

**San Diego Gas & Electric Company and Southern California Gas Company
Pipeline Safety & Reliability Project
Line 1600 Alternatives Screening Matrix¹**

Criteria	Line 1600 In-Kind Alternatives			New 36-inch Parallel to Line 1600
	Removal and Replacement by Segments	Remove then Replace as a Whole	Construct then Remove as a Whole	
SITE SUITABILITY				
Length (miles) of pipeline ²	44.8	44.8	44.8	44.8
Length (miles) of pipeline segments ³	0.53 – 7.5 ⁴	Not applicable (N/A)	N/A	N/A
Acreage of construction ROW ⁵	442.5	442.5	437.0	473.2

¹ The Line 1600 Alternatives Screening Matrix (Screening Matrix) was derived from a desktop-level review of publicly available data and is based on conceptual right-of-way (ROW) and workspace configurations that could reasonably be anticipated to construct any of the alternatives presented. The information provided in this Screening Matrix is similar to the information provided in Table 5-1: Alternatives Screening Matrix of the Proponent's Environmental Assessment (PEA) of Chapter 5 – Discussion of Significant Impacts and Project Alternatives; however, there is a difference in the basis of the analyses. Both Table 5-1 in the PEA and this Screening Matrix were based primarily on publically available Geographic Information System (GIS) data; however, this Screening Matrix includes a spatial component that Table 5-1 in the PEA did not have. The PEA compared each alternative, including the Proposed Project's route, and quantified potential resources that would be crossed. The information in this Screening Matrix is based on a high-level conceptual design requested by the California Environmental Quality Act (CEQA) unit of Energy Division that adds spatial data, including workspace limits, so that acreages of impacts could be estimated. In addition, the values may be different than the No Project Alternative in Table 5-1 in the PEA because this analysis is based on approximately 45 miles and includes spatial data (*i.e.*, permanent and temporary workspaces), whereas the analysis for the No Project Alternative that is presented in Table 5-1 is based only on the centerline (as with all of the alternatives presented in that table) and for a length of approximately 50 miles. Therefore, the information in this Screening Matrix may not be directly comparable to the data presented in Table 5-1 in the PEA.

² Page 5-16 of the PEA identifies Line 1600 as an approximately 50-mile pipeline. As described in the PEA Supplement, Appendix A: PEA Corrections and Modifications at page 3, of the approximately 50 miles, approximately 45 miles would be hydrotested under the No Project Alternative. Therefore, approximately 45 miles of Line 1600 are analyzed for the Line 1600 In-Kind Alternatives.

³ Each segment is depicted in Confidential Exhibit BBB-A: Response to 1.5-5.1.

⁴ There would be 19 segments ranging from 0.53 to 7.5 miles depending on the distance between existing taps and/or other locations contingent on the hydrotest plan. The individual segment lengths are as follows: Segment 1 (6.69 miles), Segment 2 (2.61 miles), Segment 3 (7.54 miles), Segment 4 (1.13 miles), Segment 5 (4.78 miles), Segment 6 (1.53 miles), Segment 7 (1.44 miles), Segment 8 (2.29 miles), Segment 9 (0.65 mile), Segment 10 (1.94 miles), Segment 11 (1.43 miles), Segment 12 (1.03 miles), Segment 13 (1.99 miles), Segment 14 (2.31 miles), Segment 15 (0.98 mile), Segment 16 (1.87 miles), Segment 17 (0.53 mile), Segment 18 (1.09 miles), and Segment 19 (3.00 miles).

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	Removal and Replacement by Segments	Remove then Replace as a Whole	Construct then Remove as a Whole	
Acreage of permanent ROW ⁶	--	--	--	--
Acreage of existing permanent ROW	86.5	86.5	86.5	86.5
Acreage of new permanent ROW	0	0	43.3	130.4
Length (miles) of new patrol road	35.7	35.7	35.7	35.7
Acreage of new patrol road	51.9	51.9	51.9	51.9
Location of non-typical work areas ⁷	N/A	N/A	N/A	N/A
Acreage of non-typical works areas ⁸	10.5	10.5	13.0	12.8
Number of residences within 50 feet of the edge of the construction ROW ^{9,10}	307	307	325	382
Number of residences that would be purchased and/or relocated ¹¹	63	63	89	131

⁵ The acreage of construction ROW was calculated based on the ROW widths shown in Confidential Exhibit BBB-A: Response to 1.5-5.1 through Confidential Exhibit BBB-C: Response to 1.5-5.1. The acreage ranges from 40 feet to more than 100 feet, as described in PEA Section 5.5.2 Initial Alternatives Considered, But Not Carried Forward. The acreage also includes temporary additional ROWs (*i.e.*, non-typical work areas) that were developed for the purposes of this analysis.

⁶ As described in PEA Section 5.5.2 Initial Alternatives Considered, the existing permanent ROW for Line 1600 is 20 feet wide.

⁷ Non-typical work areas are depicted in Confidential Exhibit BBB-A: Response to 1.5-5.1 through Confidential Exhibit BBB-D: Response to 1.5-5.1.

⁸ The construction ROW for the 36-inch pipeline is larger as the pipeline diameter is larger; as a result, the larger width overlaps more of the non-typical work areas, resulting in smaller acreages for those areas.

⁹ The number of residences was calculated by adding a 50-foot buffer to the edge of all workspaces then quantifying all habitable residences within the buffer using Google Earth.

¹⁰ Each apartment building identified in aerial photography was counted as one residential unit. Thus, the total number of residential apartment units is underestimated.

¹¹ The actual number of residences that would be purchased and/or relocated cannot be determined without engineering and design, and would be based on proximity to workspaces, the centerline of the pipeline, and other property owner considerations. The number shown in this table represents the number of individual homes located within 15 feet of the edge of the existing or conceptual permanent ROW, as seen on Google Earth. The actual number of homes within 15 feet may vary as a result of the selective criteria, and the 15-foot distance may underestimate the number of homes impacted. The PEA references a

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ENVIRONMENTAL CONSTRAINTS^{12,13}				
Number of waterbodies crossed ¹⁴	50	50	50	50
Number of wetlands crossed ¹⁵	40	40	40	40
Acreage of wetlands crossed	17.1	17.1	18.7	20.7
Acreage of riparian corridors cleared ¹⁶	24.1	24.1	25	28.3
Acreage of oak woodlands cleared ¹⁷	16.8	16.8	16.0	18.0

Feasibility Report that concluded that construction of a 36-inch pipeline parallel to the existing Line 1600 would affect approximately 500 parcels and approximately 125 homes and other structures would be permanently displaced or acquired. The number of homes that would be permanently displaced or acquired in the PEA differs slightly from the number presented here since this Screening Matrix analysis is based on a conceptual design, which includes temporary and permanent workspaces and varied ROW widths depending on topography, while the Feasibility Report was based on a static ROW configuration assumption. The conceptual design identified more specific ROW widths based on location, which resulted in narrower or larger widths at different locations than was used for the Feasibility Report. Additionally, here the number of homes was physically counted from aerial photography, resulting in an approximation.

¹² The numbers presented in this section were derived from publicly available geographic information system data and may underestimate the actual number of resources on the ground. The values may be different than the No Project Alternative in Table 5-1 in the PEA because this Screening Matrix analysis is based on approximately 45 miles and includes spatial data (*i.e.*, permanent and temporary workspaces), whereas the analysis for the No Project Alternative that is presented in Table 5-1 is based only on the centerline (as with all of the alternatives presented in that table) and for a length of approximately 50 miles.

¹³ The impact acreages for the Construct then Remove as a Whole Alternative are lower in some instances than the Removal and Replacement by Segments Alternative and the Remove then Replace as a Whole due to the location of the work area for that alternative being offset approximately 10 feet to allow for room to work adjacent to the existing pipeline. This offset results in slightly different impacts to vegetation communities, wetlands, and other resources.

¹⁴ The number of waterbodies was determined using the National Hydrography Dataset. Table 5-1 in the PEA used the terminology “rivers” and “streams,” but is based on the same dataset and has the same resulting number for the No Project Alternative.

¹⁵ The number of wetlands was determined using U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory geospatial data.

¹⁶ The acreage of riparian corridors cleared was determined using San Diego Association of Governments (SANDAG) vegetation geospatial data. Riparian corridors were not presented in Table 5-1 in the PEA and only anecdotal observations were used in the analysis presented in PEA Section 5.5.2 Initial Alternatives Considered, But Not Carried Forward. For comparison, PEA Chapter 4 – Environmental Impact Analysis identified approximately 2.1 acres of riparian vegetation that would potentially be impacted by construction of the Proposed Project.

¹⁷ The acreage of oak woodlands cleared was determined using SANDAG vegetation geospatial data. Oak woodlands were not presented in Table 5-1 in the PEA, and only anecdotal observations were used in the analysis presented in PEA Section 5.5.2 Initial Alternatives Considered, But Not Carried Forward. For

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United States Fish and Wildlife Service (USFWS) critical habitat crossed ¹⁸ (miles)	7.13	7.13	7.13	7.13
USFWS critical habitat crossed (acres)	84.4	84.4	92.1	101.2
Number of California Natural Diversity Database (CNDDDB) records within 1 mile	265	265	265	265
Number of unique species reported in the CNDDDB within 1 mile	74	74	74	74
Cultural sensitivity ¹⁹	Low	Low	Low	Low
Protected parks and forests ²⁰ crossed (miles)	8	8	8	8
Designated scenic roads within 0.5 mile ²¹	3	3	3	3
Potential for encountering hazardous material based on known hazardous contamination within 0.25 mile ²²	Low (6)	Low (6)	Low (6)	Low (6)

comparison, PEA Chapter 4 – Environmental Impact Analysis identified approximately five acres of oak woodland that would potentially be impacted by construction of the Proposed Project.

¹⁸ USFWS critical habitat includes all critical habitat designated for various species by the USFWS.

¹⁹ Cultural sensitivity was determined based on the number of known cultural resource sites intersected by the route, taking into account the percentage of the route that was covered by available records.

²⁰ Protected parks and forests include those managed by federal, state, and local agencies.

²¹ The values for this Screening Matrix analysis are different than the No Project Alternative in Table 5-1 due to the use of an updated 2014 dataset from Caltrans.

²² Hazard potential was determined by the number of existing hazardous sites within 0.25 mile of each alternative. The following criteria were used: Low (zero to 20); Medium (21 to 40); and High (41 to 60+). Table 5-1 in the PEA identified 20 sites for the No Project Alternative, including 14 sites within five miles of Line 1600 that are not analyzed in this table.