
3.14 UTILITIES

Introduction

Provision of adequate utilities such as water, drainage, sewer, power, and communication is important in serving the needs of communities. A guaranteed supply of these utilities ensures a safe, healthy, and attractive environment for existing and planned urban development.

There are over 100 utility lines in the project corridor in east Contra Costa County, including overhead electrical and transmission lines, and underground electrical, gas, sanitary, sewer, water, TV, cable, telephone, and petroleum lines. Disruption to service or relocation of utilities could cause significant impacts to the surrounding communities.

This section identifies the location of existing utility lines, and discusses how construction and operation of the project corridor could affect these lines and result in service interruptions to residential, business, educational, and other customers. In addition, this section considers whether existing water and wastewater treatment capacity can accommodate the demand created by the Proposed Project. Information on existing utilities along the State Route 4 (SR 4) corridor for this section is based on the SR 4 widening project environmental document¹ and a Preliminary Engineering Design Report prepared for the Proposed Project.²

No comments regarding Utilities were received in response to the Notices of Preparation released in 2005 and 2008. Please refer to Appendix A for a copy of the NOPs.

Existing Conditions

Utility Providers and Facilities in the Project Corridor

Drinking Water. The provision of water service in Contra Costa County varies from city to city.

Contra Costa Water District. Contra Costa Water District (CCWD) supplies water to the cities of Pittsburg and Antioch from water diverted from Old River near Discovery Bay and Rock Slough near Knightsen. CCWD's current contract for its entire service area is for 174 million gallons per day (mgd). CCWD has negotiated additional water rights with a number of local districts and private entities, including the East Contra Costa Irrigation District, to meet projected annual demands by 2040 through phased components.³ With these augments,

¹ Caltrans, *State Route 4 (East) Widening Project, Loveridge Road to State Route 160 Environmental Assessment/Initial Study*, 2005.

² PGH Wong Engineering, Inc., *East Contra Costa County Transit Project (eBART) Service from Pittsburg-Bay Point to Byron - Utility Report*, 2007.

³ Contra Costa Water District, *Future Water Supply Implementation Draft EIR*, 1998.

CCWD's total annual projected water supply would be 217 mgd.⁴ The CCWD has a number of facilities in the vicinity of the project corridor. CCWD manages, maintains, and operates the Contra Costa Canal and right-of-way for the canal, which is owned by the U.S. Bureau of Reclamation (USBR). In general, the canal is parallel to and one-quarter to one-half mile south of the Proposed Project alignment in the SR 4 median. At the eastern end of the project corridor, the canal is approximately 0.6 miles south of the project corridor. However, at the western end of the project alignment, the distance between the canal and the SR 4 decreases, and the canal crosses under SR 4 approximately 1,000 feet east of Bailey Road, between the Pittsburg/Bay Point BART Station and the proposed DMU transfer platform. In addition to the canal property, USBR has easements for various lateral pipelines within the footprint of the transportation corridor. Also, the East Bay Regional Park District, under license from the USBR/CCWD, operates a trail system within the Contra Costa Canal right-of-way that extends along the project corridor. (See Section 3.2, Transportation, for additional discussion of this trail.)

Other CCWD facilities in the project vicinity include the Randall-Bold Water Treatment Plant and right-of-way for the Los Vaqueros High Pressure Pipeline. The Randall-Bold Water Treatment Plant is located on Neroly Road, south of Laurel Road, approximately 2.3 miles southeast of the Median Station for the Proposed Project. The Los Vaqueros High Pressure Pipeline runs between the Antioch Service Center and the Los Vaqueros Reservoir. Generally located along the east side of the SR 4 Bypass, it does not extend north of the Contra Costa Canal.

City of Pittsburg. The City of Pittsburg supplements its water supply with groundwater from the City Park and Dover Way and Frontage Road wells, which have a combined yield of 1.3 mgd. The City of Pittsburg also operates its own water treatment plant with a capacity of 32 mgd, sufficient to meet the projected 2020 maximum day requirements of 30.5 mgd. The City of Antioch supplements its CCWD water supply with 8 mgd diverted water from the San Joaquin River, nearly as much as its annual purchase from CCWD.

The cities of Antioch and Pittsburg have included the development area and buildout demands in their respective Urban Water Management Plans (UWMPs). Water suppliers are required under the California Urban Water Management Act, to develop UWMP to pursue the efficient use of available supplies. The City of Antioch's UWMP identifies the availability of sufficient water supply to meet future needs projected to buildout at 2025 under normal, single, and multiple dry year conditions. Water demand and supply projections in 2025 under a normal year would be 25,284 acre-feet per year (af/yr) and 49,140 af/yr respectively; and water supply under a single-dry year scenario would be 23,318 af/yr.⁵

⁴ City of Pittsburg, *General Plan, Pittsburg 2020: A Vision for the 21st Century*, 2004.

⁵ Contra Costa Local Agency Formation Commission, *Water and Wastewater Services Review for East Contra Costa County*, 2007

The City of Pittsburg's UWMP identifies the availability of sufficient water supply to meet future needs projected to buildout at 2030 under all conditions including normal, single dry year, and multiple-dry years. Water demand and supply projections in 2030 under a normal year and dry-year would be 19,260 af/yr.

Wastewater. The provision of sanitary wastewater services in the County is the responsibility of several municipalities and service districts. Delta Diablo Sanitation District (DDSD) provides sewer treatment service to the cities of Pittsburg and Antioch. Existing DDSD wastewater treatment facilities have a capacity of 16.5 mgd. The DDSD Master Plan proposes to increase capacity from 16.5 mgd to 24.0 mgd to accommodate anticipated growth in the service area.⁶

The City of Antioch's 2003 Wastewater Collection System Master Plan indicates that the system is designed to be able to accommodate a total dry weather flow at buildout of 14.9 mgd, with a 26.6 mgd peak dry weather flow. Current flow is estimated at 7.7 mgd. Furthermore, the Master Plan identifies 19 improvement projects, including negative slope and hydraulic capacity bottlenecks, that will correct deficiencies in the existing system under buildout conditions.

The City of Pittsburg 2005 Water and Sewer Facility Reserve Charges study indicates that in some areas, new development will connect to the existing wastewater infrastructure, while in other areas new infrastructure will need to be built.⁷ The City has planned for wastewater infrastructure needs through updated system master plans, the annual budget, rate structures, and five-year Capital Improvement Program (CIP) that includes an annual water main/service/valve replacement program, and wastewater pipeline CCTV inspection program to extend the life of the infrastructure.

Storm Drainage. The cities of Pittsburg and Antioch, and the Contra Costa County Flood District own and operate a series of drainage ponds, basins, and culverts in the project area. Existing drainage along the SR 4 median consists of a longitudinal underdrain system collecting storm water flows, and discharge points at various existing highway cross culverts along SR 4. Existing culverts were deemed deficient when calculated runoff exceeded culvert capacity.⁸ Deficiencies were also identified at East Kirker Creek, east of Loveridge Road due to downstream constrictions. As part of the SR 4 roadway improvement projects, the California Department of Transportation (Caltrans) and Contra Costa Transportation Authority (CCTA) are proposing storm drain improvements in the SR 4 median to adequately drain stormwater. Modifications to the system would involve installation of junction boxes/inlets or altering existing flow lines of inlets or culverts to connect to the proposed underdrain system. In the

⁶ City of Pittsburg, *General Plan; Pittsburg 2020: A Vision for the 21st Century*, 2004.

⁷ Contra Costa Local Agency Formation Commission, *Water and Wastewater Services Review for East Contra Costa County*, 2007.

⁸ Caltrans, *Initial Study/Environmental Assessment on Route 4 in Contra Costa County from Railroad Avenue to Loveridge Road*, 2001.

area of the proposed Hillcrest Avenue Station options and maintenance facilities, the lands are undeveloped and are drained naturally. Rainfall either percolates into the ground or drains northwards to East Antioch Creek.

Additional information on storm drain facilities in the project corridor is provided in Section 3.8, Hydrology and Water Quality, of this report.

Communications. Cable and telephone utilities in the project corridor are owned and operated by Comcast and AT&T. Communication utilities run parallel to, but outside of, the SR 4 right-of-way.

Oil and Gas. Chevron Pipeline Company, CPN Pipeline Company, and Pacific Gas and Electric Company (PG&E) own and operate oil and gas pipelines within the project corridor. The underground gas lines run parallel to and, at some locations, cross the project corridor as described in Table 3.14-1 at the end of this section. Gas lines range from 4 inches to 34 inches in diameter and are encased in concrete and/or other protective covering.

Electrical Power. PG&E is the main provider of electricity to Contra Costa County. PG&E obtains its energy supplies from power plants and natural gas fields in northern California and from energy purchased outside its service area and delivered through high voltage transmission lines and pipelines. The PG&E utility system in the project corridor consists of transmission lines rated at 21 kilovolts (kV) and 60 kV, supported by wooden poles. PG&E utilities in the project area include overhead power lines and a substation east of Hillcrest Avenue, north of SR 4 and the Union Pacific Railroad right-of-way (UP ROW).

Applicable Policies and Regulations

Construction Regulations. California has established laws to protect infrastructure from damage caused by construction activities. According to the California Government Code (Sections 4216-4216.9), contractors are required to notify and coordinate with appropriate groups before beginning ground-disturbing construction activities. Contractors are required to paint the area to be disturbed and notify Underground Service Alert (USA) at least 2 days before commencing any digging. USA then notifies its subscribing members of the proposed excavation.

Impact Assessment and Mitigation Measures

Standards of Significance

The Proposed Project would result in significant utility impacts if it were to:

- Exceed available water supplies, such that new or expanded entitlements are needed; or
- Exceed available wastewater treatment capacity.

Construction-related utility impacts would be considered significant if, through the excavation and relocation of underground utilities:

- Daytime power, natural gas, or communications service was disrupted for more than a few minutes;
- Daytime drinking water supplies were disrupted for more than a few hours;
- Wastewater transport was disrupted, at any time, for more than a few minutes; or
- The ability to transport storm water was substantially disrupted during and after precipitation events.

In order to describe potential utility impacts, a level of significance is determined and reported in the italicized summary impact statement that precedes each impact assessment. Conclusions of significance are defined as follows: significant (S), potentially significant (PS), less than significant (LTS), no impact (NI), and beneficial (B). If the mitigation measures would not diminish potentially significant or significant impacts to a less-than-significant level, the impacts are classified as “significant and unavoidable effects (SU).” For the purposes of this section, UT refers to Utilities.

Project-Specific Environmental Analysis

Operational Impacts

Impact UT-1 Water use for landscaping, maintenance activities such as train washing, and restroom facilities, would be minimal compared to available municipal water supplies and would not require new or expanded entitlements to meet the Proposed Project demand. (LTS)

Water use for the Proposed Project would be limited to staff restroom facilities, drinking water fountains, landscaping for the parking areas, and train-cleaning operations for the six DMU vehicles (conservatively including two spare vehicles), and other maintenance activities. Restroom facilities would be at each of the stations and in the breakroom for the Amalgamated Transit Union (ATU) (if required). The greatest demand from these activities would be associated with the train-cleaning operations. While BART has no experience with the Diesel Multiple Unit (DMU), BART uses approximately 80 gallons of water per BART car per day, of which 60 percent is recycled within BART’s reclamation system.⁹

Because of the similarity in the general size of the vehicles, it is reasonable to assume that DMU car-washing water consumption would be comparable to that for BART vehicles. Given the proposed fleet size of eight vehicles, it is

⁹ John Gee, BART Stations Capital Program, email communication with PBS&J, March 10, 2008.

estimated that 640 gallons of water per day would be used for car washing. Since BART is proposing a car wash system that recycles 60 percent of the water, this estimate of daily water demand for car washing is conservative. Water consumption would not be expected to vary substantially with the different station options at the Hillcrest Avenue Station.

CCWD has an existing annual water supply capacity of 174 mgd and potential future capacity of 217 mgd by 2040. Furthermore, the cities of Antioch and Pittsburg have included the development area and buildout demands in their respective UWMPs, which identify the availability of sufficient water supply to meet future needs projected to future buildout.¹⁰

Even if other water-consuming activities such as landscaping and employee restroom use at the stations and staff building were to exceed the car-washing water consumption by several folds, BART's anticipated water consumption would be significantly less than CCWD's annual water supply capacity. As a result, there would be no need for expanded entitlements to meet the water demand for the Proposed Project. The Proposed Project would therefore have a less-than-significant impact on available water supplies.

Impact UT-2 The Proposed Project would generate negligible amounts of wastewater from maintenance activities such as train cleaning and restroom use. The project's demand for wastewater capacity would be less than significant. (LTS)

Wastewater generated by operation of the Proposed Project would be mainly from train-cleaning activities. As noted in Impact UT-1 above, the Proposed Project's maintenance facility would have the capacity to clean up to eight vehicles daily. According to BART,¹¹ approximately 80 gallons of water are used daily to clean one car, of which 60 percent is recycled within BART's reclamation system. As such, 40 percent would be discharged to the sanitary sewers, meaning that approximately 30 to 35 gallons of wastewater per car per day would be generated. For the fleet of eight cars, daily demand from maintenance activities would be about 280 gallons per day. Even if other wastewater-generating activities, such as employee restroom use at the stations and staff building, were to double or triple this demand, the resulting demand on the wastewater facilities would be negligible compared to the available treatment capacity of 16.5 mgd and future capacity of 24 mgd. Furthermore, the cities of Pittsburg and Antioch are able to accommodate a total dry weather flow at buildout. Also, the cities have planned wastewater infrastructure

¹⁰ Contra Costa Local Agency Formation Commission, *Water and Wastewater Services Review for East Contra Costa County*, 2007.

¹¹ John Gee, BART Stations Capital Program, email communication with PBS&J, March 10, 2008.

improvement projects to correct deficiencies in the existing system under buildout conditions.¹²

Therefore, the Proposed Project would not exceed available wastewater treatment capacity and would have a less-than-significant impact on wastewater treatment capacity.

Construction Impacts

Impact UT-3 In the segment of the Proposed Project within the SR 4 median, construction of the Proposed Project may have significant impacts on utility service. (S)

Construction of the Proposed Project would involve the following activities that have potential to disturb utilities: (1) minor grading for the installation of track sub-ballast, ballast, ties, rails, and an underdrain system;¹³ (2) excavation for the construction of aerial and bridge structures; and (3) grading and excavation for the station platforms, pedestrian walkways, parking areas, and maintenance facilities. Construction of the train control huts and the staff building would involve excavation that would not disrupt utility lines.

Even though construction would occur primarily on the SR 4 median, construction activities may encounter underground natural gas, water, communication sewer utilities or overhead power lines that would need to be relocated. In order to safely relocate utilities, service would need to be temporarily disrupted, which could cause a significant impact depending on the duration of the interruption and the inconvenience to affected customers.

Construction would take place around the DMU-BART transfer platform, but most of the distance between the existing Pittsburg/Bay Point BART Station and the transfer platform would not be affected and would stay in use for BART operations. Construction would extend approximately 800 feet west of the transfer platform, which would be a point approximately 500 feet east of the Contra Costa Canal. No construction would take place in the immediate vicinity of the canal itself.

The station and maintenance facility would be constructed within the SR 4 median. To accommodate a future transit project within the median, Caltrans and CCTA are widening SR 4, constructing new roadway overcrossings, and installing drainage facilities. An Environmental Assessment/Initial Study (EA/IS) was completed in 2005 for the SR 4 widening project (from Loveridge

¹² Contra Costa Local Agency Formation Commission, *Water and Wastewater Services Review for East Contra Costa County*, 2007.

¹³ PGH Wong Engineering, Inc., *East Contra Costa County Transit Project (eBART); Service from Pittsburg to Hillcrest Avenue; Construction Implementation Report*, 2007.

Road to SR 160) and updated in 2008. This assessment identified 53 utilities that would need to be relocated to avoid utility conflicts in a segment from approximately 0.8 miles west of the Loveridge Road to approximately 0.7 miles east of the Hillcrest Avenue.¹⁴ Utilities that would be relocated include power, natural gas, communications, water, and wastewater lines that cross the SR 4 at skewed angles at various locations within the SR 4 right-of-way. The EA/IS reported that no interference to existing utility services would be expected during the realignment of the overhead power transmission lines because PG&E would put customer loads on alternate lines until the connections are reestablished. Furthermore, the EA/IS acknowledged that if unexpected underground utilities are encountered, the construction contractor would coordinate with the utility provider to develop plans to address the utility conflict, protect the utility if needed, and limit service interruptions. Any short-term service interruptions would be scheduled well in advance and appropriate notification would be provided to users.

There is a likelihood of encountering additional utilities during construction of the Proposed Project. Relocation of these utilities could result in additional utility conflicts and potentially significant impacts to utility service. However, BART would be required under the California Government Code (Sections 4216–4216.9) to notify and coordinate with affected utility providers prior to commencement of the construction of the Proposed Project, to minimize project impacts on utility service.

MITIGATION MEASURES. In addition to compliance with California Government Code (Sections 4216–4216.9), the following mitigation measures would ensure that the potential impacts to utilities are reduced to a less-than-significant level. (LTS)

UT-3.1 Restrict service interruptions to off-peak periods. BART shall ensure that the contractor schedules utility work to be performed during periods of off-peak service demand, when the least number of people demand the service. Low demand periods occur during late evening and early morning hours.

UT-3.2 Arrange temporary backup service. If it is not possible to schedule service interruption to avoid inconveniencing customers, BART shall ensure that the contractor coordinates with the responsible utility provider to arrange alternate means of providing service.

¹⁴ Caltrans, State Route 4 (East) Widening Project: Loveridge Road to State Route 160 Revalidation. August 2008.

UT-3.3 Notify customers of service interruptions. Residential and business notifications to commercial and residential customers shall be delivered/mailed at least two weeks in advance of service interruption and shall contain information on the Proposed Project, anticipated schedule for service interruption, likely duration of service interruption, and individuals to contact regarding utility service or other construction-related issues.

Impact UT-4 The proposed facilities that could occur outside of the SR 4 median would require ground disturbance and excavation that would potentially result in utility service interruptions. (PS)

There are other station facilities that are proposed outside of the SR 4 right-of-way: a surface parking lot (2015 and future parking) and maintenance annex north of SR 4, an access road to the parking lot, a short tunnel from the SR 4 median to the maintenance annex, and a pedestrian bridge extending from the station platform to the parking lots to the north. Paving of the access roads and parking area would involve ground excavation and therefore could affect underground utilities. By contrast, construction of the maintenance facility (within the SR 4 median) would involve below-grade work for the foundations. The tailtracks in the SR 4 median and the maintenance annex north of SR 4 would connect via a tunnel which could conflict with underground utilities. Relocation of these underground utilities could consequently result in a significant impact on service.

However, if services need to be interrupted as a result of construction activities, the project would be required under California Government Code (Sections 4216–4216.9) to notify and coordinate with affected utility providers prior to commencement of the construction of the Proposed Project. This would minimize project impacts on utility service.

MITIGATION MEASURES. In addition to compliance with California Government Code (Sections 4216–4216.9), Mitigation Measures UT-3.1, UT-3.2, and UT-3.3 would ensure that potential impacts to utilities are reduced to less than significant. These measures include restricting service interruptions to off-peak periods, arranging temporary backup service, and notifying customers of planned service interruptions. (LTS)

Impact UT-5 Construction activities may lead to rupture of undiscovered oil and gas pipelines along the project corridor; however, state or federal laws require compliance with procedures that would reduce health and safety impacts. (LTS)

Underground utilities, such as oil and gas pipelines, exist in the vicinity of the project corridor. A Preliminary Engineering Utility Report conducted for

BART along the UP ROW identified that there are extensive utility lines along the Mococo Line.¹⁵ The report identified that underground natural gas utilities occur longitudinally within the UP ROW, and include a Chevron pipeline, Kinder Morgan fuel pipeline, gas transmission line, and other fuel transmission lines. The majority of these utilities appear to be on the south side of the ROW. The Preliminary Engineering Report, however, does not include information on potential construction areas outside of the UP ROW.

The Hillcrest Median option would present few risks, since construction activities would occur mostly within the SR 4 median, and utilities will most likely have already been replaced with the construction of the SR 4 widening project. In the event construction activities encounter and rupture an oil and/or a gas pipeline, and an accidental release occurs, BART would respond immediately by reporting the release to a regulatory agency, if required by local, state or federal laws and would follow procedures set forth in emergency plans created to minimize exposure and risk to public health and safety. As such, impacts would be less than significant.

Hillcrest Avenue Station Options Analysis

The Hillcrest Avenue Station options would have similar sized facilities, train-cleaning equipment, number and size of vehicles, as the Proposed Project. Therefore, impacts to water supply and wastewater treatment demand from operation of the Northside West, Northside East, and Median Station East options would generally be the same as those for the Median Station. However, impacts to utility services from construction activities, including ground disturbance and excavation would be different when compared to the Median Station option, as noted below.

Impact UT-6 The proposed facilities that could occur outside of the SR 4 median would require ground disturbance and excavation that would potentially result in utility service interruptions. (PS)

The proposed Northside West, Northside East, and Median Station East options would locate most project components, if not all, north of SR 4, along the UP ROW. The Northside West Station and Northside East Station options would include a tunnel as means for the DMU to access the station facility. The Median Station East would include a tunnel between the station and the maintenance facility. Each of these components could potentially affect utilities and could result in service interruptions.

¹⁵ PGH Wong Engineering, Inc., East Contra Costa County Transit Project (eBART) Service from Pittsburg-Bay Point to Byron. Utility Report, 2007.

Northside West Station Option. This station option would be north of the SR 4 median, alongside the Mococo Line. Construction impacts related to the Northside West Station features (parking area, station area, maintenance facility, and access roads) would be similar to those identified for the Median Station option (i.e., there is a potential to encounter utilities that may need to be relocated and as a result, service could be interrupted). However, there are two considerations related to the Northside West Station option that would result in greater impacts than described for the Median Station. First, the alignment of the station and maintenance facility along the UP ROW increases the likelihood that utilities would be encountered, because pipelines and various utilities commonly parallel rail lines. Second, BART is considering two different ways of connecting these station options to the SR 4 median guideway: a short tunnel or a long tunnel. According to the 2007 Utility Report¹⁶ prepared for the Proposed Project, several underground lines would potentially conflict with the Proposed Project's components, because some of these utility lines run parallel to, and at some locations, cross the project corridor. These utility lines include gas transmission, Chevron and Shell oil ducts, fiber optic lines, storm drains, and water lines. Underground utility gas lines identified in the report range from 2 inches to 36 inches in diameter. The depth of the gas lines is unknown; however, the largest known depth for the gas lines is 5 feet and 6 inches.¹⁷ The Northside West Station option site also contains former petroleum lines located within the UP ROW, including Chevron/Texaco's pipeline that was used to transport heavy petroleum (crude oil and Bunker C fuel oil).¹⁸

The Northside West Station Option could employ the remote maintenance facility east of SR 160, between the SR 4 Bypass and Neroly Road. The remote maintenance facility would be adjacent to the UP ROW and just north of the Contra Costa Canal. The DMU tracks along the UP ROW to the remote maintenance facility could increase the potential to encounter utilities. The maintenance facilities and activities would be set back a reasonable distance from perimeter of the site and from the canal, such that the canal would not be affected.

The short and long tunnel variations would involve major excavation for the construction of either a short or long tunnel and thus have greater potential to

¹⁶ PGH Wong Engineering, *East Contra Costa County Transit Project, Service from Pittsburg Bay-Point to Byron, Utility Report, Preliminary Engineering*, 2007.

¹⁷ PGH Wong Engineering, *East Contra Costa County Transit Project, Service from Pittsburg Bay-Point to Byron, Utility Report, Preliminary Engineering*, 2007.

¹⁸ Engeo Incorporated, *Phase One Environmental Assessment, County Crossings Project Antioch, California*, 2007.

disturb underground gas, oil and communication utilities in the area than the Median Station. It is anticipated that the tunnel approach (for both Northside West and Northside East) would be approximately 30 feet deep. To safely relocate gas, oil and communication utilities, service would need to be temporarily disrupted. Potential relocation of underground oil and gas and communication utilities for construction of the tunnel would result in a disruption of service of more than a few minutes; therefore, resulting in potentially significant impacts.

Northside East Station Option. This option would be sited north of the SR 4 median, alongside the UP ROW and would include similar station features (parking area, station area, maintenance facility, short and long tunnel variations, and access roads) as those identified for the Median Station option and the Northside West Station option. This option would have additional impacts to utilities because of the possibility of encountering utilities similar to those identified for the Northside West Station option, together with additional utilities in the vicinity of the project area such as natural gas pipelines that run from the former PG&E metering station to the northeast of the site. This option would therefore have additional impacts to utilities compared with the Northside West Station option.

As noted above with the Northside West Station Option, the DMU tracks to the remote maintenance facility could increase the potential to encounter utilities along the UP ROW. As with the Northside West Station Option, the maintenance facility setback from the Contra Costa Canal would ensure that the canal would not be affected.

Median Station East Option. The Median Station East option would site the maintenance facility north of SR 4 at the location where the Northside East Station option proposes to site its station. As with the Northside East Station option, the Median Station option would have impacts on utilities such as the natural gas pipeline and the water line in the vicinity of the proposed maintenance facility. This option could, therefore, result in a potential for utility service interruptions.

Regardless of the station option, the project would be required under the California Government Code (Sections 4216-4216.9) to notify and coordinate with affected utility providers prior to commencement of the construction of the Hillcrest Avenue Station options. Adhering to California Government Code (Sections 4216-4216.9) would minimize project's impact on utility service.

MITIGATION MEASURES. In addition to compliance with California Government Code (Sections 4216-4216.9), Mitigation Measures UT-3.1, UT-3.2, and UT-3.3 would ensure that potential impacts to utilities are reduced

to a less-than-significant level. These measures include restricting service interruptions to off-peak periods, arranging temporary backup service, and notifying customers of planned service interruptions. (LTS)

Impact UT-7 Construction activities for the Northside West, the Northside East, and the Median Stations East options may lead to rupture of undiscovered oil and gas pipelines. (PS)

Underground utilities, such as oil and gas pipelines, exist in the vicinity of the project corridor. A Preliminary Engineering Utility Report conducted for BART along the UP ROW identified that there are extensive utility lines along the Mococo Line.¹⁹ The report identified that underground natural gas utilities occur longitudinally within the UP ROW, and include a Chevron pipeline, Kinder Morgan fuel pipeline, gas transmission line, and other fuel transmission lines. The majority of these utilities appear to be on the south side of the UP ROW. The Preliminary Engineering Report, however, does not include information on potential construction areas outside of the UP ROW.

All three station options pose a potential risk of encroaching upon utility lines due to the amount of excavation and grading required for the tunnel options. Utilities in areas outside of the SR 4 median and UP ROW have not been well-documented. Therefore, there is a potential that excavation and grading in these areas may interfere with an undiscovered oil and gas pipeline along the corridor, exposing the public to a potential release. In the event of an accidental release, BART would respond immediately by assessing whether the release must be reported to a regulatory agency, as required by local, state, or federal laws, and would follow procedures set forth in emergency plans created to minimize exposure and risk to public health and safety.

MITIGATION MEASURE. Implementation of the following mitigation measure would ensure that the locations of existing utilities are confirmed prior to conducting ground-disturbing activities along the project corridor. This measure would ensure that potential risk of rupture or explosion would be avoided, reducing the impacts to a less-than-significant level. (LTS)

UT-7.1 Confirm the location of underground utilities prior to ground-disturbing activities associated with project construction. Prior to ground-disturbing activities, construction personnel shall contact the Underground Service Alert (USA) to obtain information on the existence of underground utilities where ground-disturbing activities will take place along the project corridor. USA will notify PG&E

¹⁹ PGH Wong Engineering, Inc., *East Contra Costa County Transit Project (eBART) Service from Pittsburg-Bay Point to Byron*, Utility Report, 2007.

and other utilities so they can identify whether they have underground facilities at the excavation sites. Potential hazards associated with the rupture of pipelines or the discovery of hazardous materials releases from pipelines, as well as emergency procedures to respond effectively to a potential release, shall be included in the Health and Safety Plan for the Proposed Project.

Cumulative Analysis

The regional context of the utility services in the project area is discussed with respect to the alignment of the Proposed Project. In addition, cumulative analysis for this area encompasses the service area covered by CCWD (for drinking water supply) and the DDSD (for wastewater). The geographic area within east Contra Costa County provides a context within which to examine potential cumulative resource impacts on utility services that may result from the Proposed Project in combination with other reasonably foreseeable development. Other foreseeable development would include the growth anticipated by the general plans for the cities of Pittsburg and Antioch, the Specific Plans that the cities of Pittsburg and Antioch are preparing around the proposed station areas, the SR 4 widening project between Loveridge Road and SR 160, and the increase use of the UP ROW for additional freight trains by Union Pacific (UP). Potential development in the cities of Pittsburg and Antioch include 1,845 new residential units and 1,004,000 square feet of commercial space near the Railroad Avenue Station area and up to 2,500 new residential units and approximately 2,150,000 square feet of office and retail space near the Hillcrest Avenue Station area.

Impact *Construction of the Proposed Project in combination with foreseeable*
UT-CU-8 *development projects, the SR 4 widening and the SR 4 Bypass projects, and the*
increased use of the UP ROW by freight trains could have significant impacts
on utility service interruptions. (PS)

Significant impacts on utility service interruptions occur when utilities that may potentially be impacted by ground-disturbing construction activities require relocation.

The Proposed Project would involve ground disturbing activities for site preparation; subsurface excavation for the foundations of the station, maintenance facilities and columns for the aerial structures, tunnels and aerial structures. These activities would encounter underground and overhead utilities, which may require relocation and result in significant impacts to service disruption.

These impacts of the Proposed Project in combination with the future projects described below would require relocation of utilities, and a temporary disruption of service, and thus would have a cumulatively significant impact on utility service.

Construction of residential and commercial development in the cities of Pittsburg and Antioch would involve ground-disturbing construction activities for site preparation and foundations.

Additional use of the UP ROW would not entail excavation and/or ground disturbing activities and would, therefore, not have an impact on utilities service interruption.

The SR 4 widening project would require reconstruction of undercrossings, overcrossings, and interchanges along the SR 4. The SR 4 Bypass would require grading and installation of foundations. As with the SR 4 widening project, the SR 4 Bypass project would affect utilities. The same impacts and mitigation measures identified for the SR 4 widening project were reported in the SR 4 Bypass EIR. The Mitigation Monitoring and Reporting Program for the SR 4 Bypass indicates the need to coordinate with the appropriate public utilities and/or private operators, to schedule relocations to minimize disruptions, and provide public notices in advance of service interruptions.²⁰

The Proposed Project, as well as all other development in the area, would be subject to the California Government Code (Sections 4216–4216.9) which requires notifying and coordinating with affected utility providers prior to ground-disturbing construction activities.

MITIGATION MEASURES. The cumulative projects would be subject to similar California Government Code (Sections 4216–4216.9) as would the Proposed Project, and each project would be required to notify and coordinate with affected utility provider prior to ground-disturbing construction activities. These measures would minimize the impacts of the Proposed Project and the cumulative projects on utility service. Furthermore, implementation of Mitigation Measures UT-3.1, UT-3.2 and UT-3.3, which seek to reduce the duration and timing of service interruptions, would reduce the impact of the Proposed Project on utility service disruption to a less-than-significant level. As such, implementation of these mitigation measures, in combination with Government Code (Sections 4216–4216.9) would reduce the Proposed Project's contribution to this cumulative impact to less than significant. (LTS)

Impact *Implementation of the Proposed Project in combination with foreseeable development projects, SR 4 widening and the SR 4 Bypass projects, and the increased use of the UP ROW by freight trains would result in less-than-significant cumulative impacts on the demand for water. (LTS)*
UT-CU-9

²⁰ State Route 4 Bypass Authority, *State Route 4 Bypass Project Mitigation Monitoring Reporting Program*, December 1994.

Impact UT-1 concluded that water demand for the Proposed Project would be less than significant. Anticipated water demand for the Proposed Project would be minimal in comparison to available and projected water supply as it would be limited to landscaped areas, train washing and restroom facilities. CCWD has an existing annual water supply capacity of 174 mgd and potential future capacity of 217 mgd by 2040. Even if other water-consuming activities like landscaping and restroom use were to exceed the car-washing water consumption by several fold, BART's anticipated water consumption would be significantly less than CCWD's annual water supply capacity.

The projected residential and commercial development in the communities along the project corridor and in the CCWD service area would increase demand for water that could have potential impacts on existing resources.

The City of Pittsburg's General Plan²¹ contains policies that would ensure adequate water supply for planned development. Under Water Policies 3-G-6 and 3-S-10, the City of Pittsburg would maintain an adequate water capacity and distribution system and ensure availability of adequate water supply for the Proposed Project and other future projects.

The Railroad Avenue Specific Plan (Ridership Development Plan) serves as an extension of the General Plan, and provides a framework for guiding future development in the Railroad Avenue Specific Plan Area. The Existing utilities and infrastructure identified in the Specific Plan Area, particularly in the Civic Center and Transit Village sub-areas, are currently sized to support civic, commercial and light industrial uses. Under Utilities and Infrastructure Policies SP7-P-11²², the City of Pittsburg would provide adequate infrastructure (water and wastewater) to support proposed new development and accommodate new medium to high intensity land uses.

The Railroad Avenue Specific Plan (Ridership Development Plan) estimates a projected water demand associated with the estimated population growth of 1,845 new residential units. The projection is based on an estimated consumption rate of 180 gallons per capita per day (gcpd) (per the Standard set by the Pittsburg Water System Master Plan). Based on the projected growth of 1,845 new residential units, the project water demand would increase to an average of 0.7 mgd with a 1.47 mgd maximum demand per day.²³ According to the Specific Plan, the projected increase can be accommodated by the existing systems in place. However, several individual water pipes would need to be upgraded or installed to provide connections to new residential and

²¹ City of Pittsburg, *General Plan; Pittsburg 2020: A Vision for the 21st Century*, 2004.

²² City of Pittsburg, *Railroad Avenue Specific Plan*, 2008.

²³ City of Pittsburg, *Railroad Avenue Specific Plan*, 2008.

mixed-use development. Furthermore, new development projects would be encouraged to implement water conservation measures such as low flow showerheads, faucets and toilets; low flow irrigation systems in public rights-of-way, public parks, and recreation areas; and use drought-resistant plants in all new streetscape areas.

The City of Antioch General Plan designates lands for different land use types and regards the water supply infrastructure as adequate to serve existing and future development. Under General Plan Policies 8.42 (b) the City of Antioch would ensure that adequate infrastructure is in place and operational prior to occupancy of new development, such that new development will not negatively impact the performance of water facilities serving existing developed area.

As identified in the City of Antioch General Plan, CCWD indicates that it has sufficient water supplies to meet projected demand committed through 2040.²⁴ In order to minimize impacts on water demand, the City of Antioch has incorporated water conservation into the City's overall vision. According to Water Resources Policy 10.7.2 (a), the City would ensure the availability of long-term water supplies to serve development requiring new allocations including consideration of peak drought and peak fire fighting needs. Overall, the General Plans and Specific Plans (Ridership Development Plans) take into account a full buildout scenario of the Railroad and Hillcrest Avenues area, and as such, adequate water supply.

Furthermore, the Randall-Bold Water Treatment Plant, which is jointly owned by CCWD and Diablo Water District (DWD), upgraded its production capacity to 40 mgd and has been designed to accommodate future growth and demand to up to 80 mgd. The Randall-Bold Water Treatment Plant is a facility that provides drinking water to residents in east and central Contra Costa County. This additional water source would provide enough water for the anticipated growth in both the City of Pittsburg and City of Antioch, including the Proposed Project.²⁵ Furthermore, the cities of Antioch and Pittsburg have included the development area and buildout demands in their respective UWMPs which identify the availability of sufficient water supply to meet needs projected for future buildout.²⁶

In addition to these important local policies and local developments, the state requires that local land developments demonstrate the availability of a viable,

²⁴ City of Antioch, General Plan, 2003.

²⁵ Contra Costa Water District, Randall-Bold Water Treatment Plan Brochure. www.ccwater.com/files/RandallBoldBrochure.pdf. Accessed April 26, 2008.

²⁶ Contra Costa Local Agency Formation Commission, *Water and Wastewater Services Review for East Contra Costa County*, 2007.

long-term water supply. In particular, SB 610, adopted in 2001, amended the statutes of the Urban Water Management Planning Act, and requires local water suppliers to conduct water supply assessments to determine the availability of water supply for proposed development projects in a long-term cumulative context, under a broad range of water supply scenarios (e.g., under drought conditions). SB 221 requires an affirmative written verification of sufficient water supply for subdivisions of more than 500 dwelling units or where there is an increase of ten percent or more of service connections for public water systems with less than 500 service connections.²⁷ This verification must also include documentation of historical water deliveries for the previous 20 years, as well as a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources in the region. SB 221 enables cities and counties to attach conditions to assure that there is an adequate water supply available to serve the forecasted development as part of the tentative map approval process. While the Proposed Project would not require written verification of water supply, other future residential development projects that are cumulatively significant would require a written clarification of adequate water supply.

In light of these policies and regulations, the cities in the project corridor would make every effort to assure the long-term availability of water to support projected growth in these communities. Furthermore, BART would already include water reclamation processes in its most water-intensive operational activity. Given the small amount of water that BART would require for the Proposed Project and BART's sustainability efforts which would incorporate additional water conservation measures, the Proposed Project's contribution to water demand would not be cumulatively considerable.

Written notification from water service providers demonstrating adequate water supplies for proposed new development as required under SB 221 would ensure adequate water supplies to support development. Furthermore, other development projects, such as the Randall-Bold Water Treatment Plant upgrade would ensure that there is enough capacity to accommodate future growth. Local policies, as set forth in the General Plans and the Specific Plans (Ridership Development Plans) would encourage the implementation of a variety of water conservation measures. As a result and in accordance with CEQA Guidelines Section 15030(a)(3), cumulative water supply impacts are considered to be less than significant.

²⁷ Department of Water Resources. Senate Bill 221. www.groundwater.water.ca.gov/docs/sb_221_bill_20011009_chaptered.pdf. Accessed April 26, 2008.

Impact UT-CU-10 Implementation of the Proposed Project in combination with foreseeable development and SR 4 widening and SR 4 Bypass projects, and the increased use of the UP ROW by freight trains would not result in a cumulative demand for wastewater treatment capacity that could require additional wastewater facilities. (LTS)

The projected residential and commercial development in the communities along the project corridor and in the DDS D service area would increase demand for wastewater treatment that could potentially affect existing capacity. Impact UT-2 found that the Proposed Project would have a less-than-significant impact on wastewater capacity. Anticipated wastewater treatment demand for the Proposed Project would be minimal in comparison with available and projected DDS D wastewater treatment capacity. The main source of the Proposed Project's wastewater would be from train washing and other maintenance facility activities, and BART staff restroom facilities. As such, impacts on wastewater facility from the Proposed Project would be less than cumulatively considerable.

The SR 4 widening and SR 4 Bypass projects, as well as the increase use of the UP ROW by Union Pacific would have no wastewater treatment demand. The nature of these projects is road improvements, and as such, no wastewater is anticipated as a result of these projects.

The City of Pittsburg's General Plan contains policies that would ensure adequate wastewater treatment capacity for planned development. Under Sewer Policies 3-G-7 and 3-S-13, the City of Pittsburg would maintain an adequate sewer collection and treatment system to serve current all proposed development projects. The Railroad Avenue Specific plan projects that wastewater demand associated with the proposed development for the 1,845 new residential units and the 1,004,000 square feet of additional commercial and office space would generate 370,000 gallons of wastewater per day.²⁸ According to the Specific Plan, this increase can be accommodated within the existing system. However, several individual wastewater pipes would need to be upgraded or installed to provide hook-ups for the new development areas.

Similarly, under the City of Antioch's General Plan Wastewater Management Policy (Section 8.5.2), the City would ensure that adequate structures are in place and operational prior to occupancy of new development, such that new development would not negatively impact the performance of sewer facilities. DDS D has adopted a district Master Plan that includes phased treatment plant

²⁸ City of Pittsburg, Railroad Avenue Specific Plan, 2008.

expansion to ultimately provide 24.0 mgd in order to accommodate anticipated General Plan buildout for the cities of Pittsburg and Antioch.²⁹ Furthermore, the cities of Pittsburg and Antioch are able to accommodate a total dry weather flow at buildout. Also, the cities have planned wastewater infrastructure improvement projects to correct deficiencies in the existing system under buildout conditions.³⁰ Because the cumulative wastewater demand is essentially identical to the demand from growth in the cities of Pittsburg and Antioch and DDS has plans to expand wastewater treatment facilities to meet this demand, cumulative wastewater impacts are considered less than significant.

²⁹ City of Pittsburg, General Plan; Pittsburg 2020: A Vision for the 21st Century, 2004.

³⁰ Contra Costa Local Agency Formation Commission, *Water and Wastewater Services Review for East Contra Costa County*, 2007.

**Table 3.14-1
Major Utility Locations along the Project Corridor**

Location	From	To	Description of Utility	Direction	Comments	Type	Relocate
Route 4	243+65	243+65	Electrical Line	TR			No
Route 4	243+60	258+60	Transmission Line	LE	21 kilovolt (kV), 60kV		Yes
California Avenue	100+50	103+50	Electrical Line	PA		Includes six new poles	Yes
California Avenue	104+10	104+70	Electrical Line	TR		Includes two new poles	Yes
SR 4	244+05	256+90	Gas Line	LE/PA	24"	24", relocate to the north side of California Avenue and between North Park Blvd and Westbound SR 4	Yes
SR 4	247+10	247+10	Water	TR	10"	Relocate 18" ACP to avoid conflict with pumping plant	Yes
SR 4	248+60	249+20	Water	TR	10"	10" pipe may have to be extended to the north	No
SR 4	248+65	250+20	Sanitary sewer	TR	36"	Underground	No
SR 4	250+20		Sanitary sewer	TR	8"	Underground	No
SR 4	250+70	252+10	Sanitary sewer	TR	36"	Underground	No
					(Equilon) 18"		
				TR	4" crude oil-(8" casing)	Underground	
SR 4	258+40		Oil lines		Chevron 12" oil 8" oil (idle) 10" oil (idle) 6" oil (1951 as built)	Overhead	No

**Table 3.14-1
Major Utility Locations along the Project Corridor**

Location	From	To	Description of Utility	Direction	Comments	Type	Relocate
SR 4	258+40		Natural gas lines	TR	12" Tosco (Union Island gas line) Chevron # 2, 12" 4" unknown pressure (1951 as built) 10" in 18" casings- Equilon 10" Calpine	Underground	No
SR 4	258+40		Water Lines	TR	15" water- <i>CCWD/USBR Lateral 14.0</i> 12" water to US Steel 2" water- Chevron 4"-1951 as built	Underground	No
Century/ SR 4	259+00		Electrical Line		One active line in one conduit (voltage unknown), ad four spare 6" PVC conduits (PG&E)	Underground	No
Century Road/ SR 4	259+00		Sanitary sewer	TR	15" sewer in 16 " steel casing	Underground	No
SR 4	260+40	266+50	Electrical Line	LE	Includes 10 new poles	Overhead	Yes
SR 4	268+70	272+20	Sanitary sewer	PA	Next to Kaiser Permanente Hospital in existing utility easement	Underground	Yes
SR 4	268+70	269+90	Sanitary sewer	PA	Size unknown	Underground	Yes
SR 4	267+00	270+40	Water	PA	Size unknown	Underground	Yes
SR 4	268+70		Sanitary sewer	TR	10"		Yes
SR 4	273+50	2776+00	Gas Line	PA	24"conduit. Relocate north of westbound on-ramp at Somersville	Underground	Yes
SR 4	274+90	275+60	Electrical line	PA	Includes two new poles	Overhead	Yes
SR 4	274+50	276+40	Transmission line	LE	21kV, 60kV	Overhead	Yes

**Table 3.14-1
Major Utility Locations along the Project Corridor**

Location	From	To	Description of Utility	Direction	Comments	Type	Relocate
Somersville Road	101+60	106+20	Electrical line	PA	Includes seven new poles	Overhead	Yes
Somersville Road	101+30	102+70	Water	PA	Size unknown	Underground	Yes
Somersville Road	102+70	103+60	Water	PA	Relocate to avoid column with column/footing	Underground	Yes
Somersville Road	103+60	105+10	Water	PA	Size unknown	Underground	No
Somersville Road	101+30	102+70	TV/Cable	PA		Underground	No
Somersville Road	102+70	103+60	TV/Cable	PA	Relocate to avoid conflict with footing	Underground	Yes
Somersville Road	103+60	105+10	TV/Cable	PA	Data line	Underground	No
Somersville Road	101+30	105+10	Telephone	PA		Underground	No
SR 4	275+05	279+45	Electrical Line		Includes eight new poles		Yes
SR 4	286+95	292+10	Transmission Line	LE	21kV, 60kV. Includes five new small towers	Overhead	Yes
SR 4	287+90	292+20	Gas Line	PA	24 " conduit in 30" casing	Underground	Yes
SR 4	287+40	290+40	Electrical Line	PA	Runs along eastbound off-ramp to L-street	Overhead	Yes
Contra Loma/L Street	100+60	102+35	Water	PA		Underground	No

**Table 3.14-1
Major Utility Locations along the Project Corridor**

Location	From	To	Description of Utility	Direction	Comments	Type	Relocate
Contra Loma/L Street	100+60	102+35	Telephone	PA	Data Line	Underground	No
Contra Loma/L Street	100+60	102+35	Sanitary Sewer	PA		Underground	No
Contra Loma/L Street	100+60	102+35	Electrical Line	PA	Possibly TV line	Underground	No
Contra Loma/L Street	100+60	102+35	Gas Line	PA	4" conduit in 8" casing	Underground	No
Contra Loma/L Street	100+20	102+50	Electrical Line	PA	Includes six new poles	Overhead	Yes
SR 4	293+40	296+00	Transmission Line	LE	21kV, 60kV		Yes
SR 4	295+30	295+30	Gas Line	TR	24 " conduit in 30" casing	Underground	Yes
"G Street"	101+70	103+00	Gas Line	PA	6" conduit (casing on bridge)	Utility on Bridge Structure	Yes
"G Street"	101+70	103+00	Water Line	PA	Casing on bridge structure	Utility on Bridge Structure	Yes
SR 4	300+45	300+55	Telephone	TR	Data line	Underground	No
SR 4	300+45	300+55	Electrical Line	TR	Local line	Overhead	No
SR 4	300+45	300+55	Gas Line	TR	4" conduit in 8" casing	Underground	No
SR 4	300+45	300+55	Gas Line	TR	6" conduit in 10" casing	Underground	No
SR 4	302+25		Water	TR	On Drake Street from transverse water line	Underground	No

**Table 3.14-1
Major Utility Locations along the Project Corridor**

Location	From	To	Description of Utility	Direction	Comments	Type	Relocate
SR 4	302+25	303+70	Water	PA		Underground	Yes
SR 4	302+50	303+70	Water	PA	On Drake Street	Underground	Yes
SR 4	302+70	303+70	Sanitary Sewer	PA	On Drake Street	Underground	Yes
SR 4	302+50	303+50	Gas Line	PA	4" between westbound ramp on-ramp at A Street & Drake Street	Underground	Yes
SR 4	302+70	303+30	TV/Cable	PA	North side of Drake Street	Underground	Yes
SR 4	302+70	303+30	Electrical Line	PA	North side of Drake Street	Overhead	Yes
SR 4	303+70	305+45	Gas Line	TR	24" conduit, STANPAC No. 5	Underground	No
SR 4	303+70	304+70	Gas Line	TR	34" conduit, line 191	Underground	No
SR 4	303+70	304+60	Gas Line	TR	8" conduit	Underground	No
SR 4	303+70	304+60	Electrical Line	TR	Includes three new poles	Overhead	Yes
A Street	22+20	24+40	Electrical Line	PA	Voltage unknown (along A Street)	Underground	No
A Street	22+20	24+40	Telephone	PA	Data Line (along A Street)	Underground	No
SR 4	303+80	306+50	Electrical Line	PA	Includes nine new poles (Bryan Ave to Sunset Drive)	Overhead	Yes
SR 4	304+85	305+20	Gas Line	PA	2" conduit (from Sunset Drive to Bryan Avenue)	Underground	Yes
SR 4	305+30	306+35	Gas Line	PA	4" conduit in 6" casing, on Bryan Avenue to A Street	Underground	Yes
SR 4	305+00	305+30	Sanitary Sewer	PA	On Bryan Ave cul-de-sac	Underground	Yes
SR 4	305+00	305+30	Water	PA	On Bryan Ave cul-de-sac	Underground	Yes
SR 4	306+10	306+45	Sanitary Sewer	PA	On Sunset Drive cul-de-sac	Underground	Yes
SR 4	305+30	306+40	Water	PA	From Bryan Ave to Sunset Drive cul-de-sac	Underground	Yes

**Table 3.14-1
Major Utility Locations along the Project Corridor**

Location	From	To	Description of Utility	Direction	Comments	Type	Relocate
A Street	22+20	22+30	Sanitary Sewer	PA	24" conduit in 30" casing	Underground	Yes
SR 4	311+90	312+70	Transmission line	TR	21kV, 60kV	Overhead	No
SR 4	311+90	312+70	Gas Line	TR	34"conduit in 42" casing	Underground	No
SR 4	316+50		Sanitary sewer	TR	20"	Underground	No
SR 4	317+50		Electrical Line	TR	Local line	Overhead	No
SR 4	317+95		Transmission Line	TR	21kV, 60kV (independent line)	Overhead	No
SR 4	318+10		Transmission Line	TR	21kV, 60kV (independent line)	Overhead	No
SR 4	312+10		Water Line	TR	34"conduit in 42" casing	Underground	No
					On proposed southbound bridge structure-four lines:		
Hillcrest Avenue	100+00	100+55	Electrical Line	PA	Two 3-1000A XOL/CONC.PVC 6" 21kV Two 3-1000A EPR 21kV 6"	Utility on Bridge Structure	No
Hillcrest Avenue	100+55	102+35	Electrical Line	PA	Data Line (along A Street)	Utility on Bridge Structure	Yes
Hillcrest Avenue	102+35	103+10	Electrical Line	PA	Includes nine new poles (Bryan Ave to Sunset Drive)	Utility on Bridge Structure	No
Hillcrest Avenue	100+00	103+10	TV/Cable	PA		Underground	No
Hillcrest Avenue	100+55	102+35	Gas Line	PA		Utility on Bridge Structure	Yes
SR 4	324+55		Transmission Line	TR	Voltage unknown (independent line)	Overhead	No

**Table 3.14-1
Major Utility Locations along the Project Corridor**

Location	From	To	Description of Utility	Direction	Comments	Type	Relocate
SR 4	325+55		Transmission Line	TR	Voltage unknown (independent line)	Overhead	No
SR 4	327+70	327+80	Water	TR	CCWD/USBR lateral 9.1	Underground	No
SR 4	327+70	327+80	Water	TR		Underground	No
SR 4	303+70	305+10	Transmission Line	TR	21kV, 60kV	Overhead	No
SR 4	258+60		Transmission Line	TR	Voltage unknown	Overhead	No
SR 4	258+30		Water	TR	14" water (Pittsburg)	Underground	No
SR 4	259+90	261+00 plus	Water	LE/PA	14" water (Pittsburg)	Underground	TBD

Source: Caltrans. State Route 4 (East) Widening Project. Loveridge Road to State Route 160 Negative Declaration/Initial Study- Environmental Assessment/Initial Study, 2005.

Notes:

TR = Transverse Direction – Crosses SR 4

PA = Parallel Direction – Parallel to but outside of the right-of-way

LE = Longitudinal Encroachment – Parallel to but encroaching on the right-of-way