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**SOAH DOCKET NO. 473-25-02531
PUC DOCKET NO. 57115**

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|---|----------|--------------------------------|
| JOINT APPLICATION OF THE CITY OF | § | BEFORE THE STATE OFFICE |
| SAN ANTONIO, ACTING BY AND | § | |
| THROUGH THE CITY PUBLIC | § | |
| SERVICE BOARD (CPS ENERGY), AND | § | |
| SOUTH TEXAS ELECTRIC | § | |
| COOPERATIVE (STEC) TO AMEND | § | OF |
| THEIR CERTIFICATES OF | § | |
| CONVENIENCE AND NECESSITY FOR | § | |
| THE PROPOSED HOWARD ROAD-TO- | § | |
| SAN MIGUEL 345 KV TRANSMISSION | § | |
| LINE IN BEXAR AND ATASCOSA | § | ADMINISTRATIVE HEARINGS |
| COUNTIES | § | |

REBUTTAL TESTIMONY AND EXHIBITS

OF

DENISE M. WILLIAMS

ON BEHALF OF APPLICANTS

CPS ENERGY AND SOUTH TEXAS ELECTRIC COOPERATIVE, INC.

November 27, 2024

**SOAH DOCKET NO. 473-25-02531
PUC DOCKET NO. 57115**

REBUTTAL TESTIMONY AND EXHIBITS OF DENISE WILLIAMS

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EXHIBITS

Exhibit DMW-1R: Amended Table 4-1R and Table 4-2R

Exhibit DMW-2R: Maps 1-5 – Added Habitable Structures

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REBUTTAL TESTIMONY AND EXHIBITS OF DENISE WILLIAMS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Denise M. Williams. My business address is 16825 Northchase Drive, Suite 1200, Houston, Texas 77060.

Q. ARE YOU THE SAME DENISE M. WILLIAMS THAT PROVIDED DIRECT TESTIMONY IN THIS DOCKET?

A. Yes, I am.

Q. WHAT WILL YOU BE ADDRESSING IN YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to provide information in response to concerns raised in the testimonies filed by certain intervenors.

Q. WAS YOUR REBUTTAL TESTIMONY PREPARED BY YOU OR BY KNOWLEDGEABLE PERSONS UPON WHOSE EXPERTISE, JUDGMENT AND OPINIONS YOU RELY IN PERFORMING YOUR DUTIES?

A. Yes, it was.

Q. IS THE INFORMATION CONTAINED IN YOUR REBUTTAL TESTIMONY TRUE AND CORRECT TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes, it is.

II. REBUTTAL TO POSITIONS TAKEN IN INTERVENOR TESTIMONY

Q. AFTER REVIEWING THE DIRECT TESTIMONIES OF THE INTERVENORS PRE-FILED TESTIMONY IN THIS PROCEEDING, DO YOU HAVE ANY GENERAL OBSERVATIONS ABOUT THE NATURE OF THE POSITIONS TAKEN?

A. Yes, I do. It has been my observation in working on transmission line cases for many years that many landowners oppose the routing of transmission lines across or near their properties. I observe similar opposition in this proceeding. While I understand the views

presented in the intervenor testimony, that testimony does not demonstrate that any of the segments proposed for this Howard Road to San Miguel 345 kV Transmission Line Project (Project) are not constructible based on the factors the Public Utility Commission of Texas (Commission) considers in evaluating routes for proposed transmission line projects. Specifically, I conclude that none of the concerns raised by intervenors would render any routes or segments proposed in this proceeding as impracticable or inappropriate for consideration by the Commission, considering factors such as community values, recreational and park areas, historical and aesthetic values, environmental integrity, cost, engineering constraints, the Commission's policy of prudent avoidance, and paralleling of rights-of-way (ROW).

Q. SEVERAL INTERVENORS (RIPS RANCH LLC (HAMMER), WITTLER, MOODY, PERRY FEEDERS (ERTEL), AND FRANK ALLEN RANCH (FOLEY)) DISCUSS THEIR CONCERNS WITH PROPOSED ROUTES THAT BISECT THEIR PROPERTY, DOES POWER ENGINEERS TYPICALLY PARALLEL EXISTING PROPERTY LINES AND OTHER NATURAL AND CULTURAL FEATURES WHEN ROUTING TRANSMISSION LINES?

A. Yes. Wherever reasonable and practical, POWER Engineers, Inc. (POWER) identified alternative segments to parallel existing rights-of-way/corridors, fence lines or property lines, roads, etc. However, paralleling property lines does not outweigh all the other factors the Commission must consider in evaluating potential routes. This factor is considered in balance with many other factors, including cost and engineering constraints. Commission Substantive Rule 25.101(b)(3)(B)¹ states, among other things, that a new transmission line “must be routed to the extent reasonable to moderate the impact on the affected community and landowners,” and that consideration should be given to “whether the routes parallel property lines or other natural or cultural features.” Where reasonable, POWER delineated segments that paralleled existing compatible right-of-way, and/or paralleled property lines, fence lines, or other natural or cultural features.

¹ 16 Tex. Admin. Code (TAC) § 25.101(b)(3)(B).

1 **Q. SOME OF THE INTERVENORS (PERRY FEEDERS (ERTEL), KAISER,**
2 **SCHUCHART, AND JTR FARMS (ROSS)) DISCUSS THEIR CONCERNS WITH**
3 **POTENTIAL IMPACTS OF THE TRANSMISSION LINE ON WILDLIFE**
4 **HABITAT, HABITAT FRAGMENTATION AND FOOD SOURCE DISRUPTION,**
5 **AND THREATENED/ENDANGERED SPECIES. DID POWER CONSIDER AND**
6 **EVALUATE THE WILDLIFE IMPACTS OF THE PROPOSED PROJECT?**

7 **A.** Yes, we did. Wherever reasonable and practical, POWER identified alternative
8 segments/routes to parallel existing ROWs/corridors, fence lines/property lines, wildlife
9 management/brush control clearings, roads, etc., which limits the amount of new habitat
10 fragmentation. The *Howard Road to San Miguel 345 kV Transmission Line Project*
11 *Environmental Assessment and Alternative Route Analysis, Atascosa and Bexar Counties,*
12 *Texas* (EA), included as Attachment No. 1 to the Joint Application in this proceeding,
13 identifies and discusses the potential of the Project to impact the state and federal listed
14 threatened/endangered species that are known to occur, or which potentially occur, within
15 the study area. At the environmental planning stage of the Project, before the Commission
16 selects a route, it is simply not possible to conduct on-the-ground observations or surveys
17 on private property throughout the study area and along all alternative routes, as neither
18 CPS Energy nor South Texas Electric Cooperative (STEC) (collectively, Joint Applicants)
19 or POWER has access to private property. Thus, impacts to wildlife cannot be identified
20 with specificity until the Commission selects and approves a route and on-the-ground
21 investigations can be conducted.

22 However, after a route is approved by the Commission, the Joint Applicants will
23 conduct a habitat assessment along the route. If potential habitat is present, Joint Applicants
24 may:

- 25 1. adjust the route to go around the habitat (avoidance),
- 26 2. span over the habitat (avoidance),
- 27 3. minimize the clearing corridor through the habitat (minimization).

28 If the Joint Applicants cannot avoid impacts to potential protected species habitat, they will
29 obtain approval from US Fish and Wildlife Service (USFWS), consistent with the
30 Endangered Species Act (ESA), associated with impacts to potential habitat. Approval
31 from USFWS could be in the form of a Section 10(a)(1)(B) permit, through Section 7

1 consultation in conjunction with other required federal permitting activities (e.g., Clean
2 Water Act Section 404), or, for CPS Energy, through the use of its Bexar County Regional
3 Habitat Conservation Plan. Compensatory mitigation for unavoidable impacts to habitat is
4 typically required during the ESA permitting process.

5 Joint Applicants have experience dealing with protected species habitat on
6 transmission line projects. They have avoided impacts to endangered species in many
7 instances and obtained permits/approvals to directly impact habitat on other projects where
8 impacts were unavoidable. I have no reason to believe CPS Energy and STEC cannot do
9 the same for this Project if the Commission-approved route crosses such habitat and
10 impacts cannot be avoided.

11 **Q. SOME OF THE INTERVENORS DISCUSS THEIR CONCERNS WITH**
12 **POTENTIAL IMPACTS TO RANCHING, HUNTING, AND AGRICULTURAL**
13 **OPERATIONS ON THEIR PROPERTIES, DOES A TRANSMISSION LINE TAKE**
14 **LAND AWAY FROM A LANDOWNER OR PREVENT A LANDOWNER FROM**
15 **CONTINUING TO USE IT FOR RANCHING, HUNTING, OR AGRICULTURAL**
16 **PURPOSES?**

17 A. No. In most circumstances, the landowner remains the rightful owner of the land within a
18 transmission line ROW and can continue to use the land for cattle and other livestock
19 grazing, hunting, and agricultural purposes after construction. Only a small amount of land
20 around the transmission structures will be lost to grazing or cultivation. The Joint
21 Applicants' structures are expected to typically be spaced 800-1,200 feet apart. Utility
22 companies in Texas regularly deal with electric transmission lines crossing agricultural
23 lands and compensation for loss of cropland from the surface area of the structures is
24 something addressed during easement acquisition.

25 **Q. DO YOU BELIEVE THE PROPOSED TRANSMISSION LINE WILL**
26 **ADVERSELY AFFECT RECREATIONAL HUNTING ON INTERVENOR**
27 **PROPERTIES?**

28 A. No. While I agree the transmission line will be visible and could potentially detract from
29 an individual's hunting experience from an aesthetic standpoint depending on the person's
30 location in relation to the transmission line, it should not cause a long-term impact to game

1 movements or populations. Again, this is based on my multiple observations of
2 transmission lines on such properties over a period of many years. The construction and
3 periodic maintenance of the proposed transmission line should have no significant effect
4 on ranching operations or large animal wildlife breeding. For example, during construction
5 and maintenance of the transmission line, no livestock or large animal wildlife will be
6 allowed to exit any of the fenced ranchland as gates will be in place and closed after
7 opening them to pass through. Also, the Joint Applicants can work with landowners
8 concerning construction and maintenance during hunting seasons and will do so to the
9 extent practical and so long as the required construction and maintenance schedule can be
10 met.

11 **Q. SOME OF THE LANDOWNER INTERVENORS (E.G., RIPS RANCH LLC**
12 **(HAMMER), JTR FARMS (ROSS), AND FRANK ALLEN RANCH (FOLEY))**
13 **DISCUSSED ARCHEOLOGY AND HISTORICAL FACTORS ASSOCIATED**
14 **WITH THEIR PROPERTIES. WHAT IS YOUR OPINION REGARDING THE**
15 **POTENTIAL ARCHEOLOGICAL AND HISTORICAL ISSUES RAISED BY**
16 **INTERVENORS IN THIS CASE?**

17 A. In preparing the EA, POWER obtained all known archeological/historical records for the
18 study area from the Texas Historical Commission (THC) and the Texas Archeological
19 Research Laboratory (TARL) and utilized that information in delineating and evaluating
20 possible route locations for this Project. None of POWER's investigations revealed
21 potential historical or archeological concerns that cannot be addressed with any of the
22 routes proposed for the Project.

23 The intervenors listed above discuss the historic nature of their properties in
24 advocating against approving a route for the Project in those areas. I do not quarrel with
25 these witnesses' characterization of their properties, but the historic nature of some aspects
26 of the properties is not, by itself, sufficient grounds for disqualifying any of the proposed
27 routes in this case. While these properties may have some historic aspects and features,
28 none of the properties in the study area within proximity to the proposed route segments
29 have been granted official designation or protection on a federal or state level. In general,
30 landscape and development modifications in the Project area have altered the historical

1 nature of the properties and there is no evidence that a transmission line would alter any of
2 the historic aspects of properties in the study area.

3 Typically, when the Commission approves a project, the final order includes an
4 ordering paragraph concerning coordination with the THC. If a formal survey is required
5 and/or previously unknown sites are located or discovered during construction, the utility
6 would coordinate with the THC. Sometimes the transmission structure locations are
7 adjusted, or a minor route deviation is implemented to span or avoid significant cultural
8 resource sites. This is how I recommend any issues pertaining to potential archeological or
9 historical sites be handled in this case.

10 **Q. A FEW INTERVENORS (E.G., LUENSMANN, JONES, AND SCHUCHART)**
11 **RAISE A NUMBER OF SIMILAR POSITIONS RELATED TO SURFACE WATER**
12 **IMPACTS. HOW WILL SURFACE WATER IMPACTS BE AVOIDED DURING**
13 **CONSTRUCTION OF THE PROJECT?**

14 A. It is not uncommon to encounter environmentally sensitive areas when routing
15 transmission lines in Texas or elsewhere. These areas are typically identified early on in
16 the project during the data collection phase of the project and considered when identifying
17 segments and developing routes. After a route is approved by the Commission, the Joint
18 Applicants will conduct a Natural Resources Assessment along the approved route to
19 identify environmentally sensitive areas including habitat for protected species. These
20 areas are typically avoided if possible and potential impacts are then minimized through
21 the routing of the line and also during the design and construction phases of the project. If
22 environmentally sensitive areas cannot be avoided altogether, compensatory mitigation
23 would be provided if required.

24 Further, as described more fully in the EA, construction of the Project would
25 include proper implementation of erosion control measures using Best Management
26 Practices, as required by the Texas Commission on Environmental Quality (TCEQ) under
27 a Storm Water Pollution Prevention Plan (SWPPP), and thus will effectively control
28 erosion and the potential for significant adverse impacts to ponds and wetlands.

1 **Q. SOME INTERVENORS (RIPS RANCH LLC (HAMMER), TEIXEIRA, MOODY,**
2 **AND THE MITCHELL FAMILY ALLIANCE (MARBLE)) ADDRESSED**
3 **STRUCTURES THAT WERE NOT TABULATED IN THE EA AND CCN**
4 **APPLICATION AS HABITABLE. HOW DO YOU RESPOND?**

5 A. After reviewing the intervenor testimony, based on information POWER received and
6 evaluated, I agree that the following habitable structures meet the definition in the
7 Commission's rules and should appropriately be considered in this proceeding:

- 8 • Map ID R1 – new single-family residence was added approximately 339
9 feet from Segment 5 (see Exhibit DMW-2R: Map 1);
- 10 • Map ID R2 – new single-family residence was added approximately 303
11 feet from Segment 9 (see Exhibit DMW-2R: Map 2);
- 12 • Map ID R3 – new single-family residence was added approximately 428
13 feet from Segment 44 (see Exhibit DMW-2R: Map 3);
- 14 • Map ID R4 – new single-family residence was added approximately 325
15 feet from Segment 49 (Exhibit DMW-2R: Map 4); and
- 16 • Map ID R5 – new single-family residence was added approximately 129
17 feet from Segment 62 (Exhibit DMW-2R: Map 5).

18 Exhibit DMW-1R, attached to this rebuttable testimony, consists of revised data tables of
19 the EA (Tables 4-1R and 4-2R) that have been updated to include the habitable structures
20 identified above.

21 **Q. ON PAGE 5 OF HIS TESTIMONY, MR. MITCHELL MEYER SUGGESTS THAT**
22 **SEGMENT 46 AS PROPOSED WILL BE “OVER THE TOP” OF HIS**
23 **NEIGHBOR’S HOME. HOW DO YOU RESPOND?**

24 A. Segment 46 as proposed does not cross over the house belonging to Mr. Mitchell's
25 neighbor. As indicated in the EA/Application Segment 46 does not have any habitable
26 structures within its proposed ROW.

1 **Q. A NUMBER OF INTERVENORS MENTION OR DISCUSS THEIR CONCERNS**
2 **ABOUT THE VISUAL IMPACTS ASSOCIATED WITH TRANSMISSION LINES.**
3 **HOW DO YOU BELIEVE SUCH AESTHETIC IMPACTS SHOULD BE**
4 **CONSIDERED?**

5 A. Many intervenors testified there will be adverse aesthetic impacts to their private property
6 from transmission lines. It is difficult to attempt to assess aesthetic impacts to private
7 individuals. Federal agencies and the Commission, which consider aesthetics in their
8 actions, usually evaluate aesthetics from a public standpoint, and then consider the
9 balancing of aesthetic impacts with numerous other appropriate considerations. Personal
10 aesthetic opinions generally do not provide an objective basis for evaluating alternative
11 routing options. Ultimately, while POWER evaluated aesthetic impacts from a public
12 standpoint, I recognize that the Administrative Law Judges and the Commission may
13 choose to consider the subjective evidence presented by the intervening parties regarding
14 aesthetic impacts when making a route selection.

15 **Q. SEVERAL INTERVENORS (JTR FARMS (ROSS), FRANK ALLEN RANCH**
16 **(FOLEY), BARLOW, SCHUCHART, NICHOLSON, AND THE MITCHELL**
17 **FAMILY ALLIANCE (MARBLE)) ALSO RAISED CONCERNS ABOUT**
18 **IMPACTS ON FUTURE DEVELOPMENT, INCLUDING WITH REGARD TO**
19 **MINERAL INTERESTS. HOW DO YOU RESPOND?**

20 A. Future development is not a statutory or regulatory criterion the Commission is required to
21 consider, or has historically considered, in approving a route for a proposed transmission
22 line project. My experience is that development, including with regard to mineral interest
23 development, happens around transmission lines and substations frequently, and has even
24 occurred around and along existing transmission lines and substations located within or
25 near the study area. I have yet to see a development fail or a mineral interest abandoned
26 because of the existence of a transmission line or substation. As with construction of any
27 infrastructure, development plans may need to be altered or modified, but rarely if ever is
28 this infrastructure a reason for development to stop. On the contrary, most developments
29 need a reliable source of electricity to realize their full potential, and the presence of reliable
30 transmission facilities generally is a supporting factor for development.

1 Ultimately, the issue of future development plans has been raised in previous
2 electric transmission line projects and the Commission has considered abstract future
3 development plans as being too indefinite and irrelevant to the Commission's decision as
4 to which route should be approved. Nevertheless, the Joint Applicants and the Commission
5 will take into account "future development" when it is characterized by concrete actions
6 on the part of the landowner that demonstrate something more than an assertion that
7 something may happen in the future.

8 **Q. HAVE ANY INTERVENORS EXPRESSED CONCERNS RELATED TO**
9 **PRIVATELY-OWNED AIRSTRIPS?**

10 A. Yes. Terri Lynn Luensmann raised concerns regarding an apparent private use airstrip
11 located on her property. Although Ms. Luensmann signed in as attending one of the open
12 house meetings for this Project, I have no record of her submitting a questionnaire or
13 addressing the existence of such an airstrip on her property with the POWER professionals
14 at that meeting, nor is it visible from any of the aerial photography that I reviewed for this
15 proceeding. In addition, I have been unable to verify any registration status associated with
16 the airstrip Ms. Luensmann describes. Regardless of whether the Luensmann property
17 maintains any formal or informal registration status with the Federal Aviation
18 Administration (FAA), TxDOT, or as a pre-existing landing area (PELA), the Joint
19 Applicants will work with the owner to provide safe operation and use of the aviation
20 facilities. I have no reason to believe that construction of the transmission line along
21 Segment 78 will preclude the safe operation of a private use airstrip. Specifically, even
22 though many privately owned, private-use airstrips are not afforded obstruction protection
23 by the FAA, the Joint Applicants regularly work proactively with the owners of these
24 private-use airstrips to model the airspace and provide reasonable safety accommodations.
25 These accommodations often include reduced tower heights, marker balls, and even
26 lighting for night operations if appropriate for the continued safe operation of the facility.
27 CPS Energy often performs airspace obstruction analysis as if the facility were a public-
28 use facility protected by the FAA and uses such analysis to assess the need for prudent
29 safety installations.

1 **Q. CHARLES J. ERTEL ON BEHALF OF PERRY FEEDERS, INC. EXPRESSES**
2 **CONCERNS REGARDING A NEW CELL PHONE TOWER THAT WAS**
3 **RECENTLY CONSTRUCTED ACROSS THE ROAD FROM THEIR PROPERTY,**
4 **HOW DO YOU RESPOND?**

5 A. Based on Mr. Ertel's testimony, aerial imagery review, and a visit to the area, I agree that
6 there is a recently constructed communication tower near Segment 57. Although Segment
7 57 is in proximity to the tower across from Mr. Ertel's property, I do not anticipate any
8 interference from the transmission line if it was constructed on that segment. Most signals
9 are now digital in nature and are generally not affected by transmission lines. I have
10 updated the data tables in Exhibit DMW-1R to reflect the existence of this tower.

11 **Q. CHARLES J. ERTEL ON BEHALF OF PERRY FEEDERS, INC. AND TEIXEIRA**
12 **EXPRESS CONCERNS REGARDING NEW PIVOT IRRIGATION ON THOSE**
13 **PROPERTIES, HOW DO YOU RESPOND?**

14 A. Based on the testimony from these intervenors and a visit to the area, I agree that pivot
15 irrigation installed on these properties was not included in the EA as length of ROW across
16 land irrigated by traveling systems for Segments 47 and 57. I have updated the data in
17 Exhibit DMW-1R to include length for each of those segments across the newly installed
18 pivot irrigation. If a route is approved that includes either Segment 47 or 57, the Joint
19 Applicants would confirm the location of the pivot irrigations systems and work with the
20 owners to provide safe operation and use of the pivot irrigation systems to the greatest
21 extent possible.

22 **Q. CHARLES J. ERTEL ON BEHALF OF PERRY FEEDERS, INC. ALSO**
23 **INDICATED THAT THERE IS A WATER WELL, HISTORICAL MARKER, AND**
24 **A HISTORIC CEMETERY LOCATED NEAR PROPOSED SEGMENT 57, HOW**
25 **DO YOU RESPOND?**

26 A. It is not unusual that a water well located on private property would escape detection during
27 visual inspections from public roadways or an examination of aerial imagery during the
28 preparation of the EA. POWER has updated the land use and environmental data provided
29 in Exhibit DMW-1R to reflect the presence of the water well.

1 Mr. Ertel also indicates in his testimony that a historical marker for the San
2 Augustine Church and cemetery situated in the eastern part of the property located near
3 proposed Segment 57. It does not appear, based on the location of the cemetery and marker
4 in question that either would be within the ROW of the transmission line. The San Augustin
5 Cemetery is within 1,000 feet of the ROW centerline of Segment 57 and is identified on
6 Figure 4-1 as Map ID 5007. The cemetery is also discussed in Section 4.5.5 of the EA. The
7 cemetery does not appear to be a National Register of Historic Places (NRHP) or Historic
8 Texas Cemeteries property.

9 **Q. DID ANY OTHER LANDOWNERS INDICATE MISIDENTIFIED**
10 **CONSTRAINTS OR FEATURES ON THEIR PROPERTY?**

11 A. Yes. Mr. Hammer on behalf of Rips Ranch LLC (Rips Ranch) indicated that a private
12 caliche road on the Rips Ranch property was identified in the Joint Application as a public
13 road. POWER did not consider their private road to be public and did not tabulate it as
14 such.

15 **Q. HAVE ANY INTERVENORS PROPOSED ALTERNATIVE ROUTE SEGMENTS**
16 **THAT WERE NOT INCLUDED IN THE JOINT APPLICATION?**

17 A. Yes. Mr. Hammer, on behalf of Rips Ranch, proposed modified Segment 62 that impacted
18 the Rips Ranch and other nearby properties, one of which has not received notice in this
19 proceeding. Mr. Hammer provided a discovery request further modifying Segment 62
20 wholly on the Rips Ranch property (Segment 62MOD2). Mr. Wittler proposed a
21 modification to Segment 53.

22 After evaluation, POWER determined that the original modification to Segment 62
23 and the modification to Segment 53 both directly affect landowners that are not intervenors
24 to this proceeding and have not provided consent to such modifications. POWER did not
25 identify either modification as feasible at this time. In contrast, Segment 62MOD2, is
26 wholly on the Rips Ranch property and was determined by POWER to be a reasonable and
27 viable route segment. I agree that Segment 62MOD2 is a reasonable segment for addition
28 to the Joint Application for consideration in this proceeding.

1 **Q. HAS POWER COMPILED THE DATA FOR SEGMENT 62MOD2?**

2 A. Yes. The land use and environmental data tabulation for the proposed modification to
3 Segment 62MOD2 has been included with the land use and environmental data provided
4 in Exhibit DMW-1R.

5 **Q. HAVE ANY OTHER INTERVENORS PROPOSED NEW ROUTES BASED ON**
6 **EXISTING SEGMENTS IN THE JOINT APPLICATION?**

7 A. Yes. In a recent discovery request, Frank Allen Ranch requested route data for a new route
8 (Route N-AB) combining segments included in the Joint Application. After evaluating the
9 proposed route, the Joint Applicants determined that such a route was a reasonable, viable
10 route which addressed the need for the Project and agreed to provide the route data for the
11 Commission's evaluation.

12 **Q. HAVE YOU TABULATED NEW ROUTE DATA BASED ON INTERVENOR**
13 **TESTIMONY AND DISCOVERY REQUESTS?**

14 A. Yes. Exhibit DMW-1R includes route data for Route U ALT 2 (3-6-20-28-30-31-35-41-
15 45A-45B-52-56-61-62MOD2-69-75-77-87-94-99-107-108-110) and Route N-AB (3-6-
16 15-21-30-34-39-40-41-45A-45B-52-54-55-58-59-65-68B-71-75-77-87-94-99-107-108-
17 110).

18 **Q. IN YOUR OPINION ARE THESE MODIFIED SEGMENTS REASONABLE AND**
19 **FEASIBLE FROM A LAND USE AND ENVIRONMENTAL PERSPECTIVE?**

20 A. The Joint Applicants support any reasonably forward-progressing route proposed by other
21 parties that connect the two Project endpoints, including the use of modified route segments
22 to the extent they do not impact landowners that did not receive notice of this proceeding
23 and the impacted landowners consent to the proposed modification.

24 **Q. WERE ANY OTHER CHANGES MADE TO AMENDED TABLE 4-1 OR TABLE 4-**
25 **2 AS ATTACHED TO THIS REBUTTAL TESTIMONY AS EXHIBIT DMW-2R?**

26 A. Yes, Amended Table 4-1 *Land Use and Environmental Data for Route Evaluation* and
27 Amended Table 4-2 *Land Use and Environmental Data for Segment Evaluation* were also
28 changed to reflect a correction to the length of ROW across parks/recreational areas. No
29 other changes were made to Exhibit DMW-1R.

1

2

3

Howard Road to San Miguel

[illegible]

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--------------------|---|------|------|------|------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 1.37 | 2.74 | 0.49 | 3.86 | 2.02 | 2.31 | 4.58 | 0.42 | 1.08 | 0.80 | 1.62 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 21 | 10 | 0 | 10 | 13 | 6 | 7 | 5 | 6 | 3 | 9 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0.11 | 0.49 | 0 | 0 | 2.31 | 0 | 0 | 0.36 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0.42 | 0 | 0 | 0.08 | 0 | 2.12 | 0.42 | 0 | 0 | 0 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0 | 0.21 | 0 | 2.65 | 1.67 | 0 | 0.20 | 0 | 0.55 | 0.78 | 1.62 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.00 | 0.74 | 0.49 | 2.65 | 1.76 | 2.31 | 2.32 | 0.42 | 0.91 | 0.78 | 1.62 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 0% | 27% | 100% | 69% | 87% | 100% | 51% | 100% | 84% | 99% | 100% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0.17 | 0 | 0 | 0.47 | 0.37 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.90 | 0.55 | 0.22 | 1.91 | 1.52 | 0.74 | 1.14 | 0.42 | 0.76 | 0.75 | 0.00 |
| 12 | Length of ROW across pasture/rangeland | 0.08 | 0.45 | 0.05 | 1.06 | 0.39 | 0.67 | 1.05 | 0.00 | 0.19 | 0.00 | 0.00 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | Number of transmission line crossings | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 19 | Number of IH, US and state highway crossings | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 2 | 2 | 0 | 2 | 1 | 0 | 0 | 2 | 4 | 3 | 2 |
| Aesthetics | | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0.42 | 2.50 | 0.49 | 0 | 0 | 0.56 | 0.34 | 0.17 | 0 | 0.80 | 0 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0 | 0 | 0 | 0.97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6/7} of parks/recreational areas ³ | 0.39 | 1.87 | 0.49 | 0.61 | 0 | 1.72 | 4.37 | 0 | 0 | 0 | 0.03 |
| Ecology | | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 0.14 | 0.79 | 0 | 0.14 | 0 | 0.67 | 1.66 | 0 | 0 | 0 | 1.62 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0 | 0.79 | 0 | 0.71 | 0.02 | 0.22 | 0.68 | 0 | 0.12 | 0.03 | 0 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0.02 | 0 | 0 | 0.02 | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 | Number of stream and river crossings | 0 | 2 | 0 | 3 | 1 | 2 | 7 | 0 | 6 | 1 | 0 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0 | 0 | 0 | 0 | 0 | 0.06 | 0.28 | 0 | 0.19 | 0.02 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0 | 0.91 | 0 | 0.75 | 0.38 | 0.51 | 0.34 | 0 | 0.74 | 0.44 | 0 |
| Cultural Resources | | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 1 | 1 | 0 | 3 | 2 | 0 | 2 | 0 | 1 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 1 | 5 | 1 | 7 | 6 | 2 | 8 | 2 | 5 | 2 | 1 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 3 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 0.57 | 2.36 | 0.18 | 2.04 | 1.22 | 1.97 | 2.91 | 0.42 | 1.08 | 0.56 | 1.22 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|--------------------|---|------|------|------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 2.65 | 0.90 | 1.02 | 0.63 | 3.32 | 2.45 | 1.67 | 1.53 | 2.90 | 2.78 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 19 | 0 | 1 | 4 | 2 | 24 | 24 | 30 | 6 | 19 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0.90 | 1.02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0 | 0 | 0 | 1.11 | 0.17 | 0 | 0 | 0 | 0.22 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0.56 | 0 | 0 | 0.30 | 1.11 | 1.46 | 1.24 | 1.18 | 1.99 | 1.98 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.56 | 0.90 | 1.02 | 0.30 | 2.22 | 1.63 | 1.24 | 1.18 | 1.99 | 2.20 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 21% | 100% | 100% | 47% | 67% | 67% | 74% | 77% | 69% | 79% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.23 | 0.01 | 0.00 | 0.00 | 0.00 | 0.47 | 0.21 | 0.00 | 0.26 |
| 12 | Length of ROW across pasture/rangeland | 1.15 | 0.31 | 0.07 | 0.30 | 0.29 | 1.75 | 0.75 | 0.64 | 0.52 | 1.17 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | Number of transmission line crossings | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 19 | Number of IH, US and state highway crossings | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 7 | 1 | 0 | 9 | 20 | 6 | 5 | 6 | 6 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0.15 | 0 | 0.83 | 0 | 0 | 0 | 0 | 1.53 | 1.89 | 0 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6/7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 1.33 | 0.33 | 0.69 | 0.31 | 2.68 | 0.61 | 0.38 | 0.48 | 2.34 | 1.33 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0.04 | 0.02 | 0.21 | 0 | 0.32 | 0.03 | 0 | 0.17 | 0 | 0 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0.01 | 0 | 0 | 0.01 | 0 | 0.02 | 0 | 0 | 0 | 0 |
| 37 | Number of stream and river crossings | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 2 | 0 | 0 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0 | 0 | 0.23 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0.35 | 0.60 | 0.45 | 0.28 | 0.36 | 0.05 | 0.11 | 0.21 | 0.25 | 1.85 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 5 | 1 | 1 | 2 | 3 | 5 | 0 | 1 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 1.23 | 0.90 | 0.84 | 0.09 | 2.16 | 1.51 | 1.51 | 1.46 | 1.15 | 0.89 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 22A | 22B | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|--------------------|---|----------|------|------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 0.32 | 2.75 | 8.42 | 0.80 | 1.44 | 1.57 | 0.96 | 3.21 | 1.87 | 0.93 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 1 | 20 | 78 | 20 | 4 | 12 | 2 | 3 | 0 | 0 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0 | 0.54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0.28 | 2.42 | 4.43 | 0 | 0.26 | 0.89 | 0.41 | 1.66 | 1.66 | 0.24 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.28 | 2.42 | 4.97 | 0.00 | 0.26 | 0.89 | 0.41 | 1.66 | 1.66 | 0.24 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 86% | 88% | 59% | 0% | 18% | 57% | 43% | 52% | 89% | 26% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | Length of ROW across pasture/rangeland | 0.00 | 0.00 | 4.08 | 0.06 | 0.71 | 0.48 | 0.43 | 2.32 | 0.47 | 0.65 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | Number of transmission line crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | Number of IH, US and state highway crossings | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 0 | 1 | 11 | 10 | 2 | 0 | 7 | 0 | 0 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0 | 0 | 1.14 | 0.16 | 0 | 1.57 | 0.07 | 0 | 0 | 0 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 0.281248 | 2.43 | 2.16 | 0.69 | 0.72 | 0.92 | 0.33 | 0.88 | 0.68 | 0.02 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0 | 0.10 | 0.60 | 0.05 | 0 | 0.05 | 0 | 0 | 0 | 0 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0 | 0 | 0 | 0.06 | 0 | 0 | 0 | 0 |
| 37 | Number of stream and river crossings | 0 | 1 | 4 | 2 | 1 | 0 | 0 | 1 | 0 | 3 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0 | 0 | 0.21 | 0 | 0 | 0.04 | 0 | 0 | 0 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0 | 0.08 | 0.66 | 0.19 | 0.35 | 0 | 0.02 | 0.08 | 0 | 0.11 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 0.32 | 0.95 | 2.48 | 0.49 | 1.17 | 0.77 | 0.02 | 1.98 | 0.73 | 0.93 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.
All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
|--------------------|---|------|------|------|------|------|------|----------|------|------|------|
| 1 | Length of alternative route (miles) | 1.21 | 1.73 | 0.53 | 3.34 | 4.22 | 3.48 | 6.69 | 2.06 | 2.16 | 1.68 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 14 | 23 | 0 | 0 | 81 | 6 | 38 | 1 | 0 | 4 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0 | 0 | 0 | 1.65 | 0 | 0.33 | 0 | 0 | 0 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0.80 | 0.40 | 0.26 | 2.19 | 2.35 | 1.16 | 4.42 | 0.91 | 0.10 | 0.94 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.80 | 0.40 | 0.26 | 2.19 | 4.01 | 1.16 | 4.74 | 0.91 | 0.10 | 0.94 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 66% | 23% | 48% | 66% | 95% | 33% | 71% | 44% | 4% | 56% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.22 | 0.00 | 0.00 | 0.29 |
| 12 | Length of ROW across pasture/rangeland | 0.00 | 0.05 | 0.07 | 1.22 | 0.14 | 0.43 | 1.26 | 0.24 | 0.13 | 0.72 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0.043687 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0.01 | 0 | 0 | 1.57 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 18 | Number of transmission line crossings | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 19 | Number of IH, US and state highway crossings | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0 | 0 | 0 | 0 | 1.22 | 1.09 | 0 | 0 | 0 | 0 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 1.18 | 1.40 | 0.45 | 1.79 | 2.43 | 1.63 | 1.71 | 1.32 | 1.93 | 0.67 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0.03 | 0.23 | 0 | 0.20 | 1.53 | 1.03 | 0.83 | 0.07 | 0.09 | 0 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0 | 0.01 | 0 | 0 | 0.02 | 0 | 0 | 0 |
| 37 | Number of stream and river crossings | 1 | 4 | 1 | 2 | 9 | 11 | 7 | 2 | 1 | 1 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0 | 0.01 | 0.07 | 0 | 1.22 | 0.55 | 0.52 | 0.21 | 0 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0 | 0.12 | 0 | 0.16 | 1.46 | 1.04 | 1.02 | 0.15 | 0.22 | 0 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 0.32 | 1.45 | 0.53 | 1.46 | 3.35 | 2.08 | 5.09 | 0.59 | 0.55 | 0.93 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria. All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 42 | 43 | 44 | 45A | 45B | 46 | 47 | 48 | 49 | 50 |
|--------------------|---|------|------|------|------|------|------|------|-------|------|------|
| 1 | Length of alternative route (miles) | 1.97 | 1.98 | 2.66 | 4.24 | 0.10 | 7.09 | 1.55 | 11.53 | 2.40 | 4.72 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 6 | 2 | 3 | 4 | 0 | 32 | 0 | 27 | 20 | 9 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0 | 0 | 4.24 | 0.10 | 0 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0.33 | 0 | 0 | 0 | 0 | 3.92 | 0 | 3.61 | 0 | 1.96 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0.07 | 1.48 | 0.33 | 0 | 0 | 0.25 | 0 | 3.14 | 0.67 | 0 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.40 | 1.48 | 0.33 | 4.24 | 0.10 | 4.17 | 0.00 | 6.76 | 0.67 | 1.96 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 20% | 75% | 13% | 100% | 100% | 59% | 0% | 59% | 28% | 41% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.24 | 0.15 | 0.46 | 0.10 | 0.52 | 0.34 | 0.32 | 0.74 | 0.98 |
| 12 | Length of ROW across pasture/rangeland | 1.47 | 1.14 | 0.74 | 2.14 | 0.00 | 3.40 | 0.78 | 5.99 | 0.39 | 2.74 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0.25 | 0 | 0 | 0.54 | 0.05 | 0 | 0.18 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0 | 0.44 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18 | Number of transmission line crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 19 | Number of IH, US and state highway crossings | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 2 | 0 | 1 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 1.35 | 0 | 0 | 0 | 0 | 4.45 | 0 | 0 | 1.10 | 0 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0.03 | 0 | 0 | 1.04 | 0 | 3.64 | 0 | 2.17 | 0 | 1.74 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 0.35 | 0.54 | 1.44 | 1.35 | 0 | 2.17 | 0.30 | 4.03 | 0.91 | 0.68 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0.10 | 0.04 | 0.33 | 0 | 0 | 0.49 | 0.12 | 0.91 | 0.29 | 0.04 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.02 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.03 |
| 37 | Number of stream and river crossings | 2 | 2 | 3 | 2 | 0 | 12 | 1 | 9 | 6 | 6 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0 | 0 | 0 | 0 | 0 | 0.52 | 0 | 0.05 | 0 | 0.19 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0.32 | 0.18 | 0.28 | 0 | 0 | 0.22 | 0.02 | 1.42 | 0.29 | 0.36 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 0.73 | 1.08 | 2.15 | 1.58 | 0.06 | 5.13 | 1.03 | 7.04 | 1.53 | 3.39 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|--------------------|---|------|------|------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 5.86 | 0.39 | 4.20 | 0.38 | 3.28 | 3.54 | 3.40 | 0.15 | 3.59 | 2.33 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 14 | 0 | 5 | 0 | 5 | 6 | 1 | 1 | 1 | 8 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0.39 | 0 | 0 | 0 | 2.47 | 0 | 0 | 0 | 1.71 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 1.25 | 0 | 0 | 0 | 0.60 | 0 | 2.13 | 0 | 0 | 0 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 2.45 | 0 | 0.86 | 0.09 | 1.65 | 0.70 | 0 | 0.15 | 1.25 | 0.32 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 3.70 | 0.39 | 0.86 | 0.09 | 2.25 | 3.18 | 2.13 | 0.15 | 1.25 | 2.02 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 63% | 100% | 21% | 25% | 69% | 90% | 63% | 100% | 35% | 87% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 1.47 | 0.05 | 1.01 | 0.00 | 0.73 | 0.47 | 0.67 | 0.01 | 0.16 | 0.39 |
| 12 | Length of ROW across pasture/rangeland | 1.10 | 0.27 | 1.71 | 0.26 | 1.94 | 1.76 | 1.50 | 0.14 | 2.23 | 0.74 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0.21 | 0 | 0 | 0 | 0 | 0 | 0.24 | 0 | 0.17 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0.57 | 0 | 0 | 0 | 1.18 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 18 | Number of transmission line crossings | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 19 | Number of IH, US and state highway crossings | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 2 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0 | 0 | 1.50 | 0 | 0 | 0 | 2.62 | 0 | 0 | 0 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 5.21 | 0 | 1.08 | 0 | 0.59 | 0.23 | 0 | 0.15 | 0.51 | 2.33 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0.77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 1.98 | 0.06 | 1.30 | 0 | 0.32 | 1.06 | 1.08 | 0 | 0.62 | 0.96 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0.98 | 0.01 | 0.09 | 0.12 | 0.21 | 0.19 | 0.11 | 0 | 0.41 | 0.21 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0.01 | 0 | 0.03 | 0 | 0 | 0 | 0.01 | 0 |
| 37 | Number of stream and river crossings | 9 | 0 | 3 | 3 | 6 | 3 | 2 | 0 | 5 | 2 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0.36 | 0 | 0.08 | 0.20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0.98 | 0.08 | 0.08 | 0.38 | 0.72 | 0.77 | 0 | 0 | 1.48 | 0.60 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 4.90 | 0.28 | 1.94 | 0.38 | 2.33 | 2.23 | 2.29 | 0 | 3.40 | 0.73 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 61 | 62 | 62 MOD 2 | 63 | 65 | 66 | 67 | 68A | 68B | 69 |
|--------------------|---|------|------|----------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 3.38 | 4.52 | 4.72 | 0.96 | 1.16 | 5.23 | 2.51 | 0.34 | 4.63 | 4.31 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 10 | 7 | 6 | 0 | 3 | 2 | 1 | 0 | 14 | 4 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0.22 | 0 | 0 | 0 | 0 | 0 | 2.51 | 0.34 | 1.67 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0.13 | 0.13 | 0 | 0 | 0 | 0 | 0 | 0 | 0.86 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0.29 | 1.49 | 2.23 | 0 | 0 | 1.21 | 0 | 0 | 0.97 | 1.16 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.51 | 1.61 | 2.36 | 0.00 | 0.00 | 1.21 | 2.51 | 0.34 | 2.64 | 2.02 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 15% | 36% | 50% | 0% | 0% | 23% | 100% | 100% | 57% | 47% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 11 | Length of ROW across cropland | 0.00 | 0.00 | 0 | 0.00 | 0.17 | 0.35 | 0.00 | 0.00 | 0.37 | 0.00 |
| 12 | Length of ROW across pasture/rangeland | 1.26 | 3.44 | 2.30 | 0.10 | 0.28 | 3.90 | 1.53 | 0.34 | 2.10 | 1.82 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0.22 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.26 |
| 17 | Number of pipeline crossings ⁴ | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 18 | Number of transmission line crossings | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 1 |
| 19 | Number of IH, US and state highway crossings | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 1 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 3 | 1 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 1.00 | 2.70 | 2.20 | 0.05 | 0 | 2.01 | 1.50 | 0.14 | 1.31 | 2.09 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0.33 | 0.34 | 0.34 | 0 | 0.90 | 0 | 0.51 | 0 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0.56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.09 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 0.96 | 0.30 | 0.30 | 0.73 | 0.47 | 0.85 | 0.53 | 0 | 1.29 | 1.85 |
| 33 | Length of ROW across bottomland/riparian woodlands | 1.11 | 0.69 | 0.71 | 0.14 | 0 | 0.08 | 0.41 | 0 | 0.73 | 0.57 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0 | 0 | 0 | 0.01 | 0 | 0 | 0.02 | 0 |
| 37 | Number of stream and river crossings | 7 | 4 | 5 | 1 | 1 | 1 | 4 | 0 | 11 | 6 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0.09 | 0.27 | 0.27 | 0 | 0.25 | 0.12 | 0.10 | 0 | 0.24 | 0.13 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 1.73 | 1.33 | 1.54 | 0.10 | 0 | 0 | 0.09 | 0 | 0.31 | 0.31 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 2.96 | 2.96 | 3.57 | 0.96 | 0.87 | 2.35 | 1.58 | 0.08 | 3.80 | 3.13 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 80 |
|--------------------|---|------|------|------|------|--------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 5.61 | 3.51 | 3.49 | 2.56 | 2.92 | 1.40 | 1.51 | 1.27 | 5.56 | 2.75 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 6 | 10 | 12 | 7 | 7 | 6 | 0 | 0 | 1 | 5 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0.45 | 0 | 2.00 | 0 | 0.37 | 1.38 | 1.51 | 0 | 0.02 | 0 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0.28 | 1.16 | 0 | 1.09 | 1.1287 | 0 | 0 | 0.91 | 1.92 | 0.94 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.73 | 1.16 | 2.00 | 1.09 | 1.50 | 1.38 | 1.51 | 0.91 | 1.94 | 0.94 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 13% | 33% | 57% | 42% | 51% | 99% | 100% | 72% | 35% | 34% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.00 | 0.50 | 0.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 |
| 12 | Length of ROW across pasture/rangeland | 2.70 | 1.93 | 1.88 | 0.90 | 1.12 | 0.46 | 0.51 | 0.31 | 1.76 | 1.42 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0.28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 1 | 4 | 4 | 3 | 0 | 0 | 0 | 2 | 0 |
| 18 | Number of transmission line crossings | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | Number of IH, US and state highway crossings | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 1.92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.47 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0 | 0 | 0 | 1.04 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 2.06 | 1.50 | 0.95 | 1.25 | 1.41 | 0.69 | 0.98 | 0.96 | 3.09 | 1.15 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0.76 | 0.05 | 0.11 | 0.09 | 0.33 | 0.24 | 0 | 0 | 0.35 | 0.14 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0 | 0 | 0.04 | 0 | 0 | 0 | 0 | 0.00 |
| 37 | Number of stream and river crossings | 12 | 2 | 3 | 2 | 2 | 2 | 0 | 0 | 5 | 3 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0.07 | 0 | 0 | 0 | 0.02 | 0 | 0 | 0 | 0.11 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 1.03 | 0 | 0.06 | 0.05 | 0 | 0.09 | 0 | 0 | 0.29 | 0.35 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 4.94 | 2.62 | 2.90 | 1.11 | 2.29 | 1.11 | 1.27 | 0.88 | 4.49 | 1.54 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|--------------------|---|------|------|------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 1.05 | 0.41 | 3.11 | 1.99 | 1.70 | 3.67 | 3.71 | 4.70 | 2.04 | 1.92 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 6 | 0 | 2 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0 | 0.72 | 0.20 | 1.70 | 0.39 | 0 | 0 | 0 | 1.41 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0 | 0 | 0.09 | 1.66 | 0 | 1.68 | 2.10 | 2.84 | 1.11 | 0 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.00 | 0.00 | 0.81 | 1.86 | 1.70 | 2.07 | 2.10 | 2.84 | 1.11 | 1.41 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 0% | 0% | 26% | 93% | 100% | 56% | 57% | 60% | 54% | 74% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.46 | 0.00 | 0.00 |
| 12 | Length of ROW across pasture/rangeland | 0.19 | 0.32 | 0.95 | 0.54 | 0.00 | 0.98 | 0.59 | 0.79 | 0.35 | 1.44 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.11 |
| 17 | Number of pipeline crossings ⁴ | 0 | 1 | 2 | 0 | 0 | 1 | 4 | 0 | 1 | 1 |
| 18 | Number of transmission line crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | Number of IH, US and state highway crossings | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0.53 | 0 | 0 | 0 | 1.70 | 0 | 0 | 0.47 | 0 | 1.92 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 0.66 | 0.08 | 1.69 | 1.32 | 1.22 | 2.02 | 2.06 | 2.82 | 1.53 | 0.48 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0.18 | 0 | 0.46 | 0.09 | 0.47 | 0.67 | 1.06 | 0.51 | 0.15 | 0 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0 | 0.01 | 0 | 0 | 0 | 0.07 | 0 | 0 |
| 37 | Number of stream and river crossings | 2 | 0 | 6 | 3 | 3 | 6 | 10 | 9 | 5 | 2 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0 | 0 | 0.08 | 0 | 0 | 0 | 0.34 | 0.06 | 0.10 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0.06 | 0 | 0 | 0.22 | 0.48 | 0.55 | 0.95 | 0 | 0.14 | 0 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 0.84 | 0.28 | 1.80 | 1.18 | 1.70 | 2.54 | 3.13 | 0.24 | 1.81 | 1.92 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria. All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|--------------------|---|------|------|------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 0.28 | 1.74 | 3.07 | 1.05 | 4.48 | 2.79 | 3.05 | 3.37 | 2.86 | 4.29 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 0 | 3 | 1 | 0 | 6 | 0 | 3 | 7 | 0 | 1 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0.37 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0 | 0.76 | 0.30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0.05 | 0.19 | 0 | 0.66 | 1.36 | 0.69 | 0.63 | 1.57 | 0.10 | 3.04 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.05 | 0.19 | 0.76 | 0.96 | 1.36 | 1.06 | 0.63 | 1.57 | 0.10 | 3.04 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 17% | 11% | 25% | 91% | 30% | 38% | 21% | 47% | 3% | 71% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | Length of ROW across pasture/rangeland | 0.00 | 0.31 | 0.05 | 0.00 | 1.85 | 1.05 | 1.02 | 0.81 | 0.35 | 0.73 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0.13 | 0 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 18 | Number of transmission line crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | Number of IH, US and state highway crossings | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 4 |
| Aesthetics | | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0.28 | 0.75 | 0 | 0 | 0.28 | 0 | 3.05 | 0 | 0 | 0.25 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0 | 0 | 0 | 0 | 0 | 1.01 | 1.49 | 1.76 | 1.07 | 0.26 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 0.28 | 1.10 | 2.36 | 1.04 | 2.24 | 1.42 | 0.68 | 2.30 | 2.34 | 2.67 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0 | 0.31 | 0.65 | 0 | 0.24 | 0.05 | 0.59 | 0.22 | 0.15 | 0.59 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0 | 0 | 0 | 0 | 0.06 | 0 | 0.01 | 0 | 0 | 0.02 |
| 37 | Number of stream and river crossings | 0 | 2 | 5 | 0 | 6 | 1 | 8 | 3 | 3 | 13 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0 | 0 | 0.11 | 0 | 0 | 0 | 0.45 | 0 | 0 | 0.49 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0 | 0 | 0.55 | 0 | 0.33 | 0 | 0.99 | 0.61 | 0 | 0.02 |
| Cultural Resources | | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 0.13 | 1.54 | 1.58 | 0.32 | 3.25 | 1.70 | 2.85 | 2.70 | 1.69 | 3.65 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2
Land Use and Environmental Data For Segment Evaluation
Howard Road to San Miguel

Evaluation Criteria

| Land Use | | 101 | 102 | 104 | 105 | 106 | 107 | 108 | 109 | 110 |
|--------------------|---|------|------|------|------|------|------|------|------|------|
| 1 | Length of alternative route (miles) | 0.28 | 1.46 | 6.20 | 3.64 | 4.36 | 3.57 | 0.16 | 4.20 | 0.17 |
| 2 | Number of habitable structures ¹ within 500 feet of the route centerline | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Length of ROW using existing transmission line ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Length of ROW parallel and adjacent to existing transmission line ROW | 0 | 0 | 5.49 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | Length of ROW parallel to other existing ROW (roadways, railways, etc.) | 0 | 0 | 0 | 3.64 | 0 | 0 | 0 | 0 | 0 |
| 6 | Length of ROW parallel and adjacent to apparent property lines ² (or other natural or cultural features, etc.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | Sum of evaluation criteria 3, 4, 5, and 6 | 0.00 | 0.00 | 5.49 | 3.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | Percent of evaluation criteria 3, 4, 5, and 6 | 0% | 0% | 89% | 100% | 0% | 0% | 0% | 0% | 0% |
| 9 | Length of ROW across parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Number of additional parks/recreational areas ³ within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Length of ROW across cropland | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.29 | 0.00 | 0.00 | 0.00 |
| 12 | Length of ROW across pasture/rangeland | 0.19 | 0.31 | 1.39 | 0.00 | 1.33 | 2.63 | 0.00 | 1.69 | 0.00 |
| 13 | Length of ROW across land irrigated by traveling systems (rolling or pivot type) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Length of route across conservation easements and/or mitigation banks (Special Management Area) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Length of route across gravel pits, mines, or quarries | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Length of ROW parallel and adjacent to pipelines ⁴ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Number of pipeline crossings ⁴ | 0 | 0 | 2 | 0 | 2 | 3 | 0 | 2 | 0 |
| 18 | Number of transmission line crossings | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | Number of IH, US and state highway crossings | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Number of FM or RM road crossings | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 21 | Number of FAA registered airports ⁵ with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Number of FAA registered airports ⁵ having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | Number of private airstrips within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | Number of heliports within 5,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 |
| 27 | Number of identifiable existing water wells within 200 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| Aesthetics | | | | | | | | | | |
| 29 | Estimated length of ROW within foreground visual zone ⁶ of IH, US and state highways | 0.28 | 0.48 | 0.53 | 3.64 | 0 | 0 | 0 | 0.47 | 0 |
| 30 | Estimated length of ROW within foreground visual zone ⁶ of FM/RM roads | 0.28 | 1.46 | 0 | 0.47 | 0.60 | 0.95 | 0.15 | 0 | 0 |
| 31 | Estimated length of ROW within foreground visual zone ^{6 7} of parks/recreational areas ³ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecology | | | | | | | | | | |
| 32 | Length of ROW across upland woodlands/brushlands | 0.00 | 0.95 | 4.44 | 3.00 | 2.49 | 0.25 | 0.06 | 2.13 | 0.17 |
| 33 | Length of ROW across bottomland/riparian woodlands | 0.06 | 0.12 | 0.23 | 0.64 | 0.52 | 0.37 | 0 | 0.30 | 0 |
| 34 | Length of ROW across NWI mapped wetlands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | Length of ROW across know critical habitat of federally listed threatened or endangered species | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Length of ROW across open water (lakes, ponds) | 0.00 | 0.07 | 0.02 | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 | Number of stream and river crossings | 0 | 5 | 10 | 7 | 11 | 12 | 0 | 6 | 0 |
| 38 | Length of ROW parallel (within 100 feet) to streams or rivers | 0.06 | 0.22 | 0.35 | 0 | 0.34 | 0.33 | 0 | 0 | 0 |
| 39 | Length of ROW across Edwards Aquifer Contributing Zone | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | Length of ROW across FEMA mapped 100-year floodplain | 0 | 0 | 0 | 0.21 | 0.34 | 0.89 | 0 | 0.17 | 0 |
| Cultural Resources | | | | | | | | | | |
| 41 | Number of cemeteries within 1,000 feet of the ROW centerline | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 42 | Number of recorded cultural resource sites crossed by ROW | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 43 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 4 |
| 44 | Number of resources determined eligible for or NRHP properties crossed by ROW | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | Number of additional resources determined eligible for or NRHP properties within 1,000 feet of ROW centerline | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | Length of ROW across areas of high archeological site potential | 0.28 | 1.16 | 4.66 | 3.64 | 3.36 | 2.65 | 0.16 | 3.61 | 0.17 |

¹Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project of 230-kV or more.

²Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property

³Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

⁴Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

⁵As listed in the Chart Supplement South Central US (FAA 2023b formerly known as the Airport/Facility Directory South Central US) and FAA 2023a.

⁶One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

⁷One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.
All length measurements are shown in miles unless noted otherwise.



Map 1 – Habitable Structure R1



Map 2 – Habitable Structure R2



Map 3 – Habitable Structure R3



Map 4 – Habitable Structure R4



Map 5 – Habitable Structure R5

The following files are not convertible:

Exhibit DMW-1R Amended Table 4-1R and
Table 4-2R.xlsx

Please see the ZIP file for this Filing on the PUC Interchange in order to access these files.

Contact centralrecords@puc.texas.gov if you have any questions.