Attachment DR08 – Q3(f)_ Design Assumptions

Design Assumptions:

1. Alternative 1 = Mercy Road Underground
   Alternative 2 = Pomerado to Miramar North
   Alternative 3 = Pomerado to Miramar Combined
   Alternative 4 = Segment D 69kV Partial Underground
   Alternative 5 = Stonebridge to Mira Mesa

2. Underground alignments in roadways were based on best available data including GIS data from the City of San Diego, SANGIS, and Geotracker. The underground utility data used includes water lines, reclaimed water lines, sewer, and storm drains.

3. The GIS data for underground facilities mentioned above is map grade and contains geographic errors. Actual facility locations are required to finalize alignments. This requires underground survey, locating and pot holing all pertinent utilities that may be in conflict.

4. Information on existing underground facilities including but not limited to electric, gas, oil, telecommunications, and fiber optic lines was not available, and not considered in the proposed alignments.

5. Standard duct bank configurations are shown in the exhibit. The typical trench depth required for a 69kV duct bank is 7 feet, and 8 feet for a 230 kV duct bank. Actual depths will vary based on utility conflicts found.

6. Vaults were located based on required clearance to known utilities, maintaining two way traffic during construction and future maintenance, and close enough as to not exceed maximum cable pulling tensions. The maximum distance between vaults is typically 1,800 feet.

7. Additional right of way, including adding underground rights in an existing overhead corridor, or securing a new underground easement is required at the following locations:
   a. Alternative Route 1: from the proposed cable pole (P19) to Ivy Hill Drive.
   b. Alternative Route 1: from the end of Park Village Rd. to the south edge of the 300 ft. wide easement.
   c. Alternative Route 2 & 3: from the proposed cable pole (P05) to Stonebridge Parkway.
   d. Alternative Route 4: from the north edge of the 300 ft. wide easement that's adjacent to proposed cable pole P48 to Carmel Mountain Rd.
   e. Alternative Route 5: from the proposed cable pole (P05) to Stonebridge Parkway.

8. Permitting is required at the following locations:
   a. Alternative Route 1: Caltrans Permits required for I-15 crossing at Mercy Road.
   b. Alternative Route 2, 3: Caltrans Permits required for I-15 crossing at Pomerado Rd.
   c. Alternative Route 5: Caltrans Permits required for I-15 crossing at Mira Mesa Blvd.

9. Bridge attachments required at the following locations:
    a. Alternative Route 1: Bridge attachment required on Black Mountain Rd.
    b. Alternative Route 2, 3: Bridge attachment required but not feasible on Pomerado Rd. over I-15.
    c. Alternative Route 4: Bridge attachment required on Carmel Mountain Rd.

10. Cable Pole was relocated on alternative 5 from Vista Sorrento Parkway to Carroll Canyon Rd. west of Scranton Rd. to provide improved access and routing over the suggested location.

11. The Underground I-15 freeway crossing at Pomerado/Miramar Rd., required by Alternatives 2 and 3, is not feasible for the following reasons:
    a. Caltrans does not permit 230kV bridge attachments.
    b. Caltrans does not permit vaults to be set inside Caltrans right of way.
    c. To set vaults outside Caltrans right of way requires 2,500 feet vault separation
    d. Cable pulling tensions exceeds limits on this span length.

12. For Alternative Route 1: from the proposed cable pole (P19) to Ivy Hill Drive, the existing wood 138kV H-frame ahead is assumed to require replacement with a steel H-Frame deadend structure.

13. Alternative Route 2 & 3: from the proposed cable pole (P05) to Stonebridge Parkway, the existing wood 138kV H-frame ahead is assumed to require replacement with a steel H-Frame deadend structure.

14. For alternate cable pole location on proposed route, south of Carmel Valley Rd, the existing wood 138kV H-frame ahead is assumed to require replacement with a steel H-Frame deadend structure.

15. All information provided within this response is preliminary and based on limited information due to the amount of time allotted for the response. Certain assumptions were made which include, but are not limited to, the following:

    - Design based upon Utilization of existing LiDAR and GIS data.
    - Additional field surveys would be required to verify information.
    - Design based upon Desktop analysis with no field spotting and/or verifications.