete culvert/ baccharis on West, no wetland vegetation on East	To be determined by future engineering design
36	Unnamed drainage (8)	Grand Avenue	Murieta Creek to Santa Margarita River to Pacific Ocean	(Riverside Co.)	Rancho La Laguna (Stearns)	033°36'05"N 117°16'58"W	Wildomar	Box culvert/ concrete lined, unvegetated	To be determined by future engineering design

TABLE 1
PROPOSED STREAM CROSSINGS AND CONSTRUCTION METHODS

#	Name of Drainage	Right-of-Way	Tributary To:	City (County)	Section-Township-Range or Rancho Name	Latitude/Longitude	USGS 7.5' Quad Map	Features/Dominant Vegetation Type	Proposed Crossing Method
37	Murrieta Creek (Wildomar Channel #7)	McVicar St.	Santa Margarita River	(Riverside Co.)	Rancho La Laguna (Stearns)	033°35'42"N 117°15'47"W	Wildomar	Unvegetated	Bore
38	Unnamed drainage (1)	Palomar St.	Murrieta Creek	(Riverside Co.)	Rancho La Laguna (Stearns)	033°35'33"N 117°15'20"W	Wildomar	Narrow culvert. Forb and grass dominated. No wetland vegetation. One ornamental cottonwood on West side of Palomar St.	Bore
39	Unnamed drainage (2)	Palomar St.	Murrieta Creek	(Riverside Co.)	Rancho La Laguna (Stearns)	033°35'26"N 117°15'11"W	Wildomar	Culvert box/ cottonwood, baccharis, timothy grass, spike rush, malva sp.	Bore
40	Unnamed drainage (3)	Palomar St.	Murrieta Creek	(Riverside Co.)	Rancho La Laguna (Stearns)	033°35'26"N 117°15'11"W	Wildomar	Box culvert/ cottonwood, baccharis	To be determined by future engineering design
41	Unnamed drainage (4)	Palomar St.	Murrieta Creek	(Riverside Co.)	Rancho La Laguna (Stearns)	033°35'05"N 117°14'42"W	Murrieta	Box Culvert/ live oak, baccharis	To be determined by future engineering design
42	Unnamed drainage	Washington Ave.	Murrieta Creek	Murrieta (Riverside Co.)	Rancho Temecula	033°34'21"N 117°14'02"W	Murrieta	Concrete lined/ no wetland vegetation	To be determined by future engineering design
43	Unnamed drainage (Murrieta Creek Line F)	Adams Ave.	Murrieta Creek	Murrieta (Riverside Co.)	Rancho Temecula	033°33'10"N 117°12'23"W	Murrieta	Concrete lined/ unvegetated	Bore
44	Warm Springs Creek	Adams Ave.	Murrieta Creek	Murrieta (Riverside Co.)	Rancho Temecula	033°31'46"N 117°10'52"W	Murrieta	Concrete sides only to northeast/ unvegetated	Bore
45	Unnamed drainage	Cherry St.	Murrieta Creek	Murrieta/ Temecula (Riverside Co.)	Rancho Temecula	033°31'26"N 117°10'32"W	Murrieta	Wetland vegetation on north side of Cherry St.	Trench down center of disturbed (dirt) roadbed

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#	Name of Drainage	Right-of-Way	Tributary To:	City (County)	Section-Township-Range or Rancho Name	Latitude/Longitude	USGS 7.5' Quad Map	Features/Dominant Vegetation Type	Proposed Crossing Method
46	Murrieta Creek	Cherry St.	Santa Margarita River to Pacific Ocean	Murrieta/ Temecula (Riverside Co.)	Rancho Temecula	033°31'18"N 117°10'43"W	Murrieta	Flowing water, tulle/cattail marsh with willow riparian vegetation, recently mowed	Bore
47	Unnamed drainage	Pujol St.	Murrieta Creek	Temecula (Riverside Co.)	Rancho Temecula	033°29'35"N 117°09'07"W	Temecula	Unvegetated	Trench over or go under within or adjacent to paved roadway or bore
48	Murrieta Creek	1 st St.	Santa Margarita River	Temecula (Riverside Co.)	Rancho Temecula	033°29'26"N 117°08'46"W	Temecula	Flowing water, willow riparian habitat	Place within cell in new bridge
49	Unnamed drainage	Front St./Hwy 79	Temecula Creek	Temecula (Riverside Co.)	Rancho Temecula	033°28'37"N 117°07'58"W	Temecula	Willow species, elderberry, grasses	To be determined by future engineering design
50	Temecula Creek	Pala Rd.	Santa Margarita River	Temecula (Riverside Co.)	Rancho Temecula	033°28'26"N 117°07'39"W	Temecula	Dense cottonwood/willow, good quality riparian	Bore
51	Pechanga Creek	Rainbow Canyon Rd.	Temecula Creek	Temecula (Riverside Co.)	Rancho Temecula	033°28'07"N 117°07'40"W	Temecula	Concrete sides to south/ baccharis, willow, tamarisk, eucalyptus, low quality riparian	Bore
52	Unnamed drainage (1)	Rainbow Valley Blvd.	Rainbow Creek	(San Diego Co.)	S1-T9S-R3W	033°25'05"N 117°08'48"W	Temecula	Flowing water, no vegetation, storm water runoff from nurseries	Trench over or go under within or adjacent to paved roadway or bore
53	Unnamed drainage (2)	Rainbow Valley Blvd.	Unknown	(San Diego Co.)	S12-T9S-R3W	033°24'42"N 117°08'49"W	Temecula	Pepper trees. Grass and forb dominated.	To be determined by future engineering design
54	Unnamed drainage (1)	Rice Canyon Rd.	San Luis Rey River	(San Diego Co.)	S13-T9S-R3W	033°23'57"N 117°08'40"W	Temecula	Oak willow riparian woodland. Cattails present.	Bore

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PROPOSED STREAM CROSSINGS AND CONSTRUCTION METHODS

#	Name of Drainage	Right-of-Way	Tributary To:	City (County)	Section-Township-Range or Rancho Name	Latitude/Longitude	USGS 7.5' Quad Map	Features/Dominant Vegetation Type	Proposed Crossing Method
55	Unnamed drainage (2)	Rice Canyon Rd.	San Luis Rey River	(San Diego Co)	S13-T9S-R3W	033°23'59"N 117°08'39"W	Temecula	Narrow intermittent creek with culvert. Sycamore oak woodland with grass understory. No obligate wetland vegetation	To be determined by future engineering design
56	Unnamed drainage (3)	Rice Canyon Rd.	San Luis Rey River	(San Diego Co.)	S13-T9S-R3W	033°23'38"N 117°08'31"W	Temecula	Narrow intermittent creek with culvert/ no wetland vegetation	To be determined by future engineering design
57	Unnamed drainage (4)	Rice Canyon Rd.	San Luis Rey River	(San Diego Co.)	S13-T9S-R3W	033°23'29"N 117°08'27"W	Temecula	Sycamore & live oak woodland, some willow understory	Trench over or go under within or adjacent to paved roadway or bore
58	Unnamed drainage (5)	Rice Canyon Rd.	San Luis Rey River	(San Diego Co.)	S24-T9S-R3W	033°22'49"N 117°08'29"W	Temecula	Culvert. Oak, willow laurel sumac woodland.	Trench over or go under within or adjacent to paved roadway or bore
59	Unnamed drainage (6)	Rice Canyon Rd.	San Luis Rey River	(San Diego Co.)	S24-T9S-R3W	033°22'40"N 117°08'34"W	Temecula	Narrow intermittent creek with culvert. Dominant vegetation includes oak species and poison oak.	Trench over or go under within or adjacent to paved roadway or bore
60	San Luis Rey River	Rice Canyon Rd.	Pacific Ocean	(San Diego Co.)	S24&25-T9S-R3W	033°22'20"N 117°08'23"W	Bonsall	Sycamore & live oak woodland, some willow understory	Bore
61	San Luis Rey River	Pala Rd.	Pacific Ocean	(San Diego Co.)	S6-T10S-R2W	033°20'35"N 117°07'56"W	Bonsall	Culvert/ cottonwood/willow riparian	Bore
62	San Luis Rey River	Couser Canyon Rd.	Pacific Ocean	(San Diego Co.)	S6-T10S-R2W	033°20'26"N 117°07'50"W	Bonsall	Flowing water, cottonwood/willow riparian, baccharis, arundo	Bore
63	Couser Canyon (1)	Couser Canyon Rd.	San Luis Rey River	(San Diego Co.)	S6-T10S-R2W	033°20'05"N 117°07'50"W	Bonsall	Flowing water, willow scrub riparian on W	Bore

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#	Name of Drainage	Right-of-Way	Tributary To:	City (County)	Section-Township-Range or Rancho Name	Latitude/Longitude	USGS 7.5' Quad Map	Features/Dominant Vegetation Type	Proposed Crossing Method
64	Couser Canyon (2)	Couser Canyon Rd.	San Luis Rey River	(San Diego Co.)	S9-T10S-R2W	033°19'11"N 117°06'04"W	Pala	Flowing water, highly disturbed sycamore/live oak riparian, ornamental understory	Trench over or go under within or adjacent to paved roadway or bore
65	Couser Canyon (3)	Couser Canyon Rd.	San Luis Rey River	(San Diego Co.)	S9-T10S-R2W	033°19'06"N 117°06'02"W	Pala	Flowing water, highly disturbed sycamore/live oak riparian, ornamental understory	Trench over or go under within or adjacent to paved roadway or bore
66	Unnamed drainage (1)	Lilac Rd.	Keys Creek to San Luis Rey River	(San Diego Co.)	S21-T10S-R2W	033°17'46"N 117°05'08"W	Pala	Culvert. Oak, willow, poson oak and arundo dominate.	To be determined by future engineering design
67	Unnamed drainage (2)	Lilac Rd.	Keys Creek	(San Diego Co.)	S21-T10S-R2W	033°17'40"N 117°05'10"W	Pala	Culvert/ flowing water, highly disturbed sycamore/live oak riparian, ornamental understory, lots of arundo	Trench over or go under within or adjacent to paved roadway or bore
68	Keys Creek	Lilac Rd.	San Luis Rey River	(San Diego Co.)	S22-T10S-R2W	033°17'16"N 117°04'57"W	Pala	Flowing water, highly disturbed sycamore/live oak riparian, ornamental understory, some arundo	Bore
69	Unnamed drainage (3)	Lilac Rd.	Keys Creek	(San Diego Co.)	S34-T10S-R2W	033°16'10"N 117°04'45"W	Pala	Flowing water, live oak riparian	Bore
70	Unnamed drainage (4)	Lilac Rd.	Keys Creek	(San Diego Co.)	S34-T10S-R2W	033°15'50"N 117°04'32"W	Pala	Sycamore/live oak riparian, willow understory	Bore
71	Unnamed drainage (5)	Lilac Rd.	Keys Creek	(San Diego Co.)	S34-T10S-R2W	033°15'23"N 117°04'05"W	Pala	Willow scrub	Bore
72	Unnamed drainage (6)	Lilac Rd.	Keys Creek	(San Diego Co.)	S11-T11S-R2W	033°14'24"N 117°03'15"W	Valley Center	Willow scrub	Trench over or go under within or adjacent to paved roadway or bore
73	Unnamed drainage (7)	Lilac Rd.	Hideaway Lake	(San Diego Co.)	S12-T11S-R2W	033°14'06"N 117°02'58"W	Valley Center	Willow scrub on west	Trench over or go under within or adjacent to paved roadway or bore

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#	Name of Drainage	Right-of-Way	Tributary To:	City (County)	Section-Township-Range or Rancho Name	Latitude/Longitude	USGS 7.5' Quad Map	Features/Dominant Vegetation Type	Proposed Crossing Method
74	Unnamed drainage (1)	Valley Center Rd.	Turner Lake	(San Diego Co.)	S13-T11S-R2W & S18-T11S-R1W	033°12'53"N 117°01'58"W	Valley Center	Eucalyptus	Trench over or go under within or adjacent to paved roadway or bore
75	Unnamed drainage (2)	Valley Center Rd.	Escondido Creek	Escondido (San Diego Co.)	S31-T11S-R1W	033°10'07"N 117°01'37"W	Valley Center	Sparse live oak riparian, disturbed understory	Trench over or go under within or adjacent to paved roadway or bore
76	Escondido Creek	East Valley Pkwy	Santa Ysabel Creek to Lake Hodges to San Dieguito River to Pacific Ocean	Escondido (San Diego Co.)	S6-T12S-R1W	033°09'40"N 117°01'46"W	Valley Center	Concrete lined/unvegetated	Trench over or go under within or adjacent to paved roadway or bore
77	Unnamed drainage (1)	Bear Valley Pkwy	Lake Hodges	Escondido (San Diego Co.)	Rancho Ricon Del Diablo	033°05'53"N 117°03'30"W	Escondido	Live oak riparian	Trench over or go under within or adjacent to paved roadway or bore
78	Unnamed drainage (2)	Bear Valley Pkwy	Lake Hodges	Escondido (San Diego Co.)	Rancho San Bernardo (Snook)	033°05'04"N 117°03'20"W	Escondido	Live oak/willow riparian	Trench over or go under within or adjacent to paved roadway or bore
79	Unnamed drainage	Sunset Dr.	Lake Hodges	Escondido (San Diego Co.)	Rancho San Bernardo (Snook)	033°04'03"N 117°03'55"W	Escondido	Flowing water, willow riparian	Bore
80	Unnamed drainage	I-15	Lake Hodges	Escondido (San Diego Co.)	Rancho San Bernardo (Snook)	033°03'54"N 117°04'03"W	Escondido	Flowing water, willow riparian	Bore
81	Lake Hodges	I-15	San Dieguito River	San Diego (San Diego Co.)	Rancho San Bernardo (Snook)	033°03'34"N 117°04'07"W	Escondido	Early seral willow riparian	Bore
82	Unnamed drainage (1)	Pomerado Rd.	Lake Hodges	San Diego (San Diego Co.)	Rancho San Bernardo (Snook)	033°01'51"N 117°03'31"W	Escondido	Concrete lined/ flowing water, ornamental vegetation only	Bore

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83	Unnamed drainage (2)	Pomerado Rd.	Lake Hodges	San Diego (San Diego Co.)	Rancho San Bernardo (Snook)	033°01'08"N 117°03'36"W	Escondido	Concrete lined/ unvegetated	Trench over or go under within or adjacent to paved roadway or bore
84	Unnamed drainage (3)	Pomerado Rd.	Poway Creek	Poway (San Diego Co.)	S2-T14S-R2W	032°59'01"N 117°03'39"W	Poway	Culvert/tulle cattail marsh to west, eucalyptus to east	Trench over or go under within or adjacent to paved roadway or bore
85	Poway Creek	Pomerado Rd.	Los Penasquitos Creek	Poway (San Diego Co.)	S23-T14S-R2W	032°56'56"N 117°03'42"W	Poway	Concrete sides/ willow scrub	Trench over or go under within or adjacent to paved roadway or bore
86	Unnamed drainage (4)	Pomerado Rd.	Beeler Canyon	Poway (San Diego Co.)	S23-T14S-R2W	032°56'33"N 117°03'54"W	Poway	Ornamentals & some willow	Trench over or go under within or adjacent to paved roadway or bore
87	Beeler Canyon (1)	Pomerado Rd.	Los Penasquitos Creek	Poway (San Diego Co.)	S23-T14S-R2W	032°56'22"N 117°03'54"W	Poway	Old growth sycamore/live oak	Trench over or go under within or adjacent to paved roadway or bore
88	Unnamed drainage (5)	Pomerado Rd.	Carroll Canyon	San Diego (San Diego Co.)	S4-T15S-R2W	032°54'17N 117°05'03"W	Poway	Concrete lined/ flowing water, eucalyptus	Trench over or go under within or adjacent to paved roadway or bore
89	Carroll Canyon	Pomerado Rd.	Soledad Canyon to Pacific Ocean	San Diego (San Diego Co.)	S5-T15S-R2W	032°53'42"N 117°06'26"W	Poway	Eucalyptus	Trench over or go under within or adjacent to paved roadway or bore
90	San Clemente Canyon	Kearny Villa Rd.	Rose Canyon to Mission Bay	San Diego (San Diego Co.)	Rancho Mission San Diego	032°52'08"N 117°06'56"W	La Mesa	No riparian vegetation, eucalyptus & chaparral	Bridge hang

TABLE 2
ONTARIO TO SAN DIEGO LONGHAUL ROUTE - BORDERING WETLANDS

#	Name of Wetland	Right-of-Way	City (County)	Section-Township-Range or Rancho Name	Latitude/Longitude	USGS 7.5' Quad Map	Features/Dominant Vegetation Type
1	A	Temescal Canyon Road	(Riverside County)	S34-T4S-R6W	033°47'08"N 117°29'24"W	Lake Mathews	Extends approximately 15' to 20' from edge of pavement for approximately 0.25 miles; Southern boundary is crossing 5A-1; willows, cattails.
2	B	Temescal Canyon Road	(Riverside County)	S2-T5S-R6W	033°45'38"N 117°28'39"W	Lake Mathews	Extends approximately 10' to 25' from edge of pavement for approximately 0.2 miles; tamarisk, baccharis, willow.
3	C	Temescal Canyon Road	(Riverside County)	S17-T5S-R5W	033°44'08"N 117°24'58"W	Alberhill	Extends approximately 18' to 25' from edge of pavement for approximately 0.2 miles; cottonwood, willow, tamarisk, baccharis. Associated with Crossing 10.
4	D	Temescal Canyon Road	(Riverside County)	S17/16-T5S-R5W	033°44'04"N 117°24'50"W	Alberhill	Extends approximately 15' from edge of pavement for approximately 0.15 miles; cottonwood, willow, tamarisk, baccharis.
5	E	Adams Ave.	Murrieta (Riverside County)	Rancho Temecula	033°32'30"N 117°11'40"W	Murrieta	Extends approximately 12' to 20' from edge of pavement for approximately 600 feet; channelized creek; willows, baccharis.
6	F	Rice Canyon Road	(San Diego County)	S13-T9S-R3W	033°24'04"N 117°08'35"W	Temecula	Extends approximately 6' to 20' from edge of pavement for approximately 500 feet. Oak and willow dominated with forb understory. Cattails prevalent.
7	G	Rice Canyon Road	(San Diego County)	S13-T9S-R3W	033°24'01"N 117°08'36"W	Temecula	Extends approximately 6' from edge of pavement for approximately 20 feet. Oaks, poison oak, rushes and cattails prevalent.
8	H	Rice Canyon Road	(San Diego County)	S31-T9S-R3W	033°20'40"N 117°07'59"W	Bonsall	Extends approximately 10' to 21' from edge of pavement for approximately 0.25 miles; cottonwood, willow/riparian.
9	I	Couser Canyon Road	(San Diego County)	S6-10S-R2W	033°20'02"N 117°07'41"W	Bonsall	Cow Wallow approximately 30' wide and 6' from edge of pavement. Pasture with introduced grasses dominating.
10	J	Couser Canyon Road	(San Diego County)	S6-10S-R2W	033°19'49"N 117°07'24"W	Bonsall	Extends approximately 6' to 20' from edge of pavement for approximately 0.25 miles; Culvert crosses road approximately 3' below pavement at Northern boundary. Oak, willow cottonwood riparian woodland. Sedge species and arundo prevalent.
11	K	Bear Valley Parkway	Escondido (San Diego County)	Rancho San Bernardo (Snook)	033°04'42"N 117°03'23"W	Escondido	Extends approximately 20' from edge of pavement. Oak, willow, cottonwood, eucalyptus riparian. Rushes prevalent.
12	L	Bear Valley Parkway	Escondido (San Diego County)	Rancho San Bernardo (Snook)	033°04'22"N 117°03'30"W	Escondido	Extends approximately 12' to 15' from edge of pavement for approximately 400 feet. Oak willow riparian. Nettles and bulrushes prevalent.
13	M	Bear Valley Parkway	Escondido (San Diego County)	Rancho San Bernardo (Snook)	033°04'16"N 117°03'33"W	Escondido	Extends approximately 15' to 40' from edge of pavement for approximately 800 feet. Willow species, pepper tree, baccharis, rushes, fennel and nettles dominate.

**APPENDIX A - LOS ANGELES TO ONTARIO LONGHAUL ROUTE MAPS STREAM
CROSSING LOCATIONS**

**APPENDIX B - ONTARIO TO SAN DIEGO LONGHAUL ROUTE MAPS - STREAM
CROSSING AND BORDERING WETLAND LOCATIONS**
