Appendix 8Q. Riparian Conservation Area (RCA) Analysis

In Response to Comment A0009-21 on the Draft EIR/EIS, the following analysis was completed to assess the impacts to Riparian Conservation Areas (RCAs) within the Cleveland National Forest (CNF). The following 5-step RCA analysis was completed, in accordance with the Forest Plan (USDA 2005), for all of the alternatives and options in the Draft EIR/EIS that would occur on the CNF. Additionally the 5-step RCA analysis was completed for the Final Environmentally Superior Southern Route (a full description of this route is provided in the Executive Summary of the Final EIR/EIS).

The USDA Forest Service provided a GIS shapefile that depicts the buffers associated with each RCA. In addition to this GIS shapefile, the RCA analysis also included the use of the following: recent aerial photographs; soils records; vegetation mapping and results of the focused surveys that were completed in 2007 for the Draft EIR/EIS; USDA Forest Service modeled habitat for arroyo toad; USDA Forest Service location data for arroyo toad, least Bell's vireo, and southwestern willow flycatcher; California Natural Diversity Database (CNDDB) records; and the U.S. Fish and Wildlife Service (USFWS) Recovery Plans for arroyo toad, least Bell's vireo, and southwestern willow flycatcher. Table Ap.8Q-1 at the end of this appendix provides the impacts to each RCA on the CNF that would result from the project features associated with each alternative and the Final Environmentally Superior Southern Route.

Interstate 8 Alternative: 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 24 RCAs were identified on USDA Forest Service lands for the Interstate 8 Alternative (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Arroyo toad was assumed to be present at 5 RCA's along the I-8 Alternative: MP I8-51.0, south of I8-51.1, I8-54.4, I8-67.4, I8-82.1 (see Impact B-7K in Section E.1.2.2). The buffer widths at these 5 locations were not increased for arroyo toads because each RCA is a minimum of 800 feet wide. A migrant willow flycatcher was documented in the RCA at MP I8-67.4 (see Impact B-7D in Section E.4.2.2); no change was made to the buffer width at this location because the species is not dependent on upland habitat for breeding.

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. This alternative would impact assumed occupied habitat on federal lands along the San Diego River (I8-82.1), Sweetwater River (I8-67.4), and Tijuana River-Cottonwood Creek (I8-51.0, I8-51.1, and I8-54.4) basins.

The southwestern willow flycatcher recovery plan lists the following recovery criteria: (1) Increase the number of breeding territories to 1,950, which shall be geographically distributed; (2) Increase the number of breeding territories to 1,950, which shall be geographically distributed across Management Units and Recovery Units; and (3) Provide protection from threats and create/ secure sufficient habitat to assure maintenance of these populations and/or habitats over time. This alternative would not impact southwestern willow flycatcher breeding territories.

Step 4: Screen against the forest plan riparian management objectives. This alternative was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The alternative would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. The I-8 Alternative would avoid impacts to habitat used by the migrant willow flycatcher. However, this alternative would impact arroyo toad breeding and upland habitat within RCAs; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to prevent downward trends in this species.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

Interstate 8 Alternative: West Buckman Springs Option 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 4 RCAs were identified on USDA Forest Service lands for this option (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Arroyo toad was detected in 1 RCA along this option: MP BSW-1.4 (see Impact B-7K in Section E.1.2.5). The buffer width at this location was not increased for arroyo toads because it is currently 3,000 feet wide. This option would result in impacts to occupied breeding and upland habitat within this RCA from an access road and two towers (Table Ap.8Q-1).

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. This option would impact occupied upland habitat on federal lands in the Tijuana River-Cottonwood Creek basin.

Step 4: Screen against the forest plan riparian management objectives. This option was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The option would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. This option would impact arroyo toad upland habitat within the RCA; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to minimize the potential for downward trends in this species.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

Interstate 8 Alternative: Buckman Springs Underground Option 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 3 RCAs were identified on USDA Forest Service lands for this option (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Arroyo toad was assumed to be present in 1 RCA along this option: MP BSU-0.1 (see Impact B-7K in Section E.1.2.5). The buffer width at this location was not increased for arroyo toads because it is currently 1,000 feet wide. This option would result in impacts to occupied breeding and upland habitat within this RCA from an access road and the underground project components (Table Ap.8Q-1).

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. This option would impact assumed occupied breeding and upland habitat on federal lands in the Tijuana River-Cottonwood Creek basin.

Step 4: Screen against the forest plan riparian management objectives. This option was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The option would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. This option would impact arroyo toad breeding and upland habitat within the RCA; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to minimize the potential for downward trends in this species.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

Interstate 8 Alternative: South Buckman Springs Option 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 2 RCAs were identified on USDA Forest Service lands for this option (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Arroyo toad was assumed to be present in 1 RCA along this option: between MP SBS-1.5 and SBS-4.1 (see Impact B-7K in Section E.1.2.5). The buffer width at this location was not increased for arroyo toads because it is currently ranges from 700 feet wide to 2,700 feet wide. This option would impact assumed occupied breeding and upland habitat for arroyo toads within this RCA due to towers and access roads. Least Bell's vireo was present and southwestern willow flycatcher was assumed to be present in 1 RCA, at SBS-2.3. This option would impact occupied least Bell's vireo habitat and assumed occupied southwestern willow flycatcher habitat within this RCA due to towers and access roads.

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. This option would impact occupied and assumed occupied breeding and upland habitat on federal lands in the Tijuana River-Cottonwood Creek basin (La Posta Creek is a tributary to Cottonwood Creek).

The following recovery criterion from the least Bell's vireo recovery plan is applicable to the project: protect and manage riparian and adjacent upland habitats within the least Bell's vireo historical range, including controlling non-native plant species. This option would not conform to this criterion because it would result in permanent impacts to occupied breeding habitat. A Weed Control Plan (Mitigation Measure B-3a) would be prepared and implemented to minimize risks associated with non-native plant species invasion.

The southwestern willow flycatcher recovery plan lists the following recovery criteria: 1) Increase the number of breeding territories to 1,950, which shall be geographically distributed; 2) Increase the number of breeding territories to 1,950, which shall be geographically distributed across Management Units and Recovery Units; and 3) Provide protection from threats and create/secure sufficient habitat to assure maintenance of these populations and/or habitats over time. Under the assumption that southwestern willow flycatchers are present, this

option would impact breeding territories that may occur in the riparian habitat associated with La Posta Creek, which would not be in accordance with recovery criteria 1 and 3 listed above.

Step 4: Screen against the forest plan riparian management objectives. This option was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The option would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. This option would impact arroyo toad breeding and upland habitat within the RCA; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to minimize the potential for downward trends in this species. This option would impact occupied least Bell's vireo habitat and assumed occupied southwestern willow flycatcher habitat; Mitigation Measure B-7e would be implemented to mitigate for impacts to the habitat and to minimize the potential for downward trends in these species.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

BCD Alternative: 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 12 RCAs were identified on USDA Forest Service lands for the BCD Alternative (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Arroyo toad was assumed to be present at 2 RCA's along the BCD Alternative: MP BCD-13.5 and BCD-18.8 (see Impact B-7K in Section E.2.2.2). The buffer width at BCD-13.5 was not increased for arroyo toads because it is currently mapped as 1,900 feet wide. However, project features would be located within the RCA and would result in impacts to arroyo toad upland habitat within the RCA. The buffer width at BCD-18.8 is currently mapped as 250 feet wide; all project features (towers staging area, and access roads) would be located at least 1,000 feet from the drainage. As noted in Table Ap.8Q-1, arroyo toads are assumed not to be present where the access road would cross the RCA several thousand feet to the south of BCD-18.8.

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. In addition to impacting arroyo toad habitat within the RCA, the Draft EIR/EIS reported that this

alternative would impact a total of 16.8 acres of assumed occupied arroyo toad upland habitat, in accordance with accepted guidelines (USFWS 1999) that state all habitat within 1 km of known locations should be assumed to be occupied by the species. Therefore, this alternative would impact assumed occupied habitat in federal lands along two tributaries to the Tijuana River-Cottonwood Creek basins (along La Posta Creek [BCD-13.5] and Horse Canyon [BCD-18.8]).

Step 4: Screen against the forest plan riparian management objectives. This alternative was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The alternative would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. This alternative would impact arroyo toad upland habitat within RCAs; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to minimize the potential for downward trends in this species.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

BCD South Option: 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 6 RCAs were identified on USDA Forest Service lands for the BCD South Option (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Arroyo toad was assumed to be present at 2 RCA's along the BCD South Option: MP BCDS-0.0 and BCDS-3.5 (see Impact B-7K in Section E.2.2.3). The buffer widths at these 2 locations were not increased for arroyo toads because each RCA is a minimum of 1,400 feet wide. However, project features would be located within the RCA at each location and would result in impacts to arroyo toad breeding and upland habitat within the RCA at each location.

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. This option would impact assumed occupied habitat on federal lands within the RCA at two locations along La Posta Creek, a tributary to the Tijuana River-Cottonwood Creek basin.

Step 4: Screen against the forest plan riparian management objectives. This alternative was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The option would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. This option would impact arroyo toad breeding and upland habitat within RCAs; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to minimize the potential for downward trends in this species.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

Route D Alternative: 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 14 RCAs were identified on USDA Forest Service lands for the Route D Alternative (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. No listed species were detected or were assumed to be present within RCAs that occur on USDA Forest Service lands.

Step 3: Screen against desired conditions and recovery plans. No listed species were detected within RCAs that occur on USDA Forest Service lands. Therefore this alternative does not need to be screened against criteria in recovery plans.

Step 4: Screen against the forest plan riparian management objectives. This alternative was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The alternative would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. One pulling site would be located in an RCA (MP D-0.0).

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

Modified Route D Alternative: 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 14 RCAs were identified on USDA Forest Service lands for the Modified Route D Alternative (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Least Bell's vireo was documented in the RCA (upper Hauser Creek) at MP MRD-11.5 (see Impact B-7D in Section E.4.2.2); habitat impacts would occur in the RCA only if the proposed access road improvements to an existing maintained road would result in riparian vegetation being removed. Two tower locations and one pulling site would be located approximately 1,000 feet from Hauser Creek (see Fig Ap.8J-34 of the Draft EIR/EIS); no staging areas are proposed near Hauser Creek.

Arroyo toad is known to occur in 2 RCAs along the Modified Route D Alternative: in the staging area that would be located 4,000 feet north of MP MRD-3.2 and at MRD-14.3 (see Table Ap.8Q-1). The buffer width for the RCA (a tributary to La Posta Creek) that occurs 4,000 feet north of MRD-3.2 is 700 feet wide; this alternative would impact arroyo toad upland habitat within this RCA. The buffer width for the RCA at MRD-14.3 (Potrero Creek) is 3,200 feet wide; Tower USFS 1098 would impact arroyo toad upland habitat within the portion of the RCA that occurs on the CNF. A staging area and access roads would result in additional impacts to arroyo toad upland habitat that occurs immediately adjacent to the CNF (see Fig Ap.8J-34 of the Draft EIR/EIS and Table Ap.8Q-1).

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. This alternative would impact occupied and assumed occupied breeding and upland habitat on federal lands in the Tijuana River-Cottonwood Creek basin (La Posta Creek and Potrero Creek are a tributaries to Cottonwood Creek).

The following recovery criterion from the least Bell's vireo recovery plan is applicable to the project: protect and manage riparian and adjacent upland habitats within the least Bell's vireo historical range, including controlling non-native plant species. This alternative would likely conform to this criterion because little to no impacts to least Bell's vireo habitat would result from road improvements. A Weed Control Plan (Mitigation Measure B-3a) would be prepared and implemented to minimize risks associated with non-native plant species invasion.

Step 4: Screen against the forest plan riparian management objectives. This alternative was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The alternative would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. This alternative would impact arroyo toad breeding and upland habitat within RCAs; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to minimize the potential for downward trends in this species.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

Final Environmentally Superior Southern Route: 5-step screening process

Step 1: Define buffer width based on type of stream. A total of 12 RCAs were identified on USDA Forest Service lands for the Final Environmentally Superior Southern Route (Table Ap.8Q-1).

Step 2: Additional protective buffer widths for specific species. Least Bell's vireo was documented in the RCA (upper Hauser Creek) adjacent to an access road that would be constructed between towers USFS1108 and USFS1109 (Table Ap.8Q-1; see also Impact B-7D for the Modified Route D Alternative in Section E.4.2.2 of the Draft EIR/EIS); habitat impacts would occur in the RCA only if the proposed access road improvements to an existing maintained road would result in riparian vegetation being removed. Two tower locations (USFS1108 and USFS1109) would be located approximately 1,000 feet from Hauser Creek, but no pulling sites or staging areas would be located near this RCA.

Arroyo toad is known to occur in 2 RCAs along the Final Environmentally Superior Southern Route (see Table Ap.8Q-1): in a meadow adjacent to La Posta Creek (between Structures 184 and 187) and along Potrero Creek (adjacent to Structure 238). The RCA buffer width associated the meadow is 800 feet wide; this route would impact arroyo toad upland habitat within this RCA. The RCA buffer width along Potrero Creek is 3,200 feet wide. Within the CNF, temporary impacts would occur to arroyo toad upland habitat within the RCA as a result of a portion of the pulling site associated with Structure 238. As noted in Table Ap.8Q-1, the pulling site associated with Structure 238 would only be constructed if Option C/D is implemented to minimize impacts to the Pacific Crest Trail. Additional impacts to arroyo toad upland habitat would occur outside of the CNF due to access roads and Structure 239. SDG&E is coordinating with the USDA Forest Service to resolve impacts to RCAs along this route.

Step 3: Screen against desired conditions and recovery plans. The arroyo toad recovery plan lists the following recovery criterion for the species on federal lands:

A minimum number of 8 self-sustaining metapopulations or populations are to be managed on the CNF in the following targeted river basins: San Juan Creek basin, San Mateo Creek basin, Upper Santa Margarita River basin, San Luis Rey River basin, San Dieguito River basin, San Diego River basin, Sweetwater River basin, Tijuana River-Cottonwood Creek basin. This route would impact occupied and assumed occupied breeding and upland habitat on federal lands in the Tijuana River–Cottonwood Creek basin (La Posta Creek and Potrero Creek are a tributaries to Cottonwood Creek).

The following recovery criterion from the least Bell's vireo recovery plan is applicable to the project: protect and manage riparian and adjacent upland habitats within the least Bell's vireo historical range, including controlling non-native plant species. This route would likely conform to this criterion because little to no impacts to least Bell's vireo habitat would result from road improvements. A Weed Control Plan (Mitigation Measure B-3a) would be prepared and implemented to minimize risks associated with non-native plant species invasion.

Step 4: Screen against the forest plan riparian management objectives. This alternative was screened against the following goals of the forest plan:

Goal 5.2: diversion of surface water, removal of shallow groundwater, drought conditions, and invasion of non-native plant species. The alternative would not divert surface water or remove shallow groundwater. Mitigation Measure B-3a (Prepare and implement a weed control plan) would minimize risks associated with non-native plant species invasion.

Goal 6.2: listed species' habitats are conserved, listed species are moving toward recovery, habitats for sensitive species are managed to prevent downward trends in populations, sufficient flow regimes to allow riparian-dependent species to persist, wildlife and fish habitat functions are maintained or improved. It is assumed that access roads that would cross drainages would include a culvert type crossing to allow for water and sediment flow. This route would impact arroyo toad breeding and upland habitat within RCAs; Mitigation Measure B-7j would be implemented to mitigate for impacts to arroyo toad habitat and to minimize the potential for downward trends in this species. SDG&E is coordinating with the USDA Forest Service to resolve impacts to RCAs along this route.

Step 5: Reference USDA Forest Service handbook. Please refer to the USDA Forest Service handbook for optimizing project design to avoid RCAs.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
Interstate 8 Alternative					
I8-51.0	Access road	Intermittent	1,200	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted arroyo toad surveys at this location (La Posta Creek) in 2007. This portion of the creek occurs on private property so surveys were completed by listening for toads, which is not conclusive for proving absence. Therefore, suitable habitat was assumed to be present and arroyo toads were assumed to be present at this location. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Under the assumption that arroyo toads are present, the access road would be a permanent impact to arroyo toad upland habitat, but would not impact breeding habitat in La Posta Creek. Any impacts to arroyo toads would require consultation with the USFWS.
I8-51.1 (approximately 5,000 ft to the south)	Staging area	Meadow	800	Occupied arroyo toad upland habitat (USDA Forest Service data); USFS modeled habitat for arroyo toad	This meadow was not considered to be occupied arroyo toad habitat in the Draft EIR/EIS. However, conversations with USFS staff resulted in considered this meadow to be occupied upland habitat for arroyo toad, in accordance with the revised Forest Plan. This meadow that is adjacent to La Posta Creek is considered to be occupied arroyo toad upland habitat, as noted in the revised Forest Plan (USDA 2005). The staging area would result in temporary impacts to upland habitat for arroyo toads in this RCA.
I8-51.9 -52.3	Towers S3093 and S3092 and associated access road	Meadow	1,700	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 and determined that the drainage lacked appropriate hydrology and soils for the species. Focused arroyo toad surveys were not conducted and the species is considered absent from the drainage. Towers S3093 and S3092 and the associated access road would result in permanent and temporary impacts to the RCA; temporary impacts to be restored.
I8-53.2 – 53.4	Tower S3088 and associated access road	Meadow	1,400	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 and determined that the drainage lacked appropriate hydrology and soils for the species. Focused arroyo toad surveys were not conducted and the species is considered absent from the drainage. Tower S3088 and associated access road would result in permanent and temporary impacts to the RCA; temporary impacts to be restored.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
I8-54.3 – 54.6	Access road between Towers S3081 and S3082	Intermittent	1,400	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted a habitat assessment for arroyo toads in 2007 at this location (Kitchen Creek) and determined that the creek contained suitable habitat for the species. Surface water was absent throughout the 2007 arroyo toad breeding season at this location because it was a below average rainfall year. The species is known to occur upstream and downstream of this location (CNDDB records). Focused arroyo toad surveys were not conducted in 2007, but the species is considered to be present in the creek. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Under the assumption that arroyo toads are present, the access road to be constructed between Towers S3081 and S3082 would result in permanent impacts to arroyo toad breeding and upland habitat. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow. Any impacts to arroyo toads would require consultation with the USFWS.
I8-56.2	Access road	Intermittent	250	None	Permanent impact to an intermittent drainage; it is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
I8-58.5 – 58.8	Tower S3065, pull site associated with Tower S3066, and associated access road	Intermittent	240	None	Permanent and temporary impacts from tower location, pull site, and access road would impact an intermittent drainage. Temporary impacts would be restored. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
I8-59.5	Tower S3061 and associated access road	Intermittent	675	None	Permanent and temporary impacts from tower location and access road would impact upland habitat; temporary impacts to be restored.
I8-60.0 – 60.4	Access road between Tower S3058 and Tower S3057	Intermittent	685	None	Permanent impact to an intermittent drainage; it is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
I8-60.6	Pull site associated with Tower S3056 and associated access road	Intermittent	315	None	Permanent impact to an intermittent drainage; temporary impacts would be restored. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
I8-61.0 – 61.6	Towers S3053 and S3052, pull site associated with Tower S3051, and associated access road	Intermittent	1000	None	Permanent and temporary impacts from tower locations, pull site, and access road would impact an intermittent drainage; temporary impacts to be restored. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
I8-63.0	Pull site associated with Tower S3045	Intermittent	630	None	Temporary impact to upland habitat would be restored.
I8-63.6	Access road to Tower S3043	Intermittent	1600	USFS modeled habitat for arroyo toad; HELIX's 2007 arroyo toad surveys were negative	HELIX conducted arroyo toad surveys at this location (Pine Valley Creek) in 2007. Suitable habitat was present, but no toads were detected during the surveys. Arroyo toads are known to occur both upstream and downstream of this location in Pine Valley Creek (CNDDB records and USFS records). Although arroyo toads were determined not to be present in this portion of the creek in 2007, pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Under the assumption that arroyo toads are absent from this portion of the creek, the road improvements to the existing dirt road would result in permanent impacts to upland habitat within the RCA.
I8-64.0 – 64.3	Access road to Tower S3042	Intermittent	650	None	Permanent impacts from road improvements to an existing dirt road. Impacts would be to upland habitat.
I8-65.7 – 66.0	Tower S3034, pull site for Tower S3035, and associated access roads	Intermittent	900	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 and determined that the drainage lacked appropriate hydrology and soils for the species. Focused arroyo toad surveys were not conducted and the species is considered absent from the drainage. Tower S3034 and the pull site would result in permanent and temporary impacts to the RCA; temporary impacts to be restored. Improvements would occur to an existing dirt access road and it is assumed that a culvert type crossing would remain to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
I8-67.4	Tower S3027, pull site for Tower S3028, and associated access road	Intermittent	800	HELIX detected a migrating willow flycatcher in 2007 and assumed presence of arroyo toad; USFS modeled habitat for arroyo toad	HELIX conducted arroyo toad surveys at this location (Sweetwater River) in 2007. Although the 2007 survey results were negative at this location, arroyo toads were assumed to be present because suitable habitat occurred throughout the river (i.e., sandy benches, shallow pools, and open vegetation cover) and because arroyo toads were documented approximately 2,000 feet from the area in 2001 (CNDDB record). Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Tower S3027 would be approximately 160 feet from the river and would result in permanent and temporary impacts to assumed-occupied arroyo toad upland habitat. It is assumed that the access road to Tower S3027 would not be constructed over the river and is not expected to impact toad breeding habitat because the river is confined to an incised canyon. The pull site for Tower S3028 would be located on the eastern side of Highway 79 (the river flows on the west side of the highway). Any impacts to arroyo toads would require consultation with the USFWS. HELIX detected one willow flycatcher during the first southwestern willow flycatcher survey completed in 2007. Willow flycatchers were not detected during subsequent surveys and the bird was determined to be migrating through the area. Riparian habitat along the Sweetwater River would not be directly impacted by the project, but the project could potentially result in indirect noise impacts to the species. Any impact to willow flycatchers would require consultation with the USFWS. Mitigation Measure B-7e is required and includes pre-construction surveys for the species and a 300-foot buffer zone around active nests.
I8-69.9	Access road	Intermittent	250	None	Permanent impact; project would use a culvert type crossing to allow water and sediment flow.
I8-70.2	Access road	Intermittent	260	None	Permanent impact; project would use a culvert type crossing to allow water and sediment flow.
I8-70.3	Access road	Intermittent	260	None	Permanent impact; project would use a culvert type crossing to allow water and sediment flow.
I8-70.4	Pull site for Tower S3006 and associated access road	Intermittent	260	None	Permanent and temporary impacts from pull tower location and access road would impact upland habitat and would cross a creek; temporary impacts to be restored. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
I8-81.6	Access road between Tower S40055 and Tower S40054	Intermittent	250	None	Permanent impact to an intermittent drainage; it is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
I8-81.9	Access road to Tower S40053	Intermittent	250	None	Permanent impact to an intermittent drainage; it is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
I8-82.1	Access road to Tower S40051	Perennial	1,000	USFS modeled habitat for arroyo toad; HELIX assumed arroyo toad presence (2007)	HELIX conducted arroyo toad surveys at this location (San Diego River) in 2007. Direct access to the survey area could not be obtained at night so surveys were completed by listening for toads, which is not conclusive for proving absence. Therefore, arroyo toads were assumed to be present at this location. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Under the assumption that arroyo toads are present, improvements to the existing paved road that crosses the San Diego River (El Cajon Mountain Truck Trail) may result in impacts to arroyo toad breeding and upland habitat. Any impacts to arroyo toads would require consultation with the USFWS.
I8-82.4	Access road to Tower S40051	Intermittent	250	None	Permanent impact to an intermittent drainage; it is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
Interstate 8 Alternative: West Buckman Springs Option					
BSW-1.2 – 2.1	Towers SB3081, SB3080, SB3079, SB3078, pull site at Tower SB3079, and associated access roads	Intermittent	3000	HELIX detected arroyo toad (2007); USFS records and modeled habitat for arroyo toad	HELIX observed an arroyo toad approximately 400 feet downstream of BSW-1.4 (Cottonwood Creek) in 2007. There are also numerous USFS records of arroyo toads in this portion of the creek. The access road proposed between Tower SB3081 and Highway S1 (Buckman Springs Road) would be constructed across Cottonwood Creek and would result in permanent impacts to arroyo toad occupied breeding and upland habitat. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow. Towers SB3081 and SB3080 would result in permanent and temporary impacts to arroyo toad occupied upland habitat. Mitigation Measure B-7j would be required in order to implement the appropriate avoidance/ minimization/ compensation strategies. Any impacts to arroyo toads would require consultation with the USFWS.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
BSW-2.7 – 3.5	Towers SB3074, SB3073 and SB 3072 and associated access roads	Intermittent	5500	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 and determined that the drainage lacked appropriate hydrology and soils for the species to use as breeding habitat. Focused arroyo toad surveys were not conducted in 2007. The area is located approximately 1 mile (1.6 km) to the northwest of arroyo toad occupied breeding habitat. Because the area is greater than 1 km from known breeding areas, this portion of the ROW is not considered to be occupied by arroyo toads. The towers and access roads in this area would result in permanent and temporary impacts to the RCA; temporary impacts would be restored. It is assumed that an access road that crosses the intermittent drainage would include a culvert type crossing to allow water and sediment flow. One of the access roads would make improvements to an existing dirt road.
BSW-3.7	Towers SB3071, pull site and associated access road	Intermittent	350	None	Permanent and temporary impacts from tower locations and access roads would impact upland habitat and would cross a creek; temporary impacts to be restored. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
BSW- 4.3	Access roads to Towers SB3068 and SB3067	Intermittent	230	None	Permanent impacts from access roads would impact upland habitat and would cross an intermittent drainage. It is assumed that the access roads would include culvert type crossings to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
Interstate 8 Alternative: Buckman Springs Underground Option					
BSU-0.0 – 0.2	Underground portion of project and associated access road	Intermittent	1000	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted a habitat assessment for arroyo toads in 2007 at this location (Kitchen Creek) and determined that the creek contained suitable habitat for the species. Surface water was absent throughout the 2007 arroyo toad breeding season at this location because it was a below average rainfall year. The species is known to occur upstream and downstream of this location (CNDDB records). Focused arroyo toad surveys were not conducted in 2007, but the species is considered to be present in the creek. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Under the assumption that arroyo toads are present, permanent impacts would occur to arroyo toad breeding and upland habitat as a result of undergrounding the transmission line across Kitchen Creek. It is assumed that the final grade of the underground transmission line would be at the existing grade of Kitchen Creek to allow water and sediment flow. An access road is also proposed across Kitchen Creek, which would result in permanent impacts to arroyo toad habitat. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow. Any impacts to arroyo toads would require consultation with the USFWS.
BSU-1.7	Underground portion of project	Intermittent	750	None	Permanent impacts to the RCA from undergrounding the transmission line across the intermittent drainage.
BSU-2.3	Underground portion of project	Intermittent	800	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 and determined that the drainage lacked appropriate hydrology and soils for the species to use as breeding habitat. Focused arroyo toad surveys were not conducted in 2007. BSU-2.3 is located approximately 2.5 miles (4 km) to the northeast of known arroyo toad occupied breeding habitat in Cottonwood Creek and is located 1.75 miles (2.8 km) from assumed occupied arroyo toad habitat in Kitchen Creek at BSU-0.0. Because the area is greater than 1 km from known breeding areas, this portion of the ROW is not considered to be occupied by arroyo toads. Permanent impacts would occur to the RCA from undergrounding the transmission line across the intermittent drainage.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
Interstate 8 Alternative: South Buckman Springs Option					
SBS-0.0 – 0.9	Towers BUCK-17, -16, -15, and associated access road	Intermittent	195	USFS modeled habitat for arroyo toad at SBS-0.9; HELIX's 2007 arroyo toad surveys were negative	The South Buckman Springs Option was proposed as an option to the Interstate 8 Alternative subsequent to the conclusion of the 2007 arroyo toad survey period. However, HELIX conducted arroyo toad surveys along La Posta Creek for an alternative that was dropped from consideration in the Draft EIR/EIS. The 2007 survey area included the portion of the South Buckman Springs Option that crosses La Posta Creek (Mile Post SBS-1.2). Suitable habitat was limited to several small areas and no arroyo toads were detected during the surveys. One USFS record of an arroyo toad occurs in the Narrows, which is approximately 0.75 miles (1.2 km) downstream of SBS-1.2 in La Posta Creek. Although arroyo toads were determined not to be present in this portion of the creek in 2007, pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Under the assumption that arroyo toads are absent from this portion of the creek, Towers BUCK-17, -16, and -15 and the associated access road would result in permanent and temporary impacts to the RCA; temporary impacts to be restored. It is assumed that the access road would include a culvert type crossing to allow water and sediment flow along the intermittent drainage.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
SBS-1.5 – 4.1	Towers BUCK-11, -10, -9, -8, -7, -24, -23, -22, -21, -20, pull site for Tower SB3079, and associated access roads	Intermittent	700 - 2700	Arroyo toad assumed present (USFS modeled habitat, USFS records, HELIX 2007 observation); Least Bell's vireo present (HELIX 2007 observation) Southwestern willow flycatcher assumed present (protocol surveys not conducted)	The South Buckman Springs Option was developed as an option to the Interstate 8 Alternative subsequent to the conclusion of the 2007 arroyo toad survey period. As a result, HELIX did not conduct arroyo toad surveys along this portion of La Posta Creek in 2007. However, the species has been documented by the USFS in numerous locations between Mile Posts SBS-3.1 and SBS-3.3 (confluence of La Posta and Cottonwood creeks). Arroyo toads are also known to occur approximately 2,000 feet to the east of SBS-4.0 (USFS records and HELIX observation in 2007 [see BSW-1.2 – 2.1 above]). As a result, all of the USFS modeled habitat for arroyo toad between SBS-1.5 and SBS-4.1 is considered occupied by arroyo toads. The proposed towers, pull site, and access roads would result in permanent and temporary impacts to arroyo toad occupied breeding and upland habitat. Mitigation Measure B-7j would be required in order to implement the appropriate avoidance/ minimization/ compensation strategies. Impacts to arroyo toads would require consultation with the USFWS. HELIX conducted protocol least Bell's vireo/southwestern willow flycatcher surveys along La Posta Creek for an alternative that was dropped from consideration in the Draft EIR/EIS. The 2007 survey area included the portion of the South Buckman Springs Option that crosses La Posta Creek (SBS-1.2 – SBS-1.6). No least Bell's vireo or southwestern willow flycatchers were detected along this portion of La Posta Creek. A non-protocol survey (2 site visits in mid-July 2007) for least Bell's vireo and southwestern willow flycatcher between SBS-1.6 and SBS-2.3. Protocol surveys for these species could not be conducted in 2007 because the option was proposed too late in the survey season to complete the necessary number of site visits for these species. One least Bell's vireo was detected approximately 400 feet west of SBS-2.3. As a result, all suitable riparian vegetation between SBS-1.6 and SBS-2.3 is considered occupied by least Bell's vireo and is assumed to be occupied by southwestern willow flycatcher. Towers BUCK-11, -8, and -24 would result in permanent and temporary impacts to occupied habitat. Additionally the access road between Towers BUCK-11 and BUCK-24 would result in permanent impacts to occupied habitat. Impacts to least Bell's vireo and southwestern willow flycatcher would require consultation with the USFWS.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
BCD Alternative					
BCD-12.6	Access road	Intermittent	700	None	Permanent impacts from access roads would impact upland habitat and would cross a creek; temporary impacts to be restored. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow. Portions of the roads would follow existing roads.
BCD-13.0 – 13.3 (8000 ft north of)	Access road	Intermittent	4200	None	Permanent impacts from access roads, including improvements to a portion of an existing dirt road.
BCD-13.6 – 14.0	Towers S20080, S20079, pull sites, and associated access roads	Intermittent	1900	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted a habitat assessment for arroyo toads in 2007 at this location (La Posta Creek) and determined that the creek contained suitable habitat for the species. Surface water was absent throughout the 2007 arroyo toad breeding season at this location because it was a below average rainfall year. Focused arroyo toad surveys were not conducted in 2007, but the species is considered to be present in this portion of the creek. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Under the assumption that arroyo toads are present, permanent and temporary impacts would occur to arroyo toad breeding and upland habitat as a result of the proposed towers, pull sites, and access roads. It is assumed that access roads would include culvert type crossings to allow water and sediment flow. Any impacts to arroyo toads would require consultation with the USFWS.
BCD-14.7	Tower S20075 and access roads to Towers S20075 and S20076	Intermittent	215	None	Permanent and temporary impacts from tower location and access roads would impact an intermittent drainage; temporary impacts to be restored. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
BCD-16.2 (1800 ft north and 3800 ft south)	Access road	Intermittent	600	None	Permanent impacts from access roads would impact an intermittent drainage. It is assumed that access roads would include culvert type crossings to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
BCD-16.8 – 17.3 (3800 ft south of)	Access road	Intermittent	2000	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted habitat assessments for arroyo toads in 2007 for the portions of the ROW that would cross Long Canyon (BCD-16.6) and Kitchen Creek (BCD-17.1). HELIX determined that the habitat in these portions of the ROW was not suitable for arroyo toads (lack appropriate soils and hydrology). The access road that would be constructed approximately 3,800 feet to the south of the ROW was determined after the 2007 arroyo toad survey season had ended. Focused arroyo toad surveys were not conducted in 2007. Arroyo toads are known to occur approximately 0.7 miles (1.1 km) south of the access road in Kitchen Creek (CNDDB record, USFS record). Because the area is greater than 1 km from known breeding areas, HELIX assumed that arroyo toads are not present along the portions of Kitchen Creek and Long Canyon that occur adjacent to the proposed access road. The access road would make improvements to an existing dirt road (Fred Canyon Road) and would result in permanent impacts to the RCA. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
BCD-17.4 (870 ft north of)	Access road	Intermittent	780	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 and determined that this portion of Kitchen Creek lacked appropriate hydrology and soils for the species to use as breeding habitat. Focused arroyo toad surveys were not conducted in 2007. The access road that would be 870 feet north of BCD-17.4 would be located approximately 1.3 miles (2.1 km) to the north of known arroyo toad occupied breeding habitat in Kitchen Creek. Because the area is greater than 1 km from known breeding areas, HELIX assumed that arroyo toads are not present along this portion of Kitchen Creek that occurs adjacent to the proposed access road. The access road would result in permanent impacts to upland habitat within the mapped RCA.
BCD-17.4 (4600 ft north of)	Access road	Intermittent	700	None	Permanent impacts from access roads would impact upland habitat. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
BCD-17.8 (1000 ft north of)	Access road	Intermittent	230	None	Permanent impacts from access roads would impact upland habitat. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
BCD-18.3 (830 ft north of)	Access road	Intermittent	1000	None	Permanent impacts from access roads would impact upland habitat. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
BCD-18.5 (7900 ft south of)	Access road	Intermittent	250	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted a habitat assessment for arroyo toads in 2007 for the portion of the ROW that would cross Horse Canyon (BCD-18.8). HELIX determined that the soils and vegetation in this portion of the ROW was suitable to support breeding habitat for arroyo toads. However, surface water was absent throughout the 2007 arroyo toad breeding season at this location because it was a below average rainfall year. Focused arroyo toad surveys were not conducted in 2007, but the species is considered to be present in this portion of the ROW. All towers, access roads, and staging areas adjacent to BCD-18.8 would be located at least 1,000 feet from the drainage and would be located outside of the RCA. Improvements to an existing dirt road (Sheephead Mountain Road), located 7,900 feet south of BCD-18.8, would be conducted within the RCA. Based on a review of aerial photographs, HELIX concluded that this portion of Horse Canyon (7,900 feet south of BCD-18.5) is assumed not to be occupied by arroyo toad because it lacks the appropriate soils and vegetation to support breeding. Therefore improvements to Sheephead Mountain Road would not result in impacts to arroyo toad habitat within the RCA.
BCD-18.5 (4500 ft south of)	Access road	Intermittent	250	None	Permanent impacts from road improvements to an existing dirt road. Impacts would be to upland habitat. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
BCD South Option					
BCDS-0	Access road and pull site associated with Tower S20080	Intermittent	1900	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted a habitat assessment for arroyo toads in 2007 at this location (La Posta Creek) as part of the BCD Alternative and determined that the creek contained suitable habitat for the species. Surface water was absent throughout the 2007 arroyo toad breeding season at this location because it was a below average rainfall year. Focused arroyo toad surveys were not conducted in 2007, but the species is considered to be present in this portion of the creek. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Under the assumption that arroyo toads are present, permanent and temporary impacts would occur to arroyo toad breeding and upland habitat as a result of the pull site and access road. It is assumed that access roads would include culvert type crossings to allow water and sediment flow. Any impacts to arroyo toads would require consultation with the USFWS.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
BCDS-1.9 – 2.2	Towers BCDSo8, BCDSo9 and associated access roads	Intermittent	4000	USFS modeled habitat for arroyo toad; HELIX assumed habitat not suitable for arroyo toads (2007)	HELIX did not conduct a habitat assessment or focused surveys for arroyo toads at this location (Antone Canyon). Based on a review of aerial photographs, HELIX assumed that this portion of Antone Canyon is not occupied by arroyo toad because it is a low order stream that would not hold water long enough to support arroyo toad breeding. Under the assumption that arroyo toads are absent, permanent and temporary impacts to habitat in the RCA would occur as a result of the towers and access roads. It is assumed that access roads would include culvert type crossings to allow water and sediment flow.
BCDS-3.2	Tower BCDSo14 and associated access road	Meadow	5300	None	Permanent and temporary impacts to RCA from tower location and access road; temporary impacts to be restored.
BCDS-3.5	Tower BCDSo15 and associated access road	Intermittent	1400	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted arroyo toad surveys at this location (La Posta Creek) in 2007. This portion of the creek occurs on private property so surveys were completed by listening for toads, which is not conclusive for proving absence. Therefore, suitable habitat was assumed to be present and arroyo toads were assumed to be present at this location. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j, which would definitively prove presence/absence. Under the assumption that arroyo toads are present, the Tower BCDSo15 and its associated pull sites and access road would result in permanent and temporary impacts to arroyo toad breeding and upland habitat in La Posta Creek. Any impacts to arroyo toads would require consultation with the USFWS.
BCDS-4.0	Pull site and associated access road	Intermittent	4000	None	Permanent and temporary impacts from access roads and pull site; temporary impacts to be restored. Portions of the access road would make improvements to the existing road.
BCDS-4.4	Portion of Tower BCDSo19 and associated access road	Intermittent	730	None	Permanent and temporary impacts from tower location would impact upland habitat; temporary impacts to be restored.
Route D Alternative					
D-0	Pull site for Tower S20001	Intermittent	250	None	Temporary impacts from pull site would be restored.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
D-0.2	Access road	Intermittent	250	None	Permanent impacts from access road would impact an intermittent drainage. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
D-1	Access road	Intermittent	250	None	Permanent impacts from access road would impact an intermittent drainage. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
D-2.1 – 2.5 (2000 ft east of)	Access road	Intermittent	300	None	Permanent impacts from access road would impact an intermittent drainage. It is assumed that an access road would include a culvert type crossing to allow water and sediment flow.
D-2.6 (1400 ft east of)	Access road	Intermittent	1360	USFS modeled habitat for arroyo toad; HELIX's 2007 surveys were negative	HELIX conducted arroyo toad surveys in 2007 where the ROW would cross King Creek (Mile Post D-2.7). Suitable habitat was present, but no toads were detected during the surveys. Arroyo toads are not known to occur in the vicinity and are considered absent at D-2.7. Arroyo toads are assumed to be absent along the access road that would be constructed 1,400 feet to the east of D-2.6, based on the 2007 survey at D-2.7. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Under the assumption that arroyo toads are absent, impacts to the RCA would be limited to upland habitat due to road improvements along the existing dirt road. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
D-3.3 (1500 ft east of)	Access road	Intermittent	1100	USFS modeled habitat for arroyo toad; HELIX's 2007 surveys were negative	HELIX conducted arroyo toad surveys in 2007 where the ROW would cross King Creek (Mile Post D-2.7). Suitable habitat was present, but no toads were detected during the surveys. Arroyo toads are not known to occur in the vicinity and are considered absent at D-2.7. Arroyo toads are also assumed to be absent from the portion of King Creek that occurs adjacent to the access road that would be constructed 1,500 feet to the east of D-3.3. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Under the assumption that arroyo toads are absent, access road construction would result in a minor impact to the edge of the riparian habitat along King Creek (majority of the impacts would be to upland habitat). It is assumed that culvert type crossings would be included where the access road crosses intermittent drainages in order to allow water and sediment flow.
D-5.1 (1600 ft east of)	Access road	Intermittent	260	None	Permanent impacts from road improvements to an existing dirt road. Impacts would be to upland habitat. It is assumed that a culvert type crossing would remain to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
D-5.7 - 6.3	Access road	Intermittent	200 - 1400	USFS modeled habitat for arroyo toad; HELIX's 2007 surveys were negative	HELIX conducted arroyo toad surveys in 2007 where the ROW would cross Conejos Creek (Mile Post D-5.8). Suitable habitat was present, but no toads were detected during the surveys. Arroyo toads are not known to occur in the vicinity and are considered absent at D-5.8. Arroyo toads are assumed to be absent along the access road that would be constructed between D-5.7 to D-6.3, based on the 2007 survey at D-2.7. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Under the assumption that arroyo toads are absent, access road construction would result in impacts to riparian and upland habitat within the RCA. The access road would cross Conejos Creek several times and would also cross unnamed tributaries. It is assumed that culvert type crossings would be installed to allow water and sediment flow.
D-7.2	Access road	Intermittent	675	None	Permanent impacts from road improvements to an existing dirt road. Impacts would be to upland habitat. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
D-7.5	Access road	Intermittent	200	None	Permanent impacts from road improvements to an existing dirt road. Impacts would be to upland habitat. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
D-8.4	Access road	Intermittent	200	None	Permanent impacts from road improvements to an existing dirt road. Impacts would be to upland habitat. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
D-8.8	Access road	Intermittent	800	USFS modeled habitat for arroyo toad; HELIX's 2007 surveys were negative	HELIX conducted arroyo toad surveys in 2007 where the ROW would cross Boulder Creek (Mile Post D-8.9). Suitable habitat was present, but no toads were detected during the surveys. Arroyo toads are considered absent at D-8.9 because of the negative survey in 2007 and because the closest known location is approximately 5 miles downstream, near the confluence of Boulder Creek and the San Diego River. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Under the assumption that arroyo toads are absent, the access road to be constructed across Boulder Creek would result in impacts to riparian and upland habitat within the RCA. It is assumed that an Arizona-type crossing would be installed to allow water and sediment flow because of the high seasonal flows in the creek.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
D-10.7	Access road	Intermittent	650	USFS modeled habitat for arroyo toad; HELIX determined habitat not suitable for arroyo toads (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 and determined that this portion of Kelly Creek lacked appropriate hydrology and soils for the species to use as breeding habitat. Focused arroyo toad surveys were not conducted in 2007 and HELIX concluded that arroyo toads were absent along this portion of Kelly Creek. The access road to be constructed across Kelly Creek would result in impacts to riparian and upland habitat within the RCA. It is assumed that a culvert type crossing would be installed to allow water and sediment flow.
D-11.7	Access road	Intermittent	660	None	Permanent impacts from road improvements to an existing dirt road. Impacts would be to upland habitat. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
Modified Route D Alternative					
MRD-3.2 (approx. 4,000 feet to the north)	Staging area approximately 4,000 feet north of MRD-3.2	Meadow	800	Occupied arroyo toad upland habitat (USDA Forest Service data); USFS modeled habitat for arroyo toad	This meadow that is adjacent to La Posta Creek is considered to be occupied arroyo toad upland habitat, as noted in the revised Forest Plan (USDA 2005). Tower locations, access roads, and the pulling sites would result in permanent impacts to upland habitat for arroyo toads in this RCA. SDG&E is coordinating with the USDA Forest Service to make adjustments to project features in order to minimize impacts to this RCA.
MRD-4.5	Tower LP3 and associated pull site	Intermittent	200	None	Temporary impacts would be restored. Permanent impacts occur outside of RCA.
MRD-4.5 (approx. 1 mile to the northwest)	Staging area (near Old Highway 80)	Meadow	3,600	USFS modeled habitat for arroyo toad; HELIX's 2007 surveys were negative	HELIX conducted arroyo toad surveys along La Posta Creek for an alternative that was dropped from consideration in the Draft EIR/EIS. The 2007 survey area included this proposed staging area for the Modified Route D Alternative. Suitable habitat within this portion of La Posta Creek was limited to several small areas and no arroyo toads were detected during the surveys. One USFS record of an arroyo toad occurs in the Narrows, which is approximately 1.3 miles (2.1 km) downstream of this staging area located immediately to the west of La Posta Creek. Although arroyo toads were determined not to be present in this portion of the creek in 2007, pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Under the assumption that arroyo toads are absent from this portion of the creek, this staging area would result in temporary impacts to the RCA. All temporary impacts would be restored.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
MRD-10.8	Access road	Intermittent	200	None	Permanent impacts from access roads. Portions of the access road would make improvements to the existing dirt road. It is assumed that a culvert type crossing would remain to allow water and sediment flow.
MRD-11.5	Access road (tower USFS1108 and tower 1109 would be placed outside CNF)	Intermittent	800	Least Bell's vireo present (HELIX 2007 observation)	In 2007, HELIX conducted protocol least Bell's vireo/southwestern willow flycatcher surveys where the ROW crosses Hauser Creek (MRD-11.5). The least Bell's vireo was detected at this location; as a result, all suitable riparian vegetation at MRD-11.5 is considered occupied by least Bell's vireo. Road improvements to an existing maintained road would result in permanent impacts to occupied least Bell's vireo habitat if riparian vegetation is removed. Impacts to least Bell's vireo would require consultation with the USFWS. It is assumed that the existing culvert crossing would remain to allow water and sediment flow.
MRD-14.3	Tower USFS1098	Intermittent	3,200	Occupied arroyo toad upland habitat (CNDDB); USFS modeled habitat for arroyo toad; HELIX assumed presence of arroyo toad (2007)	HELIX conducted a habitat assessment for arroyo toads in 2007 at Mile Post MRD-14.4 (Potrero Creek) and determined that the creek contained suitable habitat for the species. Surface water was absent throughout the 2007 arroyo toad breeding season at this location because it was a below average rainfall year. Focused arroyo toad surveys were not conducted in 2007. HELIX assumed that arroyo toads were present because this species has been documented in this portion of the creek in 1993 (CNDDB record). Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Within the CNF, permanent and temporary impacts would occur to arroyo toad upland habitat as a result of Tower USFS1098. Additional impacts to arroyo toad upland habitat would occur outside of the CNF due to access roads and a staging area. Impacts to arroyo toads would require consultation with the USFWS.
MRD-22.6	Access road	Intermittent	200	None	Permanent impact to an intermittent drainage from new access road construction. It is assumed that a culvert type crossing would be included to allow water and sediment flow.
MRD-23.0	Access road	Intermittent	600	None	Permanent impact to an intermittent drainage from new access road construction. It is assumed that a culvert type crossing would be included to allow water and sediment flow.
MRD-24.7	Pull site	Intermittent	200	None	Temporary impact to upland habitat adjacent to an intermittent drainage. Impacts would be restored.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
MRD-26.9	Access road	Intermittent	200	None	Permanent impact to an intermittent drainage from new access road construction. It is assumed that a culvert type crossing would be included to allow water and sediment flow.
MRD-27.6 (approx. 1,000 feet to the east)	Access road	Intermittent	200	None	Permanent impact to an intermittent drainage due to improvements to an existing dirt road. It is assumed that a culvert type crossing would be included to allow water and sediment flow.
MRD-28.2	Tower USFS1041 and associated access road	Intermittent	200	None	Permanent and temporary impacts from tower location and access road; temporary impacts to be restored. Access road would include a culvert type crossing to allow water and sediment flow.
MRD-32.0	Access road	Intermittent	200	None	Permanent impact to an intermittent drainage due to improvements to an existing dirt road. It is assumed that a culvert type crossing would be included to allow water and sediment flow.
MRD-32.7	Tower USFS1024 and associated access road	Intermittent	700	None	Tower location and access road would result in permanent and temporary impacts to chaparral along the northern limits of this RCA. Access road would not cross the drainage. Temporary impacts to upland habitat would be restored.
Star Valley Option (Modified Route D Alternative) – No Impacts would occur to RCAs on the CNF					
Environmentally Superior Southern Route					
N/A	Structure 162 and associated access road	Intermittent	2,100	None	Tower location and access road would result in permanent and temporary impacts to oak woodland along the western edge of this RCA. The access road would not cross La Posta Creek. Temporary impacts to upland habitat would be restored.
N/A	Structures 168 and 169 and associated helipads	Intermittent	700	None	Tower location and helipads would result in permanent impacts to chaparral habitat along the eastern edge of this RCA.
N/A	Structures 173 and 174 and associated access road	Intermittent	1,400	None	Tower locations would result in permanent impacts to chaparral habitat along the western and eastern edges of this RCA. The access road would spur off of an existing road and would not cross the drainage.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
N/A	Structures 184 and 187 and associated access road and permanent pulling sites	Meadow	800	Occupied arroyo toad upland habitat (USDA Forest Service data); USFS modeled habitat for arroyo toad	This meadow that is adjacent to La Posta Creek is considered to be occupied arroyo toad upland habitat, as noted in the revised Forest Plan (USDA 2005). Tower locations, access roads, and the pulling sites would result in permanent impacts to upland habitat for arroyo toads in this RCA. SDG&E is coordinating with the USDA Forest Service to make adjustments to project features in order to minimize impacts to this RCA.
N/A	Structure 193 and associated pulling site	Intermittent	250	None	A portion of Structure 193 and a portion of its pulling site would result in temporary impacts to chaparral along the edge of this RCA. No impacts would occur to the drainage and temporary impacts would be restored.
N/A	Access road between Structures MD2028 and USFS1111	Intermittent	250	None	A new access road would be constructed across this unnamed drainage. It is assumed that a culvert type crossing would be included to allow water and sediment flow.
N/A	Access road (towers USFS1108 and USFS1109 would be placed outside CNF)	Intermittent	800	Least Bell's vireo present (HELIX 2007 observation)	In 2007, HELIX conducted protocol least Bell's vireo/southwestern willow flycatcher surveys where the ROW crosses Hauser Creek (MRD-11.5). The least Bell's vireo was detected at this location; as a result, all suitable riparian vegetation at MRD-11.5 is considered occupied by least Bell's vireo. Road improvements to an existing maintained road would result in permanent impacts to occupied least Bell's vireo habitat if riparian vegetation is removed. Impacts to least Bell's vireo would require consultation with the USFWS. It is assumed that the existing culvert crossing would remain to allow water and sediment flow.

Table Ap.8Q-1. Riparian Conservation Area (RCA) Analysis

Mile Posts	Project Feature	Stream Type	Buffer Width (ft)	Listed Species	Impact to RCA
N/A	Pulling site associated with Structure 238 (Option C/D of PCT reroute only – Option A would not result in impacts to the RCA on CNF lands)	Intermittent	3,200	HELIX assumed presence of arroyo toad (2007); USFS modeled habitat for arroyo toad	HELIX conducted a habitat assessment for arroyo toads in 2007 at Mile Post MRD-14.4 (Potrero Creek) and determined that the creek contained suitable habitat for the species. Surface water was absent throughout the 2007 arroyo toad breeding season at this location because it was a below average rainfall year. Focused arroyo toad surveys were not conducted in 2007. HELIX assumed that arroyo toads were present because the species was documented in this portion of the creek in 1993. Pre-construction surveys for arroyo toads would be required by Mitigation Measure B-7j. Within the CNF, temporary impacts would occur to arroyo toad upland habitat within the RCA as a result of a portion of the pulling site associated with Structure 238. Additional impacts to arroyo toad upland habitat would occur outside of the CNF due to access roads and Structure 238. Any impacts to arroyo toads would require consultation with the USFWS.
N/A	Pulling site associated with Structure 276 (RCA occurs to the east of the structure)	Intermittent	250	None	Temporary impact would occur to an intermittent drainage for this pulling site; impacts would be restored.
N/A	Pulling site associated with Structure 276 (RCA occurs to the north of the structure)	Intermittent	650	None	Temporary impact to upland habitat adjacent to an intermittent drainage; impacts would be restored.
N/A	Access road to Structure 283	Intermittent	250	None	A new access road would be constructed across this unnamed drainage. It is assumed that a culvert type crossing would be included to allow water and sediment flow.
N/A	Structure 290 and associated helipads	Intermittent	650	None	Tower location and helipads would result in permanent impacts to chaparral habitat along the eastern edge of this RCA.