









A new 230-kilovolt (kV) power alignment would cross over Byron Highway and the BBID pipeline; however, this alignment would be overhead and would not impact the pipeline.

The portion of the pipeline along Bruns Road would not be affected. The Project tunnel would also include an additional crossing with the raw water supply pipeline to Mountain House at the proposed Byron Highway interchange at Lindemann Road. For construction of this facility, coordination with BBID would occur during the design phase to avoid interference or interruption of service.

In addition, the Project would cross BBID's Main Canal (45) and Canal and 70 several times. The Bethany Reservoir Aqueduct would cross under BBID's Canal 45 between the Delta-Mendota Canal and Bethany Reservoir south of Kelso Road. For this crossing, coordination with BBID would occur during the design phase to avoid interference or interruption of service. The supervisory control and data acquisition (SCADA) alignment between the Delta Field Division Area Control Center (DACC) and the proposed Bethany Pumping Plant and the temporary access road and proposed underground power to the controlled low-strength material (CLSM) batch plant would also cross over Canal 45 at the Kelso Road canal bridge and south of Kelso Road, respectively. For the SCADA crossing, the new fiber line would be installed within the existing bridge and would not be expected to interrupt service, and for the access road and power crossing, a new bridge over the canal would be required to avoid interference or interruption of service. Roadway improvements to Mountain House Road at the Canal 70 and Canal 120 canal bridges, though these would not be expected to disrupt service. The proposed access road from the west side of the CLSM bath plant area south to Mountain House Road would also cross over Canal 70 again, and a new bridge would be required to avoid interference or interruption of service.

## 2.7 East Bay Municipal Utility District

East Bay Municipal Utility District (EBMUD) operates the Mokelumne Aqueducts which transport water from the Mokelumne River to the East Bay. Near the Central and Eastern Corridors, the Mokelumne Aqueducts alignment runs generally east-to-west between Holt and Bixler (EBMUD, 2020). The Central Corridor would cross under the Mokelumne Aqueducts on the north side of Woodward Island. The Eastern Corridor alignment would cross under the Mokelumne Aqueducts on Upper Jones Tract. Although the Mokelumne Aqueducts are generally elevated above the ground surface, portions of the aqueducts are buried. In addition, the foundational structures that support the aqueducts extend below the ground surface. EBMUD is evaluating replacement of the aqueducts in a tunnel system that would be constructed parallel to the existing aqueducts.

The Bethany Alignment would cross the Mokelumne Aqueducts on Upper Jones Tract where all three aqueducts are above the ground surface and rest on pipe saddles that are supported on piles. The piles at this location are located approximately 50 feet below the ground surface and the top of the tunnel would be located approximately 110 feet below the ground surface. As described in the Concept Engineering Report (CER) Appendix C3 *Tunneling Effects Assessment*, construction of the tunnel would not be expected to affect the existing Mokelumne Aqueducts. Design of the tunnel would be coordinated with the EBMUD during the design phase to avoid interferences or interruptions.

The Bethany Alignment would cross over the Mokelumne Aqueducts a second time southeast of the Lower Roberts Island Launch Shaft site. A new access road, which would include SCADA within the roadway shoulder, and rail spur would be constructed from Embarcadero on Rough and Ready Island over Burns Cutoff to the Lower Roberts Island reusable tunnel material (RTM) storage area. These surface improvements would intersect with the Mokelumne Aqueducts just north of Burns Cutoff and west of the Stockton Deep Water Ship Channel. Although the rail spur in particular would be expected to carry heavy loads, which could impact the Mokelumne Aqueducts, these crossing structures would be

designed to limit loads to mitigate the potential for impacts. Design of the crossing structure would be coordinated with the EBMUD and the railroad during the design phase to avoid interferences or interruptions.

## 2.8 Other Irrigation and Agricultural Drainage Facilities

Many construction sites are located on existing agricultural lands. Local irrigation and drainage facilities have been installed by existing and previous landowners at most of the construction sites, including groundwater wells. These facilities are owned by private landowners, or potentially by reclamation or irrigation districts. Many of these systems include facilities that either provide irrigation water or convey subsurface drainage between the parcels that would be acquired for the DCP and adjacent parcels. Most of these facilities are buried and cannot be identified from aerial photographs. During the design phase when access to specific parcels can be acquired, these buried facilities would be mapped on a site-specific basis. If the facilities located on a parcel to be used for a DCP feature extends to adjacent parcels, the irrigation or drainage conveyance would be installed in underground pipes or canals through, or around, the construction site parcels to maintain service to the adjacent properties.

During a future design phase, the depths and conditions of wells adjacent to the construction sites would also be evaluated.

The design would be coordinated with adjacent landowners to maintain wells and water supplies for the existing water uses on properties adjacent to the constructed facilities.

## 3. Oil and Natural Gas

### 3.1 Pacific Gas and Electric

Pacific Gas and Electric (PG&E) is one of the largest investor-owned utility providers of natural gas and electricity in the U.S. (Choose Energy, 2019) and operates an extensive power network across the Project area and northern and central California. This network includes power production facilities, electric transmission and distribution lines, natural gas storage, and natural gas pipelines. Please see Section 5 regarding electricity infrastructure. The tunnel alignments avoid PG&E's McDonald Island gas storage facility, which injects and recovers natural gas to meet customer demands. In total, above and belowground Project facilities would intersect with existing PG&E natural gas lines 19 times. The majority of the pipelines are relatively shallow, having been installed in open trenches. The current tunnel alignments avoid crossing gas lines at river crossing locations, where deep horizontal directional drilling (HDD) is generally employed to install the gas pipelines. Although it is not anticipated the tunnel and other Project facilities would impact these pipelines, during the design phase, coordination with PG&E would occur to avoid interference or interruption of service.

The Project would have several crossings with dual PG&E natural gas lines running generally southeast between Bethany Reservoir and the Byron Highway (CEC, 2015; EIA, 2019). These crossings would include along the Bethany Aqueduct, one along Mountain House Road where roadway improvements would occur, and two along the proposed SCADA alignment. Due to the expected depth of the PG&E pipelines, it is assumed that the roadway improvements and SCADA line would have no impact on the existing lines. However, at the Aqueduct crossing, the depth of the Aqueduct would need to be coordinated with PG&E during the design phase to avoid interference or interruption of service.

### 3.2 Lodi Gas Storage, LLC

Lodi Gas Storage, LLC (Lodi Gas) operates a natural gas storage facility in the Lodi gas field, approximately 5 miles northeast of the City of Lodi, and transports the natural gas via a 20-inch diameter pipeline which extends to Sherman Island within the Delta (CEC, 2015). The Bethany Alignment crosses the gas pipeline associated with this facility Brack Tract, parallel to two PG&E lines, as shown on Figure 1, respectively. At the crossing along the Alignment, the top of tunnel would be approximately 110 feet below ground surface while the Lodi Gas pipelines are anticipated to be buried within the upper 10 feet. As such, it is not anticipated the tunnel and other Project facilities would impact these pipelines; however, during the design phase, coordination with Lodi Gas would occur to avoid interference or interruption of service.

### 3.3 California Resources Company

California Resources Company (CRC) operates a 12-inch natural gas pipeline along Byron Highway (Contra Costa, 2020) and around the southern end of Clifton Court Forebay (CEC, 2015; EIA, 2019). The existing pipeline is located on the existing Bryon Highway bridge.

Several of the Project crossings the CRC pipeline however, the alignment would not include any crossings north of the California Aqueduct, resulting in several fewer crossings. The crossings that would occur under the Project include two tunnel crossings, one under the southern bank of Old River just east of the Clifton Court Forebay inlet structure and one at Byron Highway south of Mountain House Road, and the proposed water supply pipeline between the California Aqueduct and the Bethany Complex would also cross the gas pipeline near the intersection of Byron Highway and Herdlyn Road. It is assumed that the CRC pipeline would be located within 10 feet of the ground surface in these locations and would not be affected by the tunnel construction, though the proposed water supply pipeline would be at a similar depth. During the design phase, coordination with CRC would occur to avoid interference or interruption of service.

### 3.4 Miscellaneous Fuel Pipelines

There are a number of operators which transport petroleum and petroleum products from the San Francisco Bay Area to storage and distribution points elsewhere in California and beyond. Due to the cyclical nature of the oil and gas industry, pipelines which transport these products changes ownership relatively frequently and may have several owners during its lifecycle. Further, the locations of these facilities are generally confidential to maintain safety and security of the infrastructure. With this in mind, the active fuel line crossings in the Southern Complex, whose current owners include Chevron, Kinder Morgan, Phillips 66, Crimson Pipeline, LLC, and abandoned pipelines formerly owned by the now-bankrupt Tidewater Oil Company and Venoco (EIA, 2018), on Figure 1. In total, there are 7 crossings.

The majority of the potential crossings with fuels pipelines identified would be located near Byron Highway.

Above- and belowground Project facilities would intersect with existing active and abandoned petroleum and petroleum product pipelines operated by Kinder Morgan, Phillips 66, Crimson Pipeline, and the now-bankrupt Tidewater Oil Company and Venoco a total 8 times.

In the case of the abandoned pipelines, at this time, it is not known if these pipelines will be removed or relocated with the upcoming Byron Highway bridge project to be completed by Contra Costa County.

Additional crossings with fuel pipelines on Woodward Island and Lower Jones Tract, for the Bethany Alignment, were also identified. Neither crossing location is situated immediately before or after a water crossing, so the pipelines would not have been installed via HDD and are thus expected to be buried within the upper 10 feet.

During the design phase, coordination with the appropriate owners and operators would occur to avoid interference or interruption of service.

Similar to the CRC crossings, the Project would not include any crossings with fuel pipelines north of the California Aqueduct. The Alignment, however, would include several additional crossings with fuel pipelines running generally southeast between Bethany Reservoir and the Byron Highway (EIA, 2018). These crossings would include the proposed SCADA alignment, as well as the Bethany Reservoir Aqueducts, and the proposed Byron Highway interchange at Lindemann Road. Similar to the conclusions under the BBID and PG&E crossings in this area, it is anticipated that the SCADA alignment would have no impact on the existing fuel lines but that the pipeline owner/operators would need to be coordinated with regarding other Project facilities during the design phase to avoid interference or interruption of service.

#### **4. Communications**

Telephone, internet, and television services is provided by several entities throughout the Delta. These providers use extensive networks of above- and below ground cable networks, including fiberoptic cables. During design, extensive surveys and would be completed to identify locations and potential crossings of these communication lines to avoid conflicts. The supervisory control and data acquisition (SCADA) system for the DCP would be connected to the existing facilities, as described in the CER Appendix H3 *SCADA/Communications Routing and Basic Design Approach TM*.

#### **5. Electricity**

Electrical power is available in the Project area from many utility providers, including Sacramento Municipal Utility District (SMUD) in Sacramento County and Western Area Power Administration (WAPA) and PG&E, as well as several additional providers whose services are not anticipated to be utilized. These providers use extensive networks of above- and below ground transmission (high-voltage) and distribution (low-voltage) lines. During design, extensive surveys and would be completed to identify locations and potential crossings of these power lines to avoid conflicts. Interfaces with existing overhead and underground electric transmission and distribution infrastructure is discussed in detail in the CER Appendix H2 *Electrical Power Load and Routing Study TM*.

#### **6. References**

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