

D. COMPARISON OF ALTERNATIVES

D.1 INTRODUCTION

This section summarizes and compares the environmental advantages and disadvantages of the proposed project and the alternatives evaluated in detail in this EIR (see Figure D-1). This comparison is based on the environmental impacts of the proposed project and each alternative, as identified in Sections C.2 through C.12.

Section D.2 describes the process used for comparing alternatives. Section D.3 includes a summary of the impacts of each alternative in comparison to the proposed route. Section D.4 presents the Environmentally Superior Alternative, including a map of the environmentally superior transmission line route and substation.

D.2 COMPARISON METHODOLOGY

Following is the methodology that was used to compare alternatives in this EIR:

Step 1: An alternatives screening process (described in Section B.5) was used to identify the alternatives that had the potential to eliminate significant impacts of the proposed project.

Step 2: The environmental impacts of the proposed and the alternative route segments were identified (Sections C.2 through C.12), including the potential impacts of transmission line and substation construction and operation. These impacts are summarized for each alternative segment in Section D.3.

Step 3: The environmental impacts of each transmission line segment were compared to the comparable segment of the proposed route (Section D.3.1), then the substation alternatives were compared (Section D.3.2), and finally the 115kV upgrade alternatives were evaluated (Section D.3.3).

Step 4: The impacts in the 11 environmental issue areas were evaluated as to their relative importance so that the overall impacts of each alternative could be compared with the proposed project. Based on this evaluation, a conclusion was drawn as to the environmental superiority of each project component (230kV transmission line route, substation site, and 115kV upgrade); this conclusion is presented in Section D.4.

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. For the Northeast San Jose Transmission Reinforcement Project, potential impacts in three environmental issue areas are considered to be most important in this analysis; these issue areas are biological resources, visual resources, and land use and recreation. These issues were considered to have more weight in the comparison because they are long-term impacts that will be present for the life of the project: permanent visual intrusion from the Refuge, trails, and adjacent

properties; permanent loss of small amounts of habitat for various species and increased risk of bird collision with transmission lines; and changes in the character of land uses, especially recreational lands. Impact conclusions in these three issue areas are weighted at approximately twice those in the minor issue areas.

The remaining eight environmental issue areas are those with either short-term construction impacts (i.e., air emissions, construction noise and vibration, transportation, and public services). Aside from the substation site, these impacts would occur at any single site for a very short time. The other issue areas included as “minor” include those for which no especially serious impacts have been identified, and in which most issues can be more easily reduced to non-significant levels with engineering solutions and mitigation measures (i.e., geology, hydrology, cultural resources). These issues are still considered in every comparison, but their conclusions carry less weight than the three described above.

D.3 COMPARISON OF ALTERNATIVES

This section presents a summary comparison of the impacts of the proposed project and alternatives. For each project component (230kV transmission line segment, the substation alternatives, and the 115kV Upgrade alternatives), as well as the No Project Alternative, summary tables show the differences in environmental impact for each issue area.

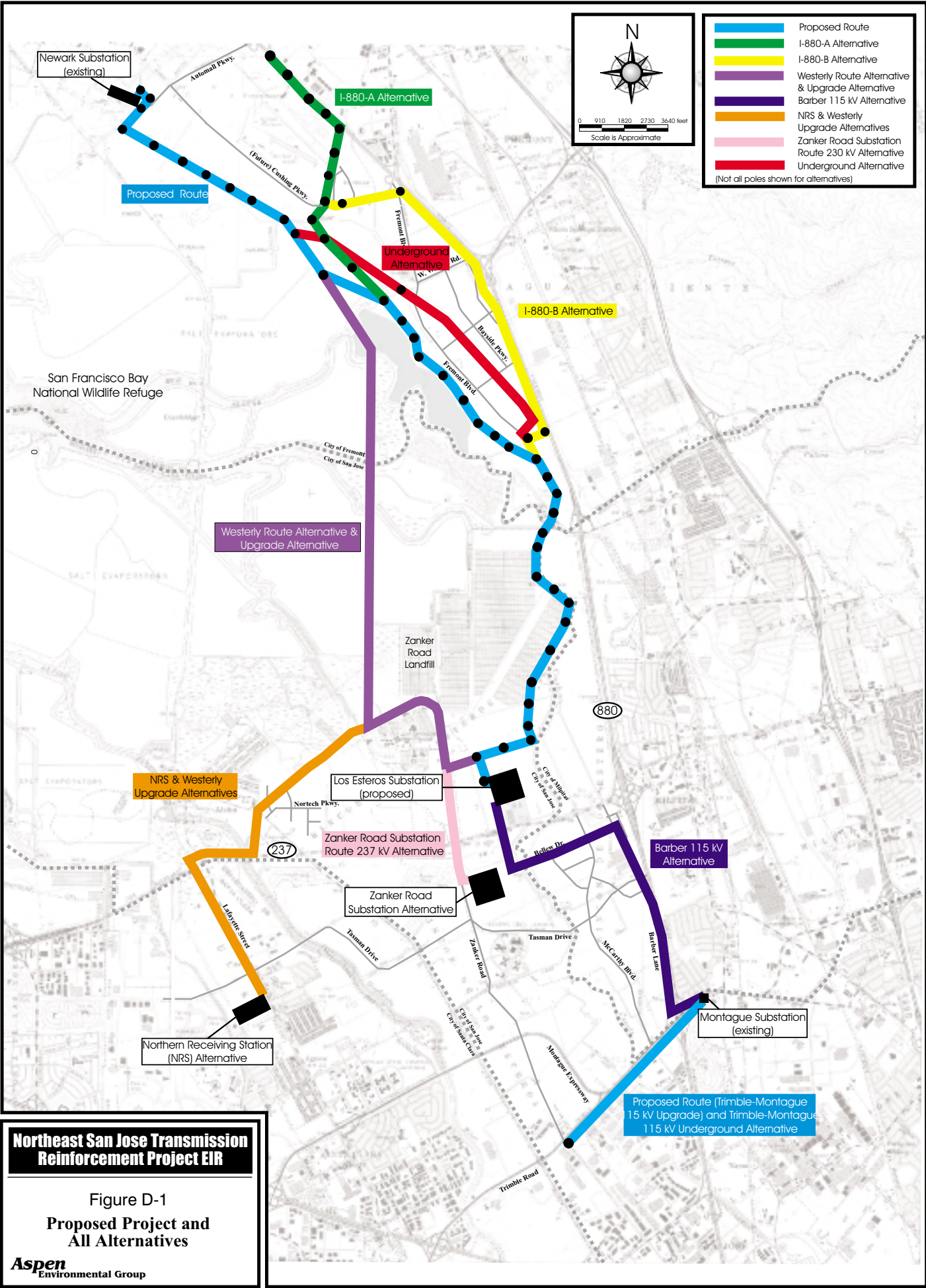
Table D.3-1 summarizes the characteristics of the alternatives, as provided by PG&E Co. While this table is useful for comparing the general characteristics of each alternative 230kV route, it does not present information for all combinations of route segments. The cost estimates shown in this table were provided by PG&E Co. and are difficult to verify. Therefore, these numbers should be used for general comparison of alternatives only.

As described in Section D.2, for each set of comparisons, the 11 environmental issue areas are divided into two categories: issues of major importance (biological resources, land use and recreation, and visual resources), and issues of less importance (air quality, cultural resources, geology and soils, hydrology and water quality, noise, socioeconomics and public services, and transportation).

D.3.1 230kV Transmission Line Alternatives

In the northern and central portions of the 230kV transmission line, there are several ways to combine proposed and alternative route segments to develop an overall environmentally superior alternative. There are two possible routes north of the Bayside Business Park (northern area: proposed route and I-880-A), and three possible routes through the Business Park (central area: proposed route, I-880-B, and Underground Alternative). Therefore, this section evaluates this northern portion of the project and in those two areas: Section D.3.1.1 evaluates the northern area and Section D.3.1.2 evaluates the central area.

D. Comparison of Alternatives



Northeast San Jose Transmission Reinforcement Project EIR

Figure D-1
Proposed Project and All Alternatives

Aspen Environmental Group

Table D.3-1 Characteristics of Proposed Project and Alternative Segments*

Comparison Factors		Proposed Project	Underground through Business Park Alternative plus Proposed	I-880-A Alternative plus Proposed	I-880-B Alternative plus Proposed	Westerly Route Alternative	Westerly Upgrade Alternative (Phase 1 only)	NRS Substation (with transmission line)	No Project Alternative
Total Length of New Line; # Structures		7.2 mi. 39 structures	7.4 mi. 34 structures	7.0 mi. 40 structures	7.0 mi. 41 structures	6.9 mi. 36-40 structures	14.2 mi. 68-72 structures	11.4 mi. 53-57 structures	0
Miles of 115kV Required ¹		2.3 mi.	2.3 mi.	2.3 mi.	2.3 mi.	2.3 mi.	4.6 mi.	4.4 mi.	approx. 35 mi. upgraded
Length in Refuge or Preserve; # structures		0.9mi. 6 structures	0.9 mi. 6 structures	0.4 mi. 1 structure	0.4 mi. 1 structure	2.3 mi. 13 structures	2.3 mi. Add 22 new structures; remove 26 exist. structures	0.9 mi. 6 structures	2.3 mi.
Length of existing or proposed development crossed		2.7 mi.	2.8 mi.	3.3 mi.	4.5 mi.	0.5 mi.	0.5 mi.	3.4 mi.	approx. 15 mi.
Length along I-880		0	0	0.7	2.8	0	0	0	0
Cost**	230 kV Transmission	\$20.8	\$30.9	\$28.1	\$47.5	\$28.6 - mit	\$43.5 ³	\$41.3	0
	Substation ²	\$56.5	\$56.5	\$56.5	\$56.5	\$56.5	\$56.5	\$76.8	unknown
	Mitigation	0	0	0	0	\$10.4	\$3.0 ⁴	0	0
	Total ²	\$77.3	\$87.4	\$84.6	\$104.0	\$85.1	\$103.0 ⁵	\$118.1	up to \$100.0

* Data provided by PG&E Co. (except for No Project Alternative)

** Cost in millions of dollars

Notes

- ¹ Number given is for the total number of miles of 115 kV lines required to connect the alternative to the existing 115 kV system and includes rebuilding the 1.4 miles of the existing Montague to Trimble 115 kV pole line.
- ² Includes costs for 115 kV lines, CPCN costs and environmental studies, allowance for funds used during construction and miscellaneous work.
- ³ Includes costs for a 2.3 mile 115 kV Los Esteros to Newark-Kifer/Trimble double circuit 115kV line and reconductoring 1.2 mi. of the Newark-Scott & 115 kV tower line to NRS.
- ⁴ Cost to remove 12 mi. of 115 kV lines
- ⁵ Costs are given for the Westerly Upgrade Phase 1 Alternative described in Section B.6.

In all of the comparison tables below, the environmentally superior route in each comparison is indicated for each issue area with a [; the second preferred route indicated with a • and the route with most impacts in each issue is marked with a , . Where there are no significant impacts, the alternative is also marked with a • .

D.3.1.1 Northern 230kV Route Comparison

Impacts of the two northern area routes are summarized in Table D.3-2. In this area, the proposed route would parallel existing transmission lines and pass through the proposed Pacific Commons Preserve, and the I-880-A Alternative would pass along the eastern edge of the Preserve along I-880, turning south through the back of the business park (Northport Loop West). This alternative, and the portion of the proposed project it would replace, is illustrated in Figure B.6-2.

While each column in Table D.3-2 shows the same total number of [, , , and • conclusions, the first three rows are given more weight in this analysis (as described in Section D.2). Therefore, the I-880-A segment is environmentally superior to the northern portion of the proposed route between MP 0.0 and 2.7.

D.3.1.2 Central 230kV Route Comparison: Bayside Business Park

This central 230kV transmission line segment, illustrated in Figure B.6-3, includes the proposed route along the western margin of the business park, the Underground Alternative through the center of the business park, and the I-880-B Alternative along the eastern margin of the business park (adjacent to the I-880 freeway). Table D.3-3 summarizes impacts in the central route portion, through the Bayside Business Park.

Table D.3-3 shows that along the central part of the route, the I-880-B Alternative is clearly environmentally superior to both the Underground Alternative and the proposed route segment. It should be noted that, as discussed in Section C.12, Visual Resources, the Underground Alternative would be preferred over the I-880-B Alternative if Mitigation Measure V-3 were implemented. This measure would re-route the Underground Alternative so it followed the existing easterly pair of 115kV lines through the salt ponds, thereby avoiding creation of a third transmission line corridor in the area. However, even with the visual resources ranking changing from the I-880-B to the Underground Alternative, the I-880-B Alternative is still environmentally superior overall.

D.3.1.3 Complete Routes

The next comparison, presented in Table D.3-4, involves evaluation of each of the above six alternative combinations with the complete route alternatives: Westerly Route Alternative and Westerly Upgrade Alternative. The Westerly Route and Westerly Upgrade Alternatives would both follow the same route,

affecting the Refuge and open space through salt ponds and mitigation ponds. The proposed route, in comparison, more closely follows the western edge of the developed parts of the bay margin.

When comparing these three complete routes, the proposed route is clearly preferred due to its location in more developed areas and avoidance of most Refuge/Preserve impacts.

D.3.2 Substation Comparison

The proposed Los Esteros Substation is located in an undeveloped area surrounded by agricultural land uses. The other two sites, Zanker Road and Northern Receiving Station (NRS), are south of SR 237 and in areas with more existing development (including adjacent commercial, industrial, and residential land uses). Table D.3-5 summarizes the differences between impacts at the proposed and alternative substation sites.

Based on the impacts summarized in Table D.3-5, the proposed Los Esteros Substation is environmentally superior to the two substation site alternatives. This is primarily because both alternatives would require longer transmission lines to reach the substation sites, and because the NRS substation would require construction of new lines in currently undeveloped areas between Los Esteros Road and First Street, southeast of Alviso.

D.3.3 Trimble-Montague 115kV Upgrade Comparison

The 115kV upgrade proposed by PG&E Co. would involve installation of taller steel structures in the landscaped areas south of two busy streets: Trimble Road and Montague Expressway in the City of San Jose. The alternatives to the proposed route would involve the undergrounding of the 115kV line along the same route as proposed, and the use of a longer (2.4 mile alternative versus 1.4 mile proposed) route but following more lightly traveled roadways (Bellew Drive, Barber Lane). Table D.3-6 presents the summary of impacts of the proposed and alternative 115kV upgrade projects.

The proposed 115kV upgrade along Trimble Road and Montague Expressway is preferred over the underground alternative because of the reduced construction disturbance associated with the aboveground line. Also the underground line would need to cross Coyote Creek. The Barber Alternative was found to be environmentally inferior due to its increased length and its crossing of Compton Creek in an undeveloped area with existing riparian vegetation.

D.3.4 No Project Alternative

The No Project Alternative is described in Section B.7 and would result in no 230kV transmission system being added to the project area. Because, under that scenario, the area's need for increased electrical service would not be met, PG&E would most likely be forced to respond to growing demand by expanding its existing system to the extent that is possible. Such existing system upgrades would likely include re-

conducting the 115kV transmission lines (between the Newark Substation to the north San Jose area and within the San Jose/Santa Clara urban areas) and installation of additional transformers at the Newark and Metcalf Substations. As discussed in Section B.5.4 (alternatives eliminated), these improvements would add incremental increases in electric service but would not solve the longer term anticipated power problem. The region would suffer the impacts of these upgrade projects (including construction on existing 115kV lines through the San Francisco Bay National Wildlife Refuge), and PG&E Co. would be forced to evaluate another alternative to the regional electric service problem and propose another solution to the CPUC through a subsequent application. This sequential action has the potential for greater impacts than implementation of the selected alternative.

Table D.3-7 summarizes the impacts of the No Project Alternative in comparison to a new electric transmission project.

The No Project Alternative would eliminate the specific impacts associated with construction and operation of the new 230kV transmission line and substation. However, this alternative would have a different set of construction impacts associated with re-conducting, and additional projects would be required within five years due to anticipated continued growth in area demand. Based on the summaries presented in Table D.3-7, the benefits of construction of a new transmission project would outweigh the associated environmental impacts.

D.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Determination of which of the project alternatives is environmentally superior is quite difficult and depends on many factors. In order to meet the CEQA requirements to identify an environmentally superior alternative, we primarily considered the importance of “major” issue areas that have potential long-term, widespread significant impacts (i.e., land use, biology, and visual resources). These issue areas represent the key to the alternatives comparison, as shown in Tables D.3-2 through D.3-7 above. Even in these issue areas, determining a superior alternative is difficult because of the tradeoffs associated with different alternatives.

D.4.1 Summary of Conclusions

A New Transmission System vs. No Project Alternative. As shown in Tables D.3-2 through D.3-7, the proposed project would result in a range of construction and operational impacts, many of which can be reduced with implementation of mitigation. However, if the proposed project or an alternative is not constructed, PG&E Co. will be forced to respond to growing demand by expanding its existing system to the extent that is possible. Such existing system upgrades would likely include re-conducting the 115kV transmission lines from the Newark Substation to the north San Jose area, installation of additional transformers at existing substations, and other system improvements. As discussed in Section B.5.4 (alternatives eliminated), these improvements would add incremental increases in electric service but would not solve the existing and anticipated power problem. The region would have the impacts of these

upgrade projects (including construction on several existing lines through the San Francisco Bay National Wildlife Refuge), and PG&E would be forced to evaluate another alternative to the regional electric service problem and propose another solution to the CPUC through a subsequent application. This sequential action has the potential for greater impacts than implementation of the selected alternative.

It is possible that delaying implementation of the proposed project will result in other alternatives being formulated, or currently infeasible alternatives becoming more likely. As an example, development of a large power generation facility in the area would partially solve the transmission problem. However, a power generator may not choose to be located in the area if 230kV transmission were not available for use in exporting power to the grid.

Therefore, despite the identified impacts of the proposed project and alternatives, the No Project Alternative is not preferred.

Proposed Project vs. Alternative Transmission Line Routes. As explained in Sections D.3.2 through D.3.7 above, the following alternative segments were found to be environmentally superior:

- **Northern Segment:** The I-880-A Alternative is environmentally superior
- **Central Segment:** The I-880-B Alternative is environmentally superior
- **Entire Transmission Line Route:** Given that the proposed route itself is superior to the Westerly and Westerly Upgrade Alternatives, the combination of the southern portion of the proposed route with the I-880-A and I-880-B alternatives presents the overall environmentally superior route for the 230kV transmission line.

Proposed Los Esteros Substation vs. Alternative Substation Sites. The Los Esteros Substation is found to be environmentally superior to the alternative substation sites.

Proposed Trimble-Montague 115kV Upgrade vs. 115kV Alternatives. The proposed 115kV upgrade along Trimble Road and Montague Expressway is found to be environmentally superior to the Underground and Barber Lane alternatives.

D.4.2 Illustration of the Complete Environmentally Superior Project

Figure D-2 illustrates the Environmentally Superior Transmission Line Route, substation location, and 115kV upgrade route. This figure illustrates the 230kV route that combines the proposed and alternative segments in a manner that reduces the impacts of the proposed project to the greatest extent feasible.

Table D.3-2 Northern Route Comparison

Issue Areas	Proposed 230kV Route Segment	I-880-A Alternative
Major Issues		
Biological Resources	, Greater bird collision potential due to close proximity to high bird use area; crosses Preserve between MP 0.4 and 1.7. Greater habitat disturbance due to overland travel.	[Reduced collision potential due to distance from high bird use area; follows preserve boundary. Reduced habitat disturbance due to location at edge of I-880 and within parking lots.
Land Use & Recreation	, 2.7 miles with degradation of recreational trail experience and inconsistency with <i>Bay Plan</i> Scenic View policies	[1 mile with degradation of recreational trail experience and inconsistency with <i>Bay Plan</i> Scenic View policies
Visual Resources	[Greater visual consistency with existing uses (4 existing transmission lines)	, Line would present new visual feature where none currently exists
Minor Issues		
Air Quality	[Less construction emission (construction of one less structure)	, More construction emissions (construction of one more structure than proposed segment)
Cultural Resources	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources
Geology & Soils	, 2.7 miles of liquefiable and corrosive soils	[2.4 miles of liquefiable soils
Hydrology & Water Quality	, Construction across 3 surface water bodies (Seasonal Wetland, Salt Ponds A22-A23, Laguna Creek) could cause sedimentation; 14 tower sites could affect groundwater quality and hydrology	[Construction across 2 surface water bodies (Salt Ponds A22-A23, Laguna Creek) could cause sedimentation; 12 tower sites could affect groundwater quality and hydrology
Noise	[No noise receptors near transmission line	, Involves construction adjacent to light industrial developments, numerous high technology office buildings, and the California Highway Patrol
Socioeconomics & Public Services	[No impacts	, Construction in parking lots behind business park on Northport Loop West
Transportation	[Transmission lines would cross Auto Mall Parkway but have no other transportation effects	• Construction behind business park would have slightly greater access impacts

- [Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

Table D.3-3 Central Route Comparison

Issue Areas	Proposed 230kV Route Segment	Underground Alternative	I-880-B Alternative
Major Issues			
Biological Resources	, Crosses high bird use area between MP 1.7 and 2.7. Close proximity to high bird use area between mile post 2.7 and 4.1.	• Crosses high bird use area between MP 1.7 and 2.7.	[Remote from high bird use area
Land Use & Recreation	• Occupants of apx. 21 buildings most affected; parking spaces clustered around 7 tower locations displaced; No interference w/trucking	, Occupants of apx. 34 buildings most affected; Spaces taken within ROW of apx. 1.4 miles of alignment; Interference w/trucking during construction	[Occupants of apx. 16 buildings most affected; parking spaces clustered around 4-5 tower locations displaced; no interference w/trucking
Visual Resources	, Visual intrusion along Bay margin where no lines currently exist	• Approach to underground segment through salt ponds and open space is visually intrusive	[Visual impact maintained adjacent to freeway and out of open space
Minor Issues			
Air Quality	[Involves construction of two less structures compared to the I-880-B Alternative	, Would involve more excavating activities compared to the proposed route and the I-880-B Alternative	• Involves construction of two more structures compared to the proposed route
Cultural Resources	• Low potential for affecting unrecorded resources	, Greater potential for affecting unrecorded resources due to trenching	• Low potential for affecting unrecorded resources
Geology & Soils	• 2.6 miles of corrosive soils; 2.6 miles of liquefiable soils, greater potential along levee; 1.1 miles of soils with potential for differential settlement crossed	, 1.7 miles of corrosive soils trenched + 1.1 miles of corrosive soils crossed; 1.7 miles of liquefiable soils trenched + 1.1 miles of liquefiable soils and those with settlement potential soils crossed	[2.0 miles of corrosive soils; 3.4 miles of liquefiable soils, (lower potential in disturbed soils along I-880); 1.2 miles of soils with potential for differential settlement crossed
Hydrology & Water Quality	[13 towers could affect groundwater quality and hydrology; no surface water bodies	, Potential disturbance due to shallow groundwater along trenching path; no surface water bodies	• 16 towers (estimated) could affect groundwater quality and hydrology crosses Laguna Creek, tower footings encroach upon Fremont Flood Control Channel
Noise	• Involves construction, potentially including pile-driving, at pole sites adjacent to the Bayside Business Park	, Involves trenching and more major/continuous construction through Bayside Business Park	[Involves construction adjacent to businesses and commercial operations but adjacent to I-880 where existing noise levels are high
Socioeconomics & Public Services	, Potential impacts on businesses closest to line	[Fewer business impacts due to underground line	• Moderate impacts on business park occupants
Transportation	[Fewest road and traffic impacts	, Trenching through the business park could disrupt traffic for greater duration; larger workforce	• Potential effects on Caltrans interchange plans; construction along roadways in business park

- [Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

Table D.3-4 Complete 230kV Route Comparison

Issue Areas	Proposed 230kV Route	Westerly Route Alternative	Westerly Upgrade Alternative
Major Issues			
Biological Resources	[Adjacent to 3.2 miles and crosses 2.9 miles of high bird use areas; Crosses 0.2 miles of salt marsh and 0.8 miles of salt ponds	• Crosses 5.1 miles of high bird use areas; Crosses 2.2 miles of salt pond, is adjacent to 1.3 miles of salt pond, and is adjacent to or crosses 1.5 miles of salt/brackish marsh	, Same as Westerly Route except that construction of new towers and removal of others increases habitat disturbance
Land Use & Recreation	[Visual degradation along apx. 5.7 miles of trail and 4.1 miles visual intrusion incompatible with Bay Plan	, Visual degradation along apx. 6.9 miles of trail; More than 6 miles of visual incompatibility	• Visual degradation along apx. 6.3 miles of trail; More than 6 miles of visual incompatibility
Visual Resources	[Route closer to developed areas	• Additional visual intrusion through Refuge and open space	, More severe visual intrusion due to installation of 2 new lines with taller structures
Minor Issues			
Air Quality	• Construction impacts from 39 structures	[Construction impacts from between 36 and 40 structures	, Construction impacts at between 68 to 72 structures
Cultural Resources	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources
Geology & Soils	[5.8 miles of liquefiable soils and soils with potential for differential settlement; 2.8 miles of corrosive soils	• 7 miles of liquefiable soils and soils with potential for differential settlement; 6.1 miles of corrosive soils	, 7 miles of liquefiable soils and potential for differential settlement, twice as many structures; 6.1 miles of corrosive soils
Hydrology & Water Quality	[Does not cross Salt Pond A19, no levee at Coyote Creek crossing. Avoids Salt Ponds, Landfill, and Coyote Creek Flood Bypass. Fewer tower locations in Salt Ponds.	• Potential impacts at levee crossings; Crosses Salt Ponds A19- A18, Newby Island Landfill, and Coyote Creek Flood Bypass; more tower locations in Salt Ponds	, Same impacts as Westerly Route but with twice as many towers installed.
Noise	• Involves construction adjacent to the Bayside Business Park	[No sensitive noise receptors adjacent	, Construction adjacent to single-family residences
Socioeconomics & Public Services	• Businesses would be affected in a few locations	[Minimal or no impacts	[Minimal or no impacts
Transportation	, Potential for minor impacts at Dixon Landing Road crossing	• Potential for minor impacts during construction along Los Esteros/Zanker Roads	• Potential for minor impacts during construction along Los Esteros/Zanker Roads

- [Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

Table D.3-5 Substation Comparison

Issue Areas	Proposed Los Esteros Substation	NRS Substation	Zanker Road Substation
Major Issues			
Biological Resources	[Shortest new line construction (to MP 7.2). Existing ruderal upland/greenhouse site has low wildlife value.	, New line construction from MP 7.2 (3.1 additional miles) is in area of low bird use, but would cross 200 feet of wetlands/open water at Guadalupe River crossing. Ruderal upland is undeveloped; provides low to moderate wildlife habitat value	• New line construction from MP 7.2 (1.0 additional mile) along Zanker Road is in area of low bird use; existing agricultural site has potential burrowing owl habitat and foraging
Land Use & Recreation	, Apx. 23 acres converted; Apx. 0.5 mile of alignment affects adjacent fields; four residences displaced	[No loss of agricultural land; no adjacent fields affected; no residences displaced	• No loss of agricultural land; Apx. 0.6 mile of alignment affects adjacent fields; Four residences displaced
Visual Resources	[Isolated site adjacent to WPCP; shortest transmission line route	• Additional transmission lines required in new corridor north of SR 237	• Crossing of SR237 would be highly visible
Minor Issues			
Air Quality	, Construction of the proposed substation would involve demolition of onsite buildings	[No building demolition required; however requires construction of an additional transmissions line	• Construction of the Zanker Road Substation would not involve demolition activities or construction of an additional transmission line.
Cultural Resources	• Low potential for affecting unrecorded resources	, Low potential for encountering unrecorded resources at substation site; moderate to high potential for unrecorded resources along transmission line; Moderate potential to affect recorded resources along transmission line route	• Low potential for affecting unrecorded resources
Geology & Soils	, 24 acres agricultural soils converted; 800 feet from free face (Coyote Creek); 0 feet to potentially active fault (crosses site)	[No agricultural land converted; 1000 feet from free face (Saratoga Creek); 8500 feet to potentially active fault	• No agricultural land converted. 500 feet from free face (Coyote Creek); 1000 feet west, 1700 feet east to potentially active fault
Hydrology & Water Quality	[Potential contamination due to past agricultural land-use of site; Moderate potential for sediment loading and surface water contamination	, Tower construction required along 4.4 mi of transmission line; Higher potential due to additional 4.4 mi of transmission line and associated towers	• Potential contamination due to neighboring transportation facility; Moderate potential for sediment loading and surface water contamination
Noise	[There are no sensitive noise receptors adjacent to the proposed Los Esteros Substation	, Site/transmission line adjacent to single-family residential developments in Santa Clara and Alviso	• Adjacent to office buildings, a mobile home park, and a Cisco Systems Office Campus
Socioeconomics & Public Services	• No impact on Cerone Bus Yard	• No impact on Cerone Bus yard	• Impact existing bus yard and future expansion possibly precluded
Transportation	[Minimal traffic impacts	, Crossing of SR 237, North 1 st Street, Los Esteros Road	• Construction over SR 237 and along Zanker Road

[Alternative has fewer environmental impacts
 , Alternative has more environmental impacts

- Alternative has intermediate level of impacts or has no significant impacts.

Table D.3-6 115kV Upgrade Comparison

Issue Areas	Proposed 115kV Route	Barber Lane Alternative	Underground Alternative
Major Issues			
Biological Resources	• New line is in low bird use area in developed area; no wildlife impacts	, New line is in low bird use area, but is longer than other alternatives In developed area; no wildlife impacts	[No bird collision impacts; underground in developed area; no wildlife impacts
Land Use & Recreation	[Construction impacts from Apx. 1.4 miles of alignment (tower locations only)	• Apx. 2.4 miles of alignment (tower locations only)	, Construction noise and dust from apx. 1.4 miles of trenching
Visual Resources	• Increased line visibility over existing wood poles	, Longer line requiring construction in area with no lines	[Underground line would have no visual impacts
Minor Issues			
Air Quality	[Apx. 1.4 miles of alignment (tower locations only)	• Apx. 2.4 miles of alignment (tower locations only)	, Apx. 1.4 miles of alignment (continuous construction requiring more equipment)
Cultural Resources	• Moderate potential to affect recorded and unrecorded resources	[Moderate potential to affect unrecorded resources; low potential for recorded resources	, Moderate potential to affect recorded and unrecorded resources due to trenching
Geology & Soils	[Crosses creek once, along paved road; crosses one fault, possibly two	• Crosses creek once, along unpaved levee; crosses one fault	, Crosses creek once, (most likely bored beneath Coyote Creek; crosses one fault, possibly two (underground)
Hydrology & Water Quality	[Crosses Coyote Creek at existing Montague bridge crossing, crosses urbanized floodplain; Fewer towers required (less impact on surface and ground water)	, Additional crossing of Coyote Creek required at wider creek location, crosses undeveloped floodplain. More towers required (increased potential for surface water sedimentation and groundwater quality degradation)	• Bored crossing of Coyote Creek; 1.4 miles of trenching spoils and potential groundwater interference
Noise	[Apx. 1.4 miles of alignment (all above ground)	, Apx. 2.4 miles of alignment (all above ground) adjacent to many noise receptors	• Apx. 1.4 miles of alignment requiring trenching and re-paving
Socioeconomics & Public Services	• No significant impacts	• No significant impacts	• Underground construction could affect existing buried utilities; minor disruption to emergency vehicles
Transportation	[Shorter construction but adjacent to much busier streets	, Longer construction, but adjacent less-utilized city streets	• Underground construction in busy roadways

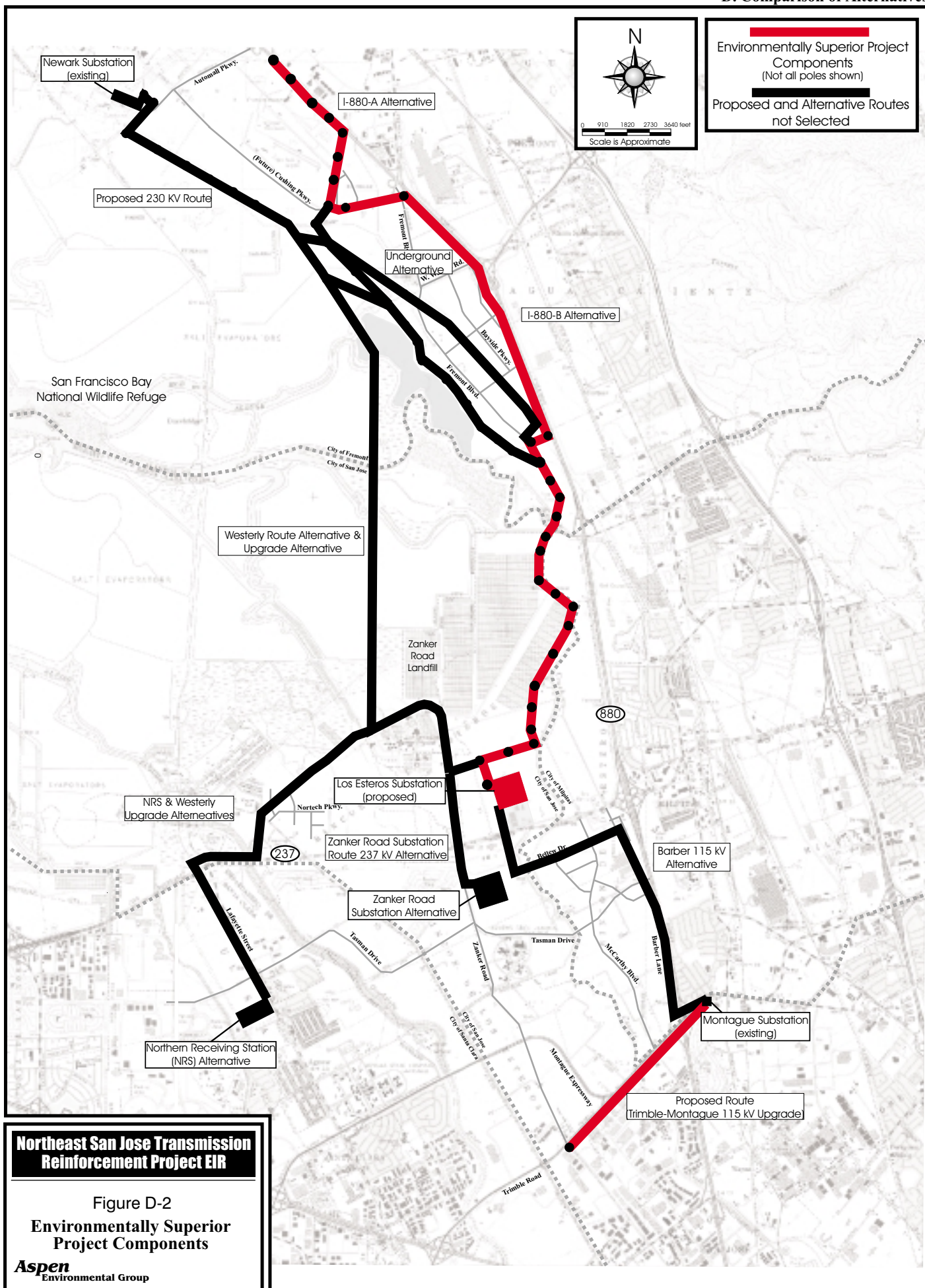
- [Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.

Table D.3-7 No Project Alternative Compared to Proposed Project and Environmentally Superior Alternative

Issue Areas	No Project Alternative	Proposed Project	Environmentally Superior Alternative
Major Issues			
Biological Resources	, Transmission line upgrades would likely be required along several lines through Refuge and along bay margins; increasing surface habitat disturbance.	• New line would be installed in high bird use areas. Loss of habitat in northerly 3 miles.	[Reduced collision potential due to distance from high bird use area; reduced habitat disturbance due to location at edge of I-880 and within parking lots.
Land Use & Recreation	, No loss of agricultural lands, but impacts of system upgrades and associated ongoing impacts to Refuge and recreation areas would outweigh impacts of proposed project. Fewer business impacts. Local policies support provision of adequate electricity to serve growth.	• Recreation impacts and loss of agricultural land. Most businesses affected.	[Recreation impacts and loss of agricultural land. Business occupants affected by construction. Greater consistency with plans and policies.
Visual Resources	[System upgrades would be less visually intrusive than a new line and substation	, Visual intrusion along Bay margin where no lines currently exist	• Northern segment would present new visual feature where none currently exists. Central section visual impact maintained adjacent to freeway and out of open space
Minor Issues			
Air Quality	, Construction impacts from longer term activities related to dispersed system upgrades	• Construction impacts from 7.4 miles of lines (39 structures) and new substation	[Shorter route (7.0 miles) would result in fewer impacts
Cultural Resources	[Less potential for disturbance of recorded or unrecorded resources	• Low potential for affecting unrecorded resources	• Low potential for affecting unrecorded resources
Geology & Soils	• Less potential for adding new structures to unstable or corrosive soils, but older lines (less structurally sound) would have increased use	• 5.8 miles of liquefiable soils and soils with potential for differential settlement; 2.8 miles of corrosive soils	[Lower potential for liquefaction in disturbed soils along I-880)
Hydrology & Water Quality	[System upgrades would have less impact on surface and groundwater than installation of 39 new poles	, More disturbance of surface and groundwater; potential for erosion and groundwater contamination	• Reduced potential for hydrologic disturbance due to greater distance from Bay
Noise	[Elimination of pile-driving and most significant construction activities	• Involves construction adjacent to the Bayside Business Park	• Involves construction adjacent to the Bayside Business Park
Socioeconomics & Public Services	, Reduced construction impacts on business parks	, Moderate impacts on businesses	• Higher baseline noise levels so impacts would be less severe

Issue Areas	No Project Alternative	Proposed Project	Environmentally Superior Alternative
Transportation	<ul style="list-style-type: none"> [Minor impacts to area roadways and traffic during construction/system upgrades 	<ul style="list-style-type: none"> • Potential for minor impacts at Dixon Landing Road crossing 	<ul style="list-style-type: none"> , Potential impacts on I-880 and planned construction

- [Alternative has fewer environmental impacts
- , Alternative has more environmental impacts
- Alternative has intermediate level of impacts or has no significant impacts.



Northeast San Jose Transmission Reinforcement Project EIR

Figure D-2
Environmentally Superior Project Components

Aspen
 Environmental Group