



## San Francisco Bay Area Rapid Transit District

300 Lakeside Drive, P.O. Box 12688  
Oakland, CA 94604-2688

### INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

**Project:** Central Contra Costa County Crossover Project

**Sponsor and  
Lead Agency:** San Francisco Bay Area Rapid Transit District (BART)

**Location:** BART right-of-way, west of Jones Road, City of Walnut Creek, Contra Costa County

**Contact Person:** Steve Kappler, Project Manager  
**Phone:** (510) 287-4825

**Project Description:** The BART system is one of the most vital transportation links in the four Bay Area counties it serves, carrying an average of 310,000 passenger trips every weekday. The most heavily traveled BART line is the Pittsburg/Bay Point to Daly City line, which serves Central Contra Costa County. In order to increase reliability and efficiency, BART is proposing two track crossovers that would be located on the existing BART alignment between the Pleasant Hill and Walnut Creek BART stations. Project benefits would include increased service in the Walnut Creek-Pleasant Hill area, increased flexibility in operational and delay management, maintenance advantages, reduced cost of waiting trains, and a better allocation of resources.

A crossover is special trackwork that allows a train to cross from one track to a second track. Two crossovers are proposed. The northern crossover would be constructed approximately 2,200 feet south of the Pleasant Hill BART Station, and the southern crossover would be constructed approximately 5,500 feet south of the Pleasant Hill Station. The crossovers consist of new rails connecting the existing parallel tracks, switches, and switch control equipment. A sound wall would be provided on the east side of the each crossover. In addition to the special trackwork, a traction power gap breaker station would be required for each crossover. The gap breaker station for the northern crossover would be located on the east side of the BART alignment and accessible from Jones Road. There are two options for the location of the southern gap breaker station. The original crossover plan, known as Option A, located the southern gap breaker station on the east side of the BART alignment adjacent to Jones Road. At the request of local community members, a second gap breaker location (Option B) has been assessed on the west side of the BART alignment, adjacent to Lawrence Way. This Initial Study/Mitigated Negative Declaration evaluates both location options for the southern gap breaker station. All improvements would be within the existing BART right-of-way.

**Project Area:** The proposed Central Contra Costa County Crossover project is located on a portion of the BART alignment adjacent to Interstate 680 and slightly southeast of the Interstate 680-Geary Road/Treat Boulevard interchange. This area is within the City of Walnut Creek and a portion is adjacent to a small, unincorporated portion of Contra Costa County. The project site is bound by Interstate-680 and the City of Walnut Creek's corporation yard to the west, Jones Road to the east, Treat Boulevard to the north, and Parkside Drive on the south. In this area, I-680 and the BART alignment form a north-south running transportation corridor through an urbanized environment.

**General Plan and Zoning:** The local jurisdictions are the City of Walnut Creek and Contra Costa County. Walnut Creek has not given the BART alignment a general plan designation; however, the alignment does traverse a variety of Walnut Creek zoning districts, including M-25 (Multi-family residential), C-F (Community Facility) and A-S (Auto Sales and Service). Contra Costa County has designated the BART alignment as PS (Public/Semi-Public).

**Copies of the Initial Study/Mitigated Negative Declaration:** Copies of the document can be obtained by calling the BART Central Contra Costa County Crossover project information line at the following number and leaving information on how you may be contacted: (925) 603-5321. A copy of the document will be mailed to you. Copies of the Initial Study/Mitigated Negative Declaration can also be reviewed on the BART website at [www.bart.gov/crossover](http://www.bart.gov/crossover). Copies are available for review at the Walnut Creek Library, located at 1644 North Broadway, the Central Pleasant Hill Library, located at 1750 Oak Park Boulevard, or the BART offices at 300 Lakeside Drive, 9<sup>th</sup> Floor, Oakland, California, 94612.

**Public Meeting:** BART held a public hearing to receive public comments on the Draft Initial Study/Mitigated Negative Declaration on Thursday, December 8, 2005 at Buena Vista Elementary School, which is located at 2355 San Juan Avenue, Walnut Creek, California. The public hearing began at 6:30 p.m.

**Comments on the Draft Initial Study/Mitigated Negative Declaration:** The comment period was originally scheduled from November 23 through December 23, 2005. At the request of local community members, the comment period was extended to January 10, 2006. Comments were received at the public hearing, in writing, by Fax, and by email. Email comments were accepted at: [contracostacountycrossoverproject@bart.gov](mailto:contracostacountycrossoverproject@bart.gov). Written comments were accepted by fax at (510) 464-6539 or mailed to the following address:

San Francisco Bay Area Rapid Transit District  
 Attention: Steve Kappler  
 MS-LKS-9  
 P.O. Box 12688  
 Oakland, CA 94604-2688

All questions regarding the Central Contra Costa County Crossover, or the Initial Study/Mitigated Negative Declaration, can be directed to the project information telephone line: (925) 603-5321.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

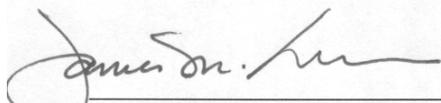
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. For each impact identified, mitigation measures have been incorporated into the project to reduce that impact to a less-than-significant level.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture Resources	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Geology / Soils

<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation	<input checked="" type="checkbox"/> Transportation / Traffic
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**DETERMINATION:** On the basis of this initial evaluation ≥

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

  
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 for Steve Kappler, Project Manager, BART

Nov. 27, 2005  
 \_\_\_\_\_  
 Date

## Project Description

### The BART System

The San Francisco Bay Area Rapid Transit (BART) District is a special district created by the California Legislature in 1957. The BART system has been in operation since 1972 and currently operates in four Bay Area counties: San Francisco, Alameda, Contra Costa, and San Mateo. A board of nine publicly elected directors governs the BART District.

As illustrated on Figure 1 (BART system map), the BART system is one of the most vital transportation links in the Bay Area counties it serves, carrying an average of 310,000 passenger trips every weekday. The system consists of 104 miles of revenue track and 43 stations. BART employs more than 3,300 workers and has an annual operating budget of \$475 million.

The most heavily traveled BART line is the Pittsburg/Bay Point to Daly City line. The original line opened for transbay service as the Concord Line (C-Line) in 1974 and connected Concord Station with Daly City. In 1996 the Concord Line was expanded with the addition of three new BART stations: North Concord/Martinez, Pittsburg/Bay Point, and Colma. In 2003, the San Francisco International Airport Extension was completed adding four more stations to the system: South San Francisco, San Bruno, San Francisco International Airport, and Millbrae.

### Project Background

With seven new stations added to the BART system since 1995, it is of paramount importance to the BART District that the service along the line be reliable and efficient. For years, BART has studied various potential improvements to the C-Line to increase reliability and efficiency. To this end, BART is proposing two track crossovers that would be located between the Pleasant Hill and Walnut Creek stations.

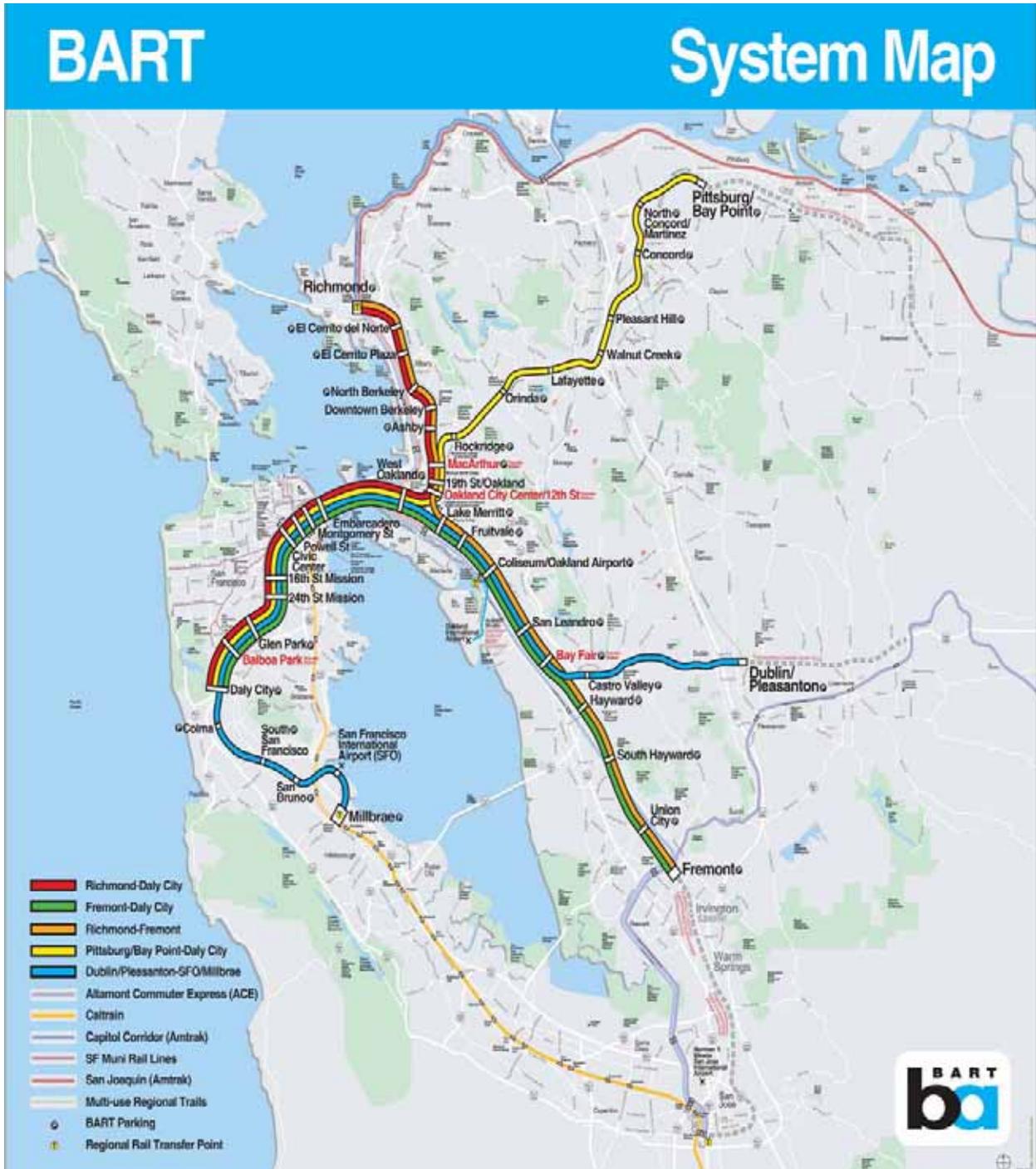
The original BART system track plan from 1972 provides two parallel tracks between Walnut Creek and Pleasant Hill stations but does not provide a means to cross from one track to the other between the two stations. As passenger loads have increased over more than 30 years of operation, this deficiency has proved to not only cause operational problems during a train failure, but means that the BART District must dispatch an extra train from the Concord Yard for service between Pleasant Hill Station and San Francisco in order to maintain published headway times or turn trains back at Concord Station.

In October 2002, the BART District completed the Pleasant Hill/Richmond Crossover Study<sup>1</sup>. The study evaluated the impacts to the BART system of adding two new crossovers between Pleasant Hill and Walnut Creek stations and identified a range of benefits if two new crossovers are added to the Concord Line. These benefits include increased service in the Walnut Creek-Pleasant Hill area, increased flexibility in operational and delay management, maintenance advantages, reduced cost of waiting trains, and a better allocation of resources.

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<sup>1</sup>San Francisco Bay Area Rapid Transit District, Pleasant Hill/Richmond Crossover Study, October 21, 2002

Figure 1  
BART System Map



## Project Purpose

The purpose of the crossover project is to allow BART trains to move between the two existing (northbound and southbound) BART tracks at a location between Pleasant Hill Station and Walnut Creek Station. (See Figure 2, Schematic of Proposed Crossover Design). Currently, the closest existing crossovers to the project site are at Lafayette and between Pleasant Hill Station and the Concord Yard.

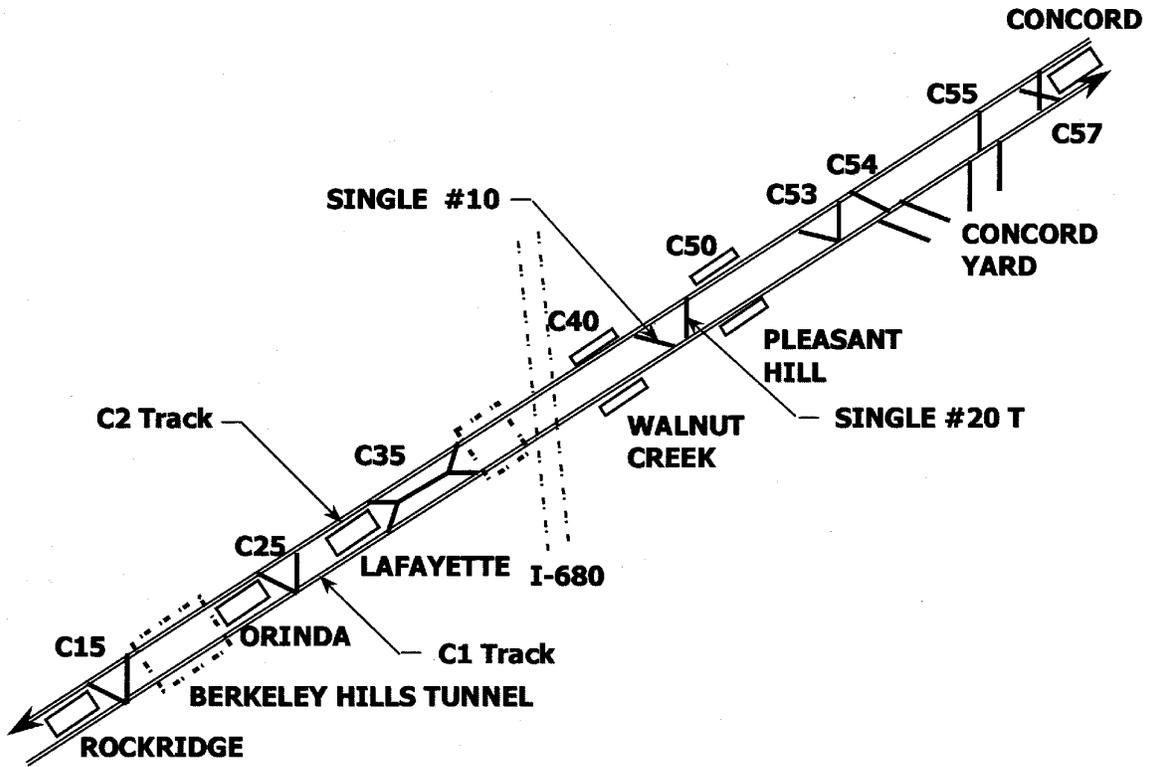
*Short-turning trains.* Current train operating plans require most Concord Line trains to proceed all the way to Pittsburg/Bay Point Station, but a few peak period trains terminate their runs at Pleasant Hill Station. This is known as “short-turning.” Short-turn trains provide increased seating capacity for Oakland-San Francisco bound passengers in the Walnut Creek-Pleasant Hill area, rather than continuing all the way to Pittsburg-Bay Point with decreasing passenger loads. In order to short-turn a train, the northbound train leaving Pleasant Hill Station will terminate service and use the existing crossover south of Concord Station to transfer tracks and return to southbound revenue service at Concord. While the short-turning train is in progress, an additional train is dispatched from Concord Yard to fill the slot in front of the short-turn train. There are currently six daily peak trains that short-turn from Concord Station to provide service between Pleasant Hill and Montgomery (San Francisco) stations.

A new crossover south of Pleasant Hill station would enable those trains to cross from the northbound to the southbound track and reverse at the Pleasant Hill Station platform, as opposed to continuing to Concord. This would reduce peak car requirements by freeing up a 10-car train that would otherwise be needed to keep the schedule. The train(s) saved can be redeployed to increase peak service. For off-peak and weekend service, the crossover would allow 15-minute headways instead of the current 20 minutes. Reduced headway on the Concord Line would mean increased train frequency and less waiting for passengers.

*Delay Recovery.* A major benefit of the crossover project is in delay recovery during daily service. Currently, if a train is disabled between Walnut Creek Station and Pleasant Hill Station, there is no way to reroute following trains around the disabled vehicles. By providing a potential pathway around a disabled train, the crossovers will enable BART to more readily route trains around the failed train, thus minimizing delay to passengers and speeding the system’s return to normal service.

*Improved maintenance and allocation of resources.* More short-turn trains result in fewer car hours and car miles, and reduce operating costs and wear-and-tear on BART vehicles. Additionally, these crossovers will improve maintenance access to the system by increased single-tracking capability. If BART can provide the same level of service and put one less ten-car train in the system, this saves the District the cost of a ten-car train.

Figure 2  
Schematic Illustration of Crossover



## Project Location

The proposed Central Contra Costa County Crossover project is located on a portion of the BART alignment between the Pleasant Hill Station and the Walnut Creek Station, adjacent to Interstate 680 (I-680) and slightly southeast of the Interstate 680-Geary Road/Treat Boulevard interchange. This location is within the City of Walnut Creek and a portion of the northern crossover is adjacent to a small, unincorporated portion of Contra Costa County. See Figure 3 (Project Area Map).

## Existing Environment

The two crossovers would be constructed on an existing BART railroad embankment located between Interstate 680 and Jones Road. The earthen embankment is raised approximately 10 to 20 feet above the level of Jones Road and the surrounding landscape. The project area is largely defined by Treat Boulevard to the north, Parkside Drive to the south, Oak Road to the east, and North Main Street to the west. (See Figure 4, Aerial Photograph.) In this area, I-680 and the BART alignment form a north-south running transportation corridor through an urbanized environment.

I-680 and existing commercial development lie to the west of the northern crossover, and Jones Road and residential developments lie to the east. The Palmer School, a private school serving elementary and middle school students, is approximately 300 feet to the northeast of the northern crossover. The Contra Costa Canal flows east to west through the center of the northern crossover site. In this location, the canal is in a covered channel (siphon) under Jones Road and the BART embankment. A pedestrian trail and bicycle path operated by the East Bay Regional Park District is adjacent to the Contra Costa Canal on the north.

The southern crossover is located adjacent to Jones Road between Pimlico Drive and Churchill Downs. Lawrence Road and retail auto sales and service lie to the west and multi-family residential development lies to the east. The City of Walnut Creek's corporation yard is approximately 250 feet to the northwest.

## Technical Description

The Contra Costa Crossover project would consist of constructing two crossovers, separated by approximately 3,300 feet (0.63 miles). The crossovers require a straight length of at-grade track without any horizontal or vertical curves. The proposed locations for the two crossovers are the only segments of track between Walnut Creek Station and Pleasant Hill Station that fit the criteria.

Crossovers are identified by the type of track turnout required. The northern crossover would be constructed of two No. 20 tangential turnouts.<sup>2</sup> The southern crossover consists of two No. 10 turnouts.<sup>3</sup> The crossovers consist of new rails connecting the existing parallel tracks, switches, and switch control equipment. This additional track and mechanisms would be at grade on the existing BART embankment.

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<sup>2</sup> A No. 20 turnout moves the track 1 foot over for every 20 feet forward. A moderate speed turnout.

<sup>3</sup> A No. 10 turnout moves the track 1 foot over for every 10 feet forward. A low speed turnout.

**Figure 3**  
**Project Location Map**

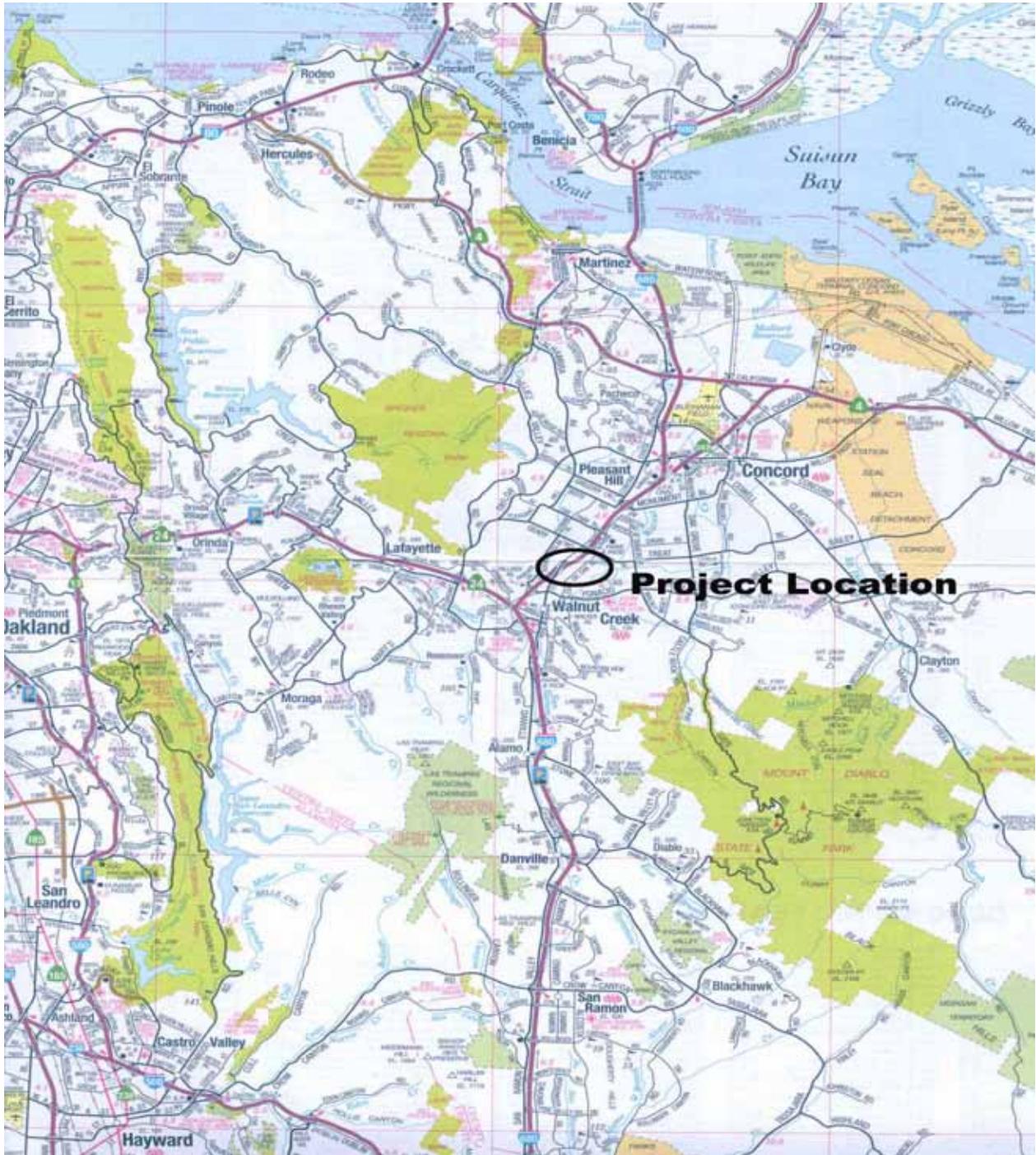
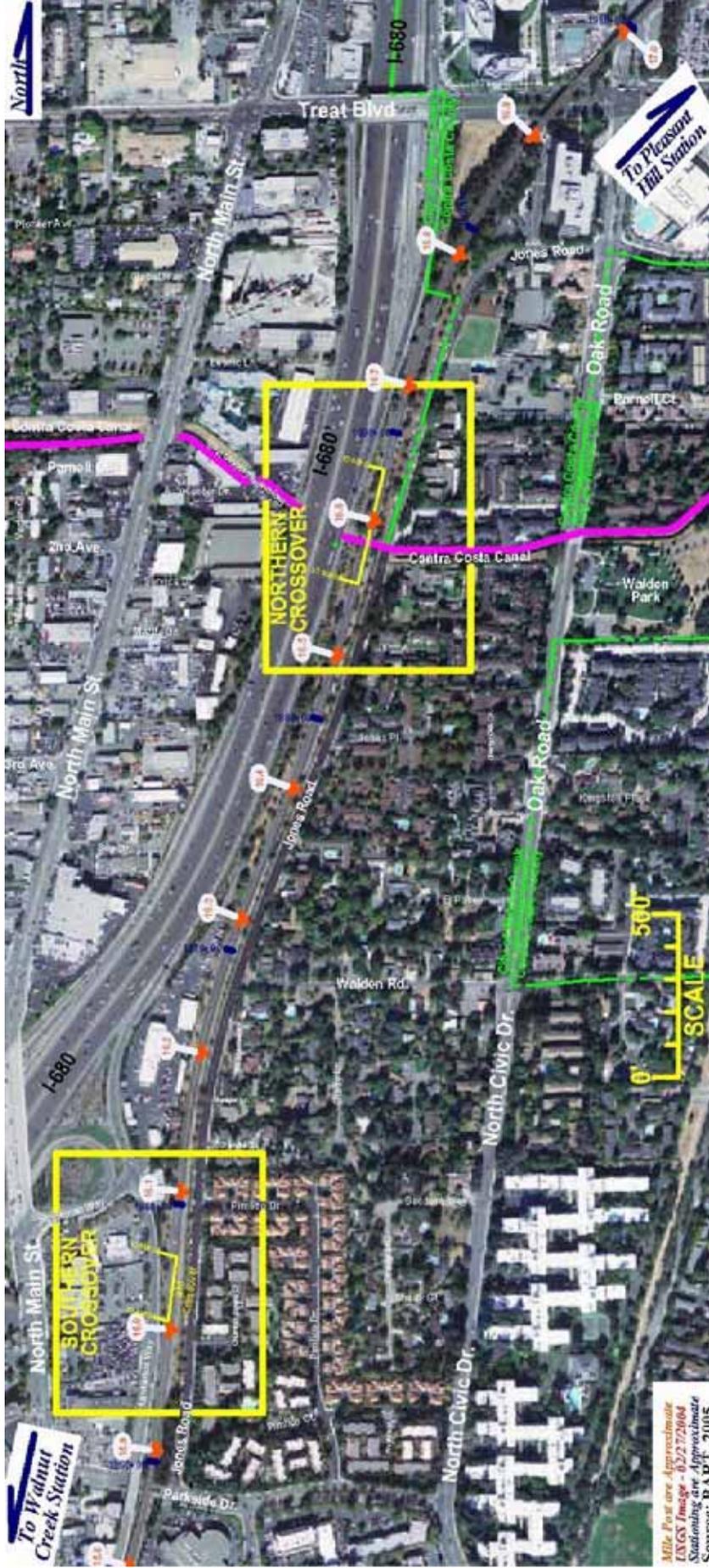


Figure 4  
Aerial Photo – Project Area



In addition to the special trackwork, a number of ancillary systems would be needed for the project. Installation of the two crossovers will require modification to the BART train control, traction power,<sup>4</sup> and communication systems. The operational computer software also would have to be revised. A traction power gap breaker station<sup>5</sup> would be required near each crossover. In addition, the California Public Utilities Commission (PUC) requires that all new turnout construction provide a 6-foot wide (minimum) trackside walkway.

*Northern Crossover.* The northern crossover is located along the BART alignment and would be centered approximately 2,200 feet south of the end of the Pleasant Hill Station platform, approximately over the Contra Costa Canal. (See Figure 5, Site Plan.) The special track work associated with the northern crossover is approximately 500 feet in length.

To create the embankment width necessary for the 6-foot trackside walkway, two small retaining walls would be built along each side of the BART embankment. Each retaining wall would be approximately 3 feet high. (Figure 6, Cross Sections).

The traction power gap breaker station would be located within an at-grade retained cut on Jones Road, slightly north of the Contra Costa Canal and the East Bay Regional Park District pedestrian and bicycle trail. The retained cut (approximately 50 feet long and 25 feet wide) would be made in the railroad embankment to create a level area of sufficient size and distance from Jones Road. The retained cut essentially would be a three-sided box constructed of concrete retaining walls with a concrete floor and no top. The traction power gap breaker station itself would be a metal building approximately 18 feet wide, 28 feet long, and 12 feet high, which would sit on the concrete pad within the retained cut. Two parking spaces would be provided adjacent to the gap breaker station with direct access from Jones Road. The gap breaker station would be enclosed and separated from Jones Road by a gate and 10-foot high chain link fence along the BART property line, similar to the 7-foot high fence that currently borders the BART right-of-way. The 10-foot high fence in front of the gap breaker station would be treated with redwood slats or other fencing treatment to provide greater visual screening. Additional landscaping would be provided to screen the gap breaker station as safety and the site plan allow.

A sound wall would be provided to mitigate any additional noise generated by the crossover. The sound wall would be approximately 480 feet long and centered on the crossover. It would be located along the east side of the BART tracks at the top of the embankment and would be approximately 8-feet high (6 feet above top of rail). If a small retaining wall is necessary to provide the trackside walkway, the combined height of the retaining wall and sound wall would be approximately 9 to 10 feet high. The sound wall and short retaining wall would be of a decorative material of similar design quality to that illustrated in Figure 10 of the aesthetics discussion.

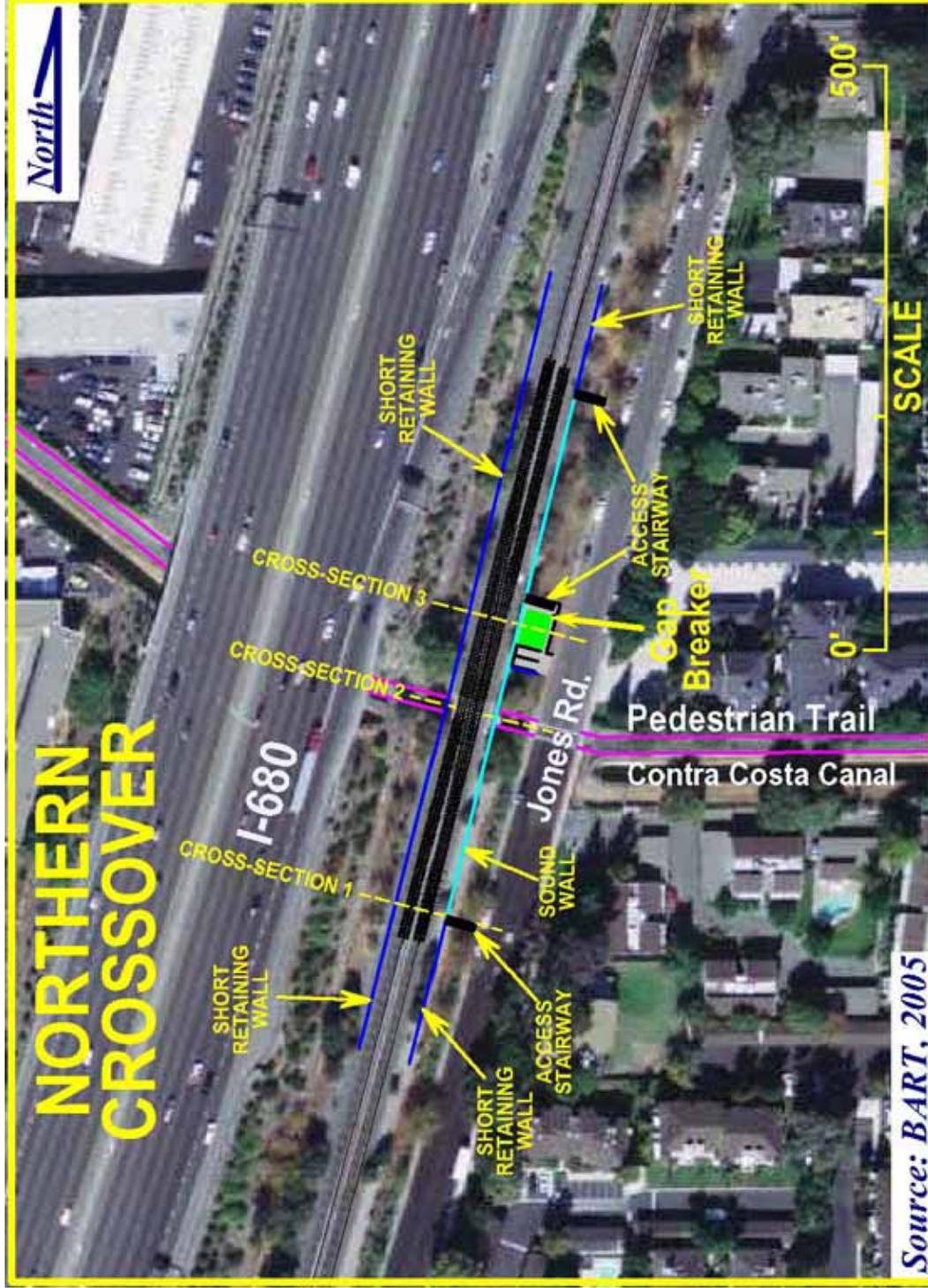
The Contra Costa Canal is a concrete lined channel that flows under Jones Road and the BART embankment in a siphon. The proposed crossover would not add any additional weight to the canal's structure. No alterations to the canal would be necessary. The East Bay Regional Park District pedestrian and bicycle trail follows the north side of the Contra Costa Canal. Currently, the trail passes through the BART embankment in a tunnel. The proposed project is would not require any changes to the trail or tunnel.

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<sup>4</sup> Traction power refers to the electric power system that provides propulsion power for BART trains via an electric third rail.

<sup>5</sup> A gap breaker station houses gap breakers which are used to control electrical power to BART's third rail. The gap breakers sectionalize the third rail, removing power from segments of the third rail during track emergencies or wayside work, while maintaining it in others.

Figure 5  
Site Plan – Northern Crossover



*Southern Crossover.* The southern crossover would be located on the BART alignment approximately 5,500 feet south of the Pleasant Hill Station platform, between Pimlico Drive and Churchill Downs (Figure 7A, Site Plan-Southern Crossover). The special track work for the crossover is approximately 200 feet in length.

Similar to the northern crossover, the southern crossover would require two turnouts, trackside walkway, traction power gap breaker station, and sound wall (Figure 8A, Cross Sections – Southern Crossover). Two short retaining walls would be constructed on either side of the tracks, and the existing embankment widened slightly to accommodate the trackside walkways.

As with the northern crossover, the traction power gap breaker station would be a metal building (approximately 18 feet wide, 28 feet long, and 12 feet high) located at-grade in a retained cut (approximately 50 feet long, 25 feet wide). There are two options for the location of the southern gap breaker station. The first, Option A, would place the gap breaker station on the east side of the BART alignment along Jones Road. Two parking spaces would be provided alongside the gap breaker station with direct access from Jones Road. The gap breaker station would be enclosed and separated from Jones Road by a gate and 10-foot high chain link fence along the BART property line, similar to the 7-foot high fence that currently borders the BART right-of-way. The 10-foot high fence in front of the gap breaker station would be treated with redwood slats or other fencing treatment to provide greater visual screening. Additional landscaping would be provided to screen the gap breaker station as safety and the site plan allow.

The second location for the southern gap breaker station, Option B, was added to this IS/MND at the request of community members in the project area. Option B would place the gap breaker station on the west side of the BART alignment, just south of the Walnut Creek corporation yard between the BART tracks and Lawrence Way. (See Figure 7B, Option B site plan.) Access to the west-side gap breaker station would be from the existing intersection of Lawrence Way and Pinneman Way over property owned by the City of Walnut Creek. No new access points from Lawrence Way would be necessary. Two on-site parking spaces would be provided adjacent to the gap breaker station. No city-related parking would be lost. A retained cut approximately 50 feet long adjacent to the west side of the BART tracks would be required for the gap breaker station itself. The retaining wall for the retained cut would be approximately 13 feet high (typical). (See Figure 8B, Option B cross sections.) BART expects that cut and fill would be balance on-site with minimal need for on- or off-hauling of material. A 10-foot high fence would be provided around the gap breaker station.

A sound wall would be provided to mitigate any additional noise generated by the southern crossover. The sound wall would be approximately 350 feet long and centered on the crossover. It would be located along the east side of BART tracks at the top of the embankment and would be approximately 8-feet high (6 feet above top of rail). If a retaining wall is required to provide the trackside walkway, the combined height of the retaining wall and sound wall would be approximately 9 to 10 feet high. The sound wall and short retaining wall would be of a decorative material of similar design quality to that illustrated in Figure 10 of the aesthetics section.

### **Construction Scenario**

BART would procure a contractor to construct the two crossovers and gap breaker stations. The contractor may propose alternative construction methods, but could implement alternative methods only

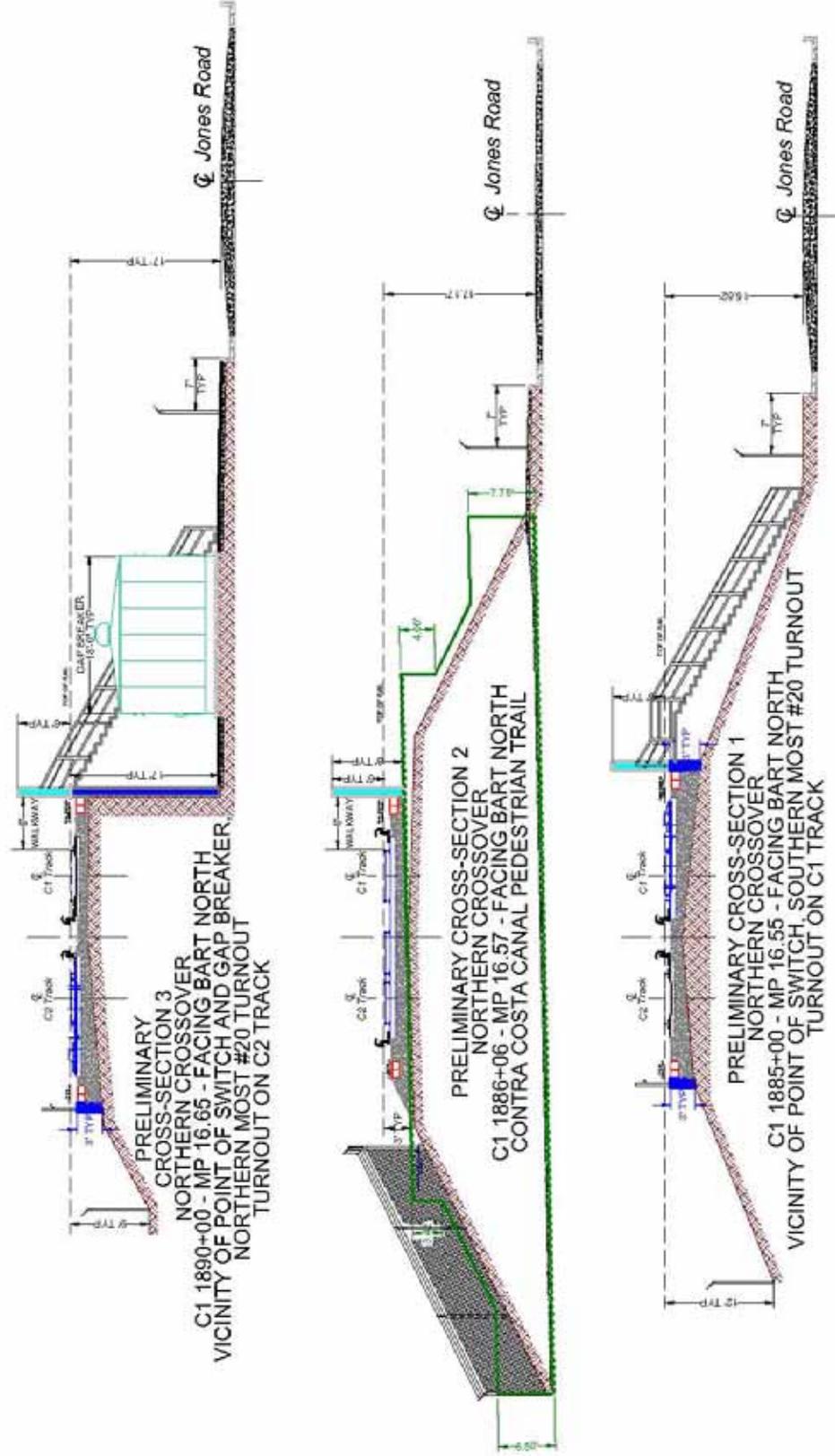
with the approval of the BART District.<sup>6</sup> Construction of the northern and southern crossovers would follow the same phasing. The following steps would be conducted to construct the proposed crossovers:

*Site Preparation.* Preparatory work would be required at each crossover location prior to construction. Vegetation would be removed and the ground cleared where necessary. Work zones would be delineated. Portions of the curb lane along the west side of Jones Road would be used for a construction zone and fenced off. The construction zones could occupy from 200 to 500 feet of the curb lane for a period of 4 to 8 months at each crossover location. Construction work would be phased so that simultaneous construction at both locations would be avoided.

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<sup>6</sup> If substantial changes in construction methods would result in new significant environmental impacts, or significant impacts substantially more severe than those evaluated in this Initial Study, supplemental environmental evaluation would be required.

Figure 6  
Cross Sections – Northern Crossover



Source: BART, 2005

CROSS-SECTIONS NORTHERN CROSSOVER

Figure 7A  
Site Plan – Southern Crossover – Option A

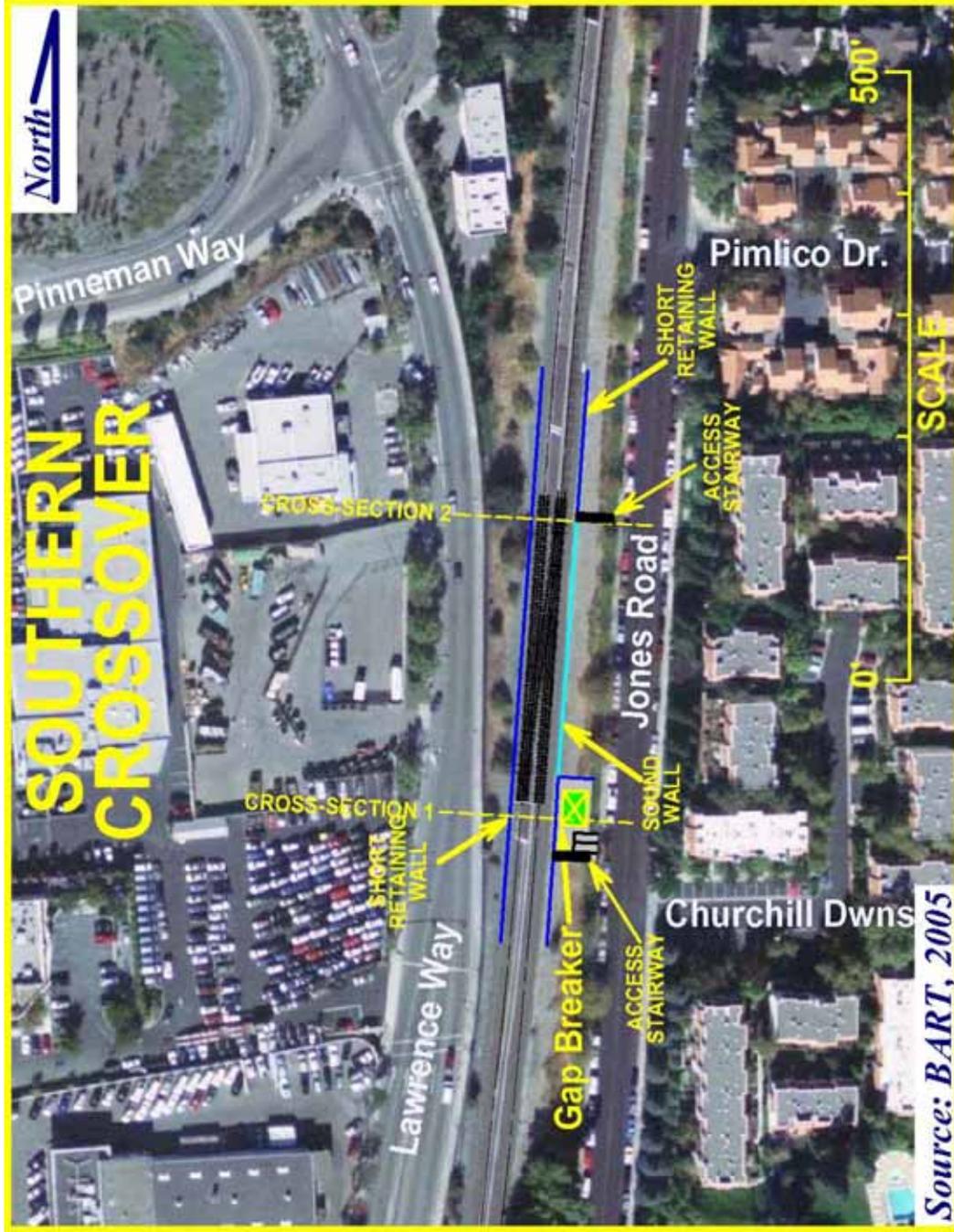
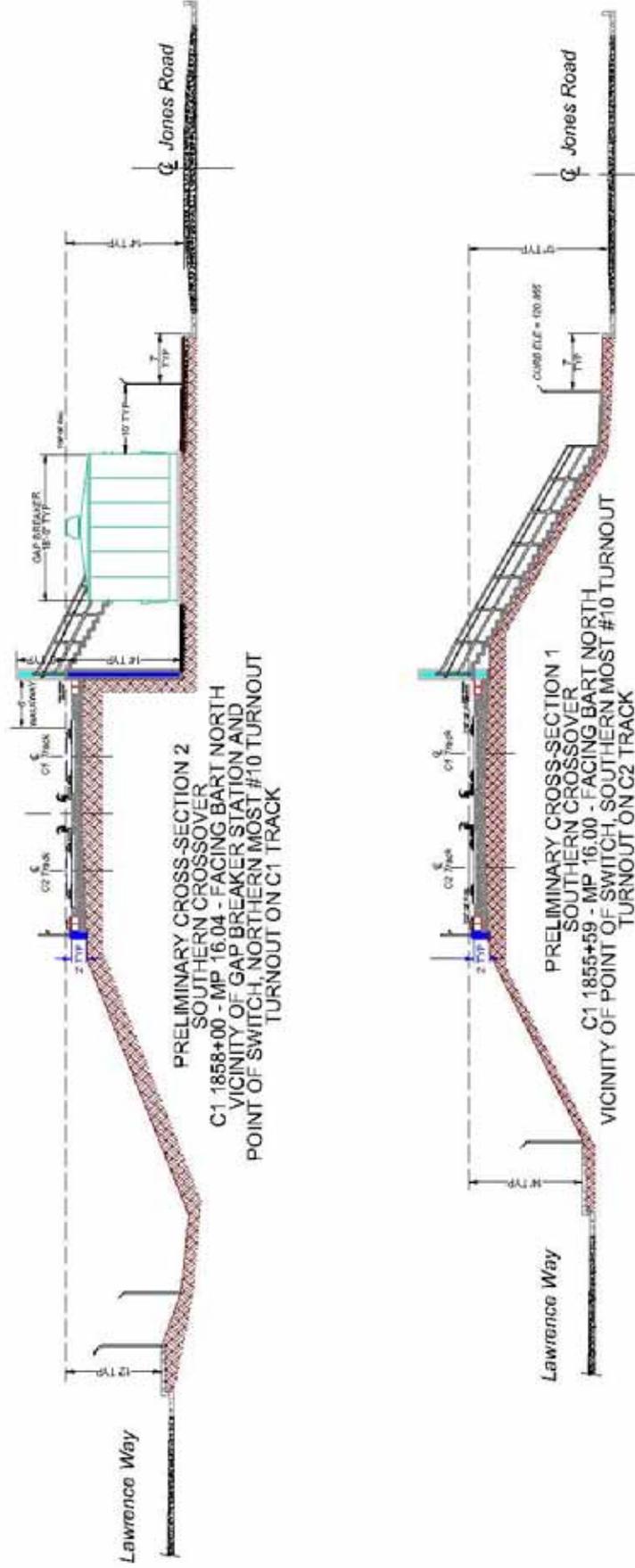


Figure 8A  
Cross Sections – Southern Crossover – Option A



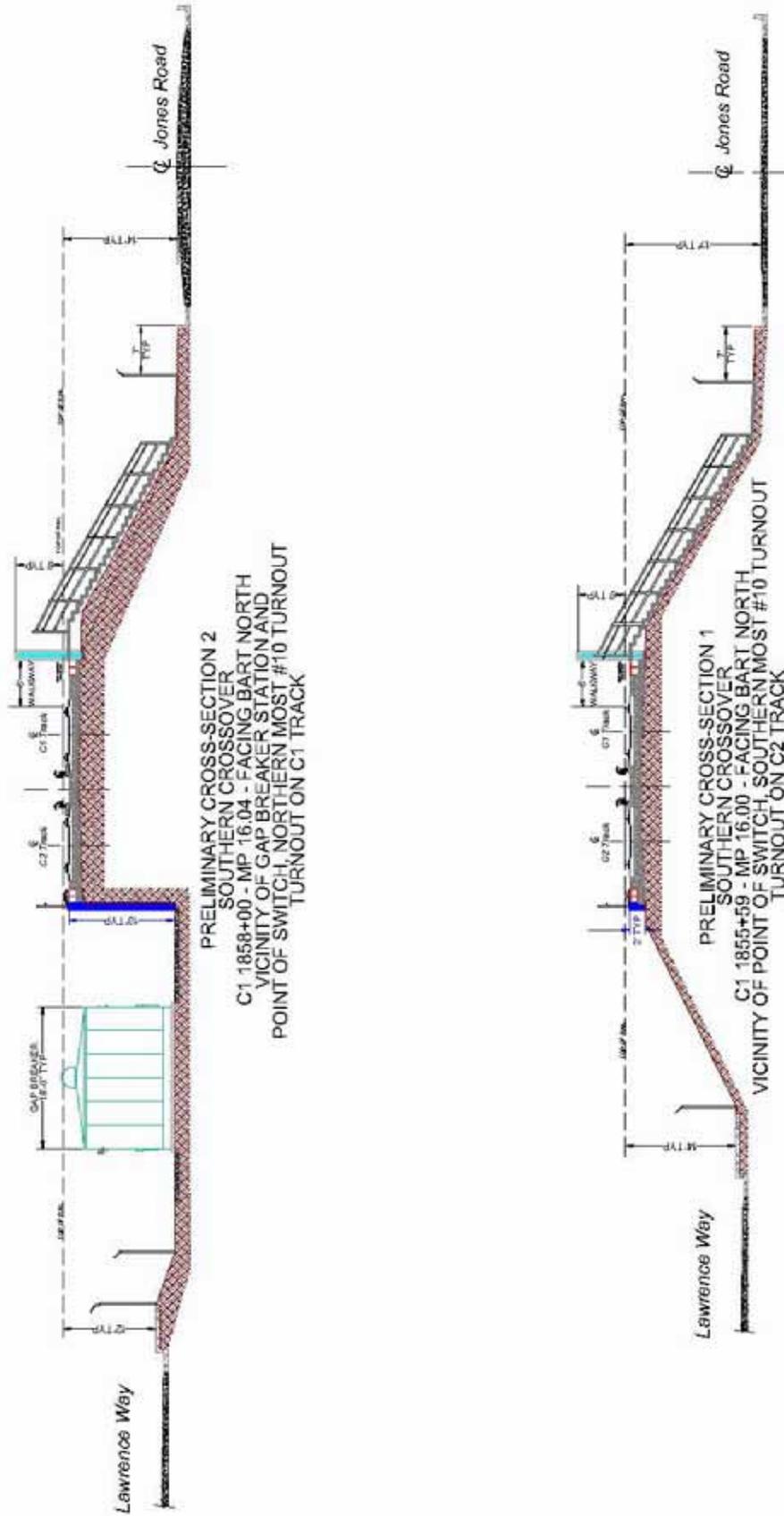
Source: BART, 2005

CROSS-SECTIONS SOUTHERN CROSSOVER

Figure 7B  
Site Plan-Southern Crossover – Option B



Figure 8B  
Cross Sections – Southern Crossover – Option B



Source: BART, 2005

CROSS-SECTIONS SOUTHERN CROSSOVER

In addition to the Jones Road work area, an off-site lay down and storage area would be located in the project vicinity. Project components, such as special track, concrete ties, fasteners and other materials, would be delivered to the storage area.

*Trackside walkways.* Two 3-foot high retaining walls for the trackside walkways would be constructed. All construction relating to the widened embankment would take place well in advance of the crossover construction itself. This phase of construction may require some minor excavation for footings, but spoils would be retained on site. No pile driving would be necessary. Typically, concrete forms would be built and the wall constructed of poured concrete, although other types of construction may be considered. After sufficient time for the concrete to cure, the concrete forms would be removed, and the area behind the wall would be backfilled to create the expanded embankment for the trackside walkways. Typical construction equipment would include backhoes, delivery trucks, and concrete trucks.

*Switch Pre-Assembly.* BART anticipates that major components of the crossover can be preassembled off-site, disassembled, trucked to the site, and reassembled on-site. The on-site assembly area would be the level area extending from the foot of the railroad embankment into the west-side parking lane of Jones Road. Equipment involved would include trucks and large cranes.

*Switch Connection/Splice to Mainline.* Connection of the two crossovers into the mainline BART system would require halting BART train service on the Pleasant Hill-Walnut Creek track segment of the system. For this reason the time allowed for track construction (and service interruption) would be kept to an absolute minimum. A “bus bridge” between Pleasant Hill and Walnut Creek Stations would be used to maintain BART service while the track is closed.<sup>7</sup>

Once the special trackwork is pre-assembled on Jones Road, the existing rails would be removed and the existing ballast would be scarified off the top of the embankment. Then using cranes, the new trackwork would be lifted into place on the mainline from the street-level assembly area. Ballast would be added atop the new trackwork, and the trackwork raised to the correct elevation. Equipment would include trucks, front-end loaders, ballast tampers, and large cranes.

Installation of the trackwork for one turnout would be completed over a weekend, with construction continuing around the clock. Installation of the second turnout to complete the crossover (two turnouts create one crossover) would take place over a second weekend. Most likely, a total of four weekends would be needed to complete both crossovers, although the weekends may be separated by substantial periods of time.

These periods of 24-hour construction are considered special situations. Affected residents will be given option of sleeping in hotel rooms at BART expense for the duration of nighttime construction when construction noise exceeds BART construction noise standards. The same option would be provided for those individuals in affected areas who sleep days and work nights.

Nighttime construction would involve construction lighting. BART would work with the contractor and the City of Walnut Creek to reduce the potential for spillover lighting in residential neighborhoods. The city may review the contractor’s plan and provide recommendations. Baseline lighting surveys would be conducted as part of this coordination.

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<sup>7</sup> For example, BART riders would exit the BART train at Pleasant Hill Station and board buses for the trip to Walnut Creek Station (bud bridge) where they would reboard a BART train to continue their trip.

BART recognizes that the construction activities, although limited in duration, could be intrusive to some adjacent residences and would work with the residents and the City of Walnut Creek to minimize the disruption. The steps to minimize disruption would include keeping the community fully informed about the construction plans and progress. The BART Community Relations team would work with the City of Walnut Creek, Contra Costa County, and the affected communities. The Community Relations team would schedule meetings to provide the public with opportunities to periodically discuss the project, both prior to and during construction. A variety of mechanisms would be provided for direct and interactive communications, including a project website, direct telephone information line, and an email address.

Construction of the northern crossover also would require the temporary, short-term closure of the Contra Costa Regional Trail, adjacent to the Contra Costa Canal. BART anticipates that there would be not more than three trail closures, and typically each trail closure would not exceed 7 days. An encroachment permit would be required from the East Bay Regional Park District to close the trail.

*Sound Wall Construction.* Construction of the sound wall would be similar to constructing the retaining wall, with some minor excavation, constructing concrete forms, pouring the concrete, and eventually removing the forms. Sound walls may also be constructed of alternative materials and concrete work may not be necessary.

*Traction Power Gap Breaker Stations.* Construction of the traction power gap breaker stations would require construction of a three-sided retained cut in the railroad embankment to create a level pad area. Localized excavation would be necessary for the gap breaker pad and retaining walls. Concrete forms would be built and the wall constructed of poured concrete, although other types of construction may be considered. After sufficient time for the concrete to cure, the concrete forms would be removed. Then the prefabricated traction power gap breaker station would be trucked in and installed. The gap breaker stations would not be complete until test power is supplied to the new rails. Typical construction equipment would include backhoes, delivery trucks, cranes and concrete trucks.

*Communications and Testing.* Once the track work for the crossovers is installed, systems-related work (communications, third rail power, train control, etc.) would continue for approximately six months before the crossovers are certified for operational service. This would involve connecting and checking BART communications lines, upgrading computer systems, running new power cables, connecting gap breaker stations, and other related activities. Much of this work would be done at night within the BART right-of-way.

*Switch Activation.* When all phases of the new crossovers have been tested and certified, the crossovers would be activated by BART.

### **Permits and Approvals Required**

Encroachment permit from the City of Walnut Creek and/or Contra Costa County for the traction power gap breaker station driveways (Northern and southern gap breaker-Option A stations).

Permit from City of Walnut Creek/Contra Costa County for off-site construction, staging, and lay down areas. City approval would be required if these areas are located on city property.

Permit from City of Walnut Creek/Contra Costa County for Jones Road construction zone/assembly area.

Permit from City of Walnut Creek/Contra Costa County for use of travel lanes on Jones Road and/or Lawrence Way.

Permit from City of Walnut Creek/Contra Costa County for after hours work on public property or public right-of-way.

BART would obtain the city’s approval for any alternative construction techniques that take place on city property.

BART will submit the Stormwater Pollution and Prevention Plan to the city for review.

Encroachment permit from East Bay Regional Park District for construction around pedestrian and bicycle trail adjacent to Contra Costa Canal.

**Project Schedule Milestones**

BART anticipates the following project timeline:

- Preliminary engineering completed December 2005
- Environmental assessment will complete by March 2006
- Final Design and Advertisement will be complete in September 2006
- Notice to Proceed with Construction will be in March 2007
- Construction will complete in September 2008

**Funding**

Regional Measure 2 provided \$25 million for the Central Contra Costa County Crossover Project. The Metropolitan Transportation Commission (MTC) disperses the funds on a per phase basis. The project has been broken into four phases for funding:

Phase 1:	Environment Study and Preliminary Engineering	\$1.0M
Phase 2:	Final Design Plans and Specifications	\$3.0M
Phase 3:	Right-of-Way (encroachment fees, lay down area)	\$0.5M
Phase 4:	Construction	<u>\$20.5M</u>
Total		\$25.0M

**EVALUATION OF ENVIRONMENTAL IMPACTS**

The following Environmental Checklist has been adopted from the Guidelines for the California Environmental Quality Act (Guidelines). The checklist was used to identify the potential impacts to the natural and man-made environment. For each category, the checklist indicates whether the project has the potential to create a potentially significant impact, a less-than-significant impact without mitigation, a less-than-significant impact with mitigation incorporated, or no impact. If the project will result in a potentially significant impact, the mitigation is identified and the analysis explains how the mitigation measures reduce the effect to a less-than-significant level. All mitigation measures presented have been incorporated into the project prior to commencement of environmental review.

Significance criteria are based on Appendix G of the CEQA Guidelines and incorporated into the checklist questions. Additional criteria for construction impacts are provided as necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>1. AESTHETICS – Would the Project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The two crossover sites are located within an existing transportation corridor comprised of the BART alignment and I-680, which lies adjacent to it on the west. The transportation corridor lies in an urbanized area within the City of Walnut Creek and unincorporated Contra Costa County. The location of the two track crossovers is the top of an elevated earthen embankment. The top of the embankment and track area is free of vegetation. There is some sparse vegetation along the slopes of the embankment, which consists of bushes and small trees. (See Figure 9.) There are larger trees and denser vegetation along the perimeter of the BART right-of-way, though generally not of sufficient size or opacity to shield views of the upper embankment or of passing BART trains.

Views of the two crossover locations are possible from many viewpoints along Jones Road. This includes public viewpoints from the street and sidewalk and from residences along the east side of Jones Road. Views of the two project sites are much more limited from the west side of Jones Road. The two land uses west of the alignment closest to either crossover location are the City of Walnut Creek’s corporation yard, a light industrial facility and recycling center, and automotive sales and service along Lawrence Way. The city’s general plan designates the area west of Lawrence Way as *Automotive Sales and Service*, and the city-owned property is *Public/Semi-Public*. At other locations on the west side of the project alignment, the width of I-680, which is approximately 250 feet wide, effectively reduces most views from the west. Long-distance views of the two crossover locations may be possible from higher elevations elsewhere in the city, but these views would include the larger urban landscape, of which the

BART alignment is one component of many, including I-680, multi-story residential projects, and commercial office structures.

1. a, b) The project area is not within a state scenic highway and the proposed project would not affect any scenic resources, including trees, rock outcroppings, or scenic buildings. However, the 1989 Walnut Creek General Plan does recognize scenic corridors in four different categories: auto oriented, pedestrian oriented, auto and pedestrian oriented, and transit oriented. The BART tracks between Walnut Creek Station and Pleasant Hill Station are considered a scenic transit corridor due to the views of the cityscape, Mount Diablo, and the hills that remain in view between the two BART stations (DCE, 2004). Government Code section 53090 et seq. exempts special districts, such as BART, from local general plans and zoning ordinances, including local scenic designations. Nevertheless, BART wishes to inform the public and local jurisdictions the extent to which its projects are consistent with such local requirements. Potential project impacts to the city's scenic corridor are discussed further in item c below.

1. c) The operating portion of the two crossovers would consist of special trackwork and switch apparatus installed in the mainline BART tracks. This would not be visible to the general public. Two aspects of the project would be visible, the traction power gap breaker stations and sound walls. The two traction power gap breaker stations would be visible from Jones Road: one at the northern crossover just north of the Contra Costa Canal, and the one (southern gap breaker-Option A) at the center of the southern crossover located midway between Pimlico Drive and Churchill Downs. The traction power gap breaker structures would be metal buildings approximately 28 feet long and 12 feet high, similar to large shipping containers.

The gap breaker stations would sit within a retained cut in the railroad embankment, which would be approximately 50 feet long. The traction power gap breaker stations would be functional industrial architecture. The need for unobstructed space around the gap breaker stations also restricts landscaping around the site, which normally could have provided additional visual screening. However, the gap breaker stations would sit partially within the retained cut. (See Figures 6 and 8A, which illustrate the proposed cross sections.) This would partially screen the gap breaker structures from views north and south along Jones Road. The most direct public views of the traction power gap breaker facilities would short-range, head-on views from along Jones Road. Currently, there is a 7-foot tall chain link fence along the BART right-of-way. As part of the project, the gap breaker stations would be enclosed with 10-foot high chain link fencing. In order to provide greater visual screening and reduce visual impacts along Jones Road, the 10-foot tall fencing in front of and around the gap breaker stations would be treated with redwood slats or other fencing treatment. BART would provide drought-resistant landscaping around the gap breaker station fencing where safety and the site plan allow. Gap breaker station-Option B, would locate the southern gap breaker station west of the BART alignment, between the BART tracks and Lawrence Way. This location generally is not visible from the east side of Jones Road. The Option B gap breaker location is visible from Lawrence Way and some areas west of Lawrence Way. The closest structures are city-owned warehouse structures southeast of the Lawrence Way/Pinneman Way intersection and commercial auto sales and service west of Lawrence Way. Lawrence Way is a high-speed entrance to northbound I-680, and most drivers and passengers are focused on the roadway itself and not on the BART property adjacent to it. In addition, an existing wall and iron fence along the east side of Lawrence Way, as well as existing landscaping on the property itself, tend to screen most views from the west.

As noted above, the BART tracks run along an earthen embankment with a sparse scattering of bushes and trees. The existing visual setting is a utilitarian landscape in a transportation corridor. The gap breaker facilities are not out of character with the existing features and functions of that landscape. Given that the traction power gap breaker stations will only be partially visible or screened from most

viewpoints along Jones Road and Lawrence Way, the traction power gap breaker stations would have a less-than-significant impact on visual resources.

Sound walls have been incorporated into the project design to reduce noise associated with the crossover tracks. Preliminary noise studies indicate that the northern crossover will require a sound wall approximately 480 feet long and the southern crossover will require a sound wall approximately 350 feet long. The sound walls should be 6 feet above the top of the rail. Because the rail is elevated slightly above the top of the embankment, the sound wall may appear to be 9 to 10 feet high as seen from the street level below. Sound walls are typically constructed of concrete, concrete block, or other solid material in order to provide the necessary density to dampen sound waves. The sound walls and short retaining walls (where they run together) would be of a decorative material similar in design quality to the sound walls illustrated in Figure 10 below.

Figure 9 illustrates an existing public view of the BART embankment (with a passing BART train) from street level on Jones Road in the vicinity of the proposed southern crossover. Figure 10 is a photo simulation of the same view with the addition of a sound wall that illustrates a typical wall of the necessary height. The height of the sound wall, approximately 9 to 10 feet (6 feet above the top of rail) would rise part way up the side of the BART car, but not high enough to cover the entire car window. The sound walls would not be out of scale with the height and mass of the railroad embankment itself or the other development along Jones Road. The fact that the sound walls would be separated from the immediate streetscape of Jones Road by the width of the BART right-of-way would also tend to reduce the visual impact of the sound walls. The construction materials would be similar to that used for other walls and structures throughout the area. As illustrated in Figure 9, the existing view of the BART embankment illustrates a less than pristine visual environment. Construction of the proposed sound walls would not degrade the project site or its surroundings, and construction of the project sound walls would have a less-than-significant visual impact.

**Figure 9**

**Existing View Looking Southeast From Jones Road Toward Proposed Southern Crossover**



The City of Walnut Creek’s 1989 General Plan designates the area between the Walnut Creek BART Station and the Pleasant Hill BART Station as a scenic transit corridor. The distance between the two stations is approximately 1.7 miles. The proposed sound walls would extend approximately 350 feet along the southern crossover and 480 feet along the northern crossover, or a total of approximately 830 feet. For purposes of comparison, a BART station is 700 long. As illustrated in Figure 10 and noted above, the sound walls would rise part way up the side of the BART car, but not high enough to cover the entire car window. Sitting passengers may lose scenic views while passing next to sound walls, but standing passengers probably would not. The typical operating speed for BART trains is 70 miles per hour. At this speed, the northern sound wall would block views for less than 5 seconds, and the southern sound wall would block views for less than 4 seconds. Although the scenic view would be temporarily blocked for some passengers for a small portion of the transit trip between Walnut Creek and Pleasant Hill stations, the reduction of the scenic view created by the proposed sound walls would be a less-than-significant impact.

1. d) The proposed crossovers do not include any permanent lighting. The only lighting associated with the project would be the security lighting installed over the doorways of the traction power gap breaker stations. This relatively low level lighting would not create glare or affect nighttime views of the area. Therefore, there would be no impacts due to lighting during operations.

*Construction.* Nighttime construction lighting would be temporarily necessary during certain phases of construction. For instance, when the crossovers are preassembled, each crossover would be installed in a 24-hour, around-the-clock construction effort to complete the project and return the BART mainline to operation in the shortest possible time. The around-the-clock construction effort would require high-intensity construction lighting at night. Currently, BART anticipates that two 48-hours construction periods (two weekends) would be required to complete each crossover. (A total of four weekends for the project.). BART would work with the contractor and the City of Walnut Creek to reduce the potential for spillover lighting in residential neighborhoods. The city may review the contractor’s plan and provide recommendations. Baseline lighting surveys would be conducted as part of this coordination. Although construction lighting may prove irritating to residents, the construction lighting would be temporary and is considered a less-than-significant visual impact.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>2. AGRICULTURE RESOURCES:</b> Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 10

Visual Simulation of Proposed Crossover with Sound Wall



	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2. a, b, c) The project site is located in the City of Walnut Creek and unincorporated Contra Costa County, an urbanized area. The two crossovers would replace existing BART tracks on a railroad embankment, which has been in railroad use since the construction of the BART system in the 1960s. Prior to BART use, the BART right-of-way was owned by the Sacramento Northern Railroad. BART tracks are bound by an existing residential area to the east and the City of Walnut Creek’s corporation yard and Interstate 680 to the west. There is no agricultural land in the vicinity of the project site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>3. AIR QUALITY - Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Air pollution in the Walnut Creek area is relatively high due to the summer meteorological conditions and the city’s proximity to a large urban area. In summer, ozone and ozone precursor pollutants are often transported into the area from other parts of the Bay Area. The clear skies with relatively warm conditions that are typical in summer combined with air pollution emissions from the city and surrounding areas can create elevated ozone levels. Air quality standards for ozone traditionally are exceeded when relatively stagnant conditions occur for periods of several days during the warmer months of the year from late spring through early fall. Light winds that are common in the winter combine with strong surface-based inversions, which are caused by cold air trapped near the land’s surface, to trap pollutants such as particulates and carbon monoxide. This can lead to localized high concentrations of these pollutants. The Bay Area as a whole exceeds state ambient air quality standards for inhalable particulate matter (PM10). This pollutant is emitted directly from motor vehicles (primarily diesel trucks), construction sites, and wood smoke (DCE, 2004).

3. a, b) The proposed project would not conflict with implementation of an applicable air quality plan or violate any air quality standard. The proposed project would generate approximately 12 vehicle trips per week by service vehicles, or slightly less than two vehicle trips per day. (See section 15, Transportation.) The Bay Area Air Quality Management District (BAAQMD) guidelines do not recommend a detailed air quality analysis for projects generating less than 2,000 vehicle trips per day, unless warranted by the specific nature of the project or project setting (BAAQMD, 1999). In addition, construction of the proposed track crossovers would allow more BART trains to be “short turned” at Pleasant Hill. This would result in more open BART seats for passengers at Pleasant Hill Station and the probability that some commuters who now drive their personal automobile would take BART to their destination. Therefore, the project could well result in a net reduction of automobile trips and in associated pollutants. This would be a regional air quality benefit.

3. c) As of August 2005, the San Francisco Bay Area Air Basin is under non-attainment status for ozone and fine particulate matter (PM 10) per state standards. The air basin is under nonattainment status for very fine particulate matter (PM2.5) per state standards. The air basin is under marginal attainment status for the federal 8-hour ozone standard. The air basin is also designated as unclassifiable/attainment for the federal PM2.5 standard. (Due to the limited available information, all areas not designated as “nonattainment” for the federal PM2.5 standard are designated as “unclassifiable/attainment” pending collection of additional data.) As noted previously, the number of vehicle trips generated by the project is far below the recommended BAAQMD threshold for the generation of potentially significant emissions resulting from trip generation during project operation. For practical purposes, the two estimated daily vehicle trips generated by the project would not create a measurable contribution to the air basin as a whole. Therefore, implementation of the proposed project would not generate sufficiently high amounts of ozone that would substantially contribute to the air basin's existing nonattainment status for ozone and would not have an impact. Construction activities associated with the proposed project are relatively modest. There would be some minor excavation associated with the retained cuts for the traction power

gap breaker stations and grading associated with placing new ballast. These activities could generate a small amount of emissions and dust that would contribute to the air basin's nonattainment status for PM 10. Discussion of construction-generated contributions to particulate matter to sensitive receptors is discussed in item d below.

3. d) Construction activities associated with the proposed project could generate emissions and dust that would contribute to the air basin's nonattainment status for PM 10. Sensitive receptors are land uses or facilities that include members of the population that are particularly sensitive to the effects of air pollution, such as children, the elderly, and people with illnesses. Sensitive receptors in the project area include the Palmer School, a private elementary and middle school located on Jones Road, approximately 300 feet northeast of the northern crossover site. Operation of the Contra Costa Crossover project would not create any pollutant concentrations, but construction of the project could create potential impacts related to windblown dust and particulate matter.

**Impact AQ-1. Construction period air quality impacts.** The proposed project would involve minor excavation, limited grading, vehicle travel on unpaved surfaces, and vehicle and equipment exhaust that would be sources of air emissions and dust. BART has established dust control measures as part of the BART Facilities Standards for construction. (Subsection 1.09). Measures implemented by BART as part of its BART Facilities Standards would reduce this impact to a less-than-significant level. The following measures would reduce construction period air quality impacts to a less-than-significant level.

**Mitigation Measure AQ-1. Dust and particulate control during construction.** BART shall require that the contractor implement the following measures during construction.

- The Contractor shall provide dust control at all times, including holidays and weekends, as required to abate dust nuisance on and about the site which is a result of construction activities. Dust control shall be by means of sprinklered water or by other approved methods, except that chemicals, oil, or similar palliative shall not be used.
- Quantities and equipment for dust control shall be sufficient to effectively prevent dust nuisance on and about the jobsite; and when weather conditions warrant, sprinklering equipment shall be on hand at all times for immediate availability.
- The Engineer shall have authority to order dust control work whenever conditions warrant, and there shall be no additional cost to the District. Dust control shall be effectively maintained whether or not the Engineer orders such work.
- Complaints from the public shall be reported to the Engineer and shall be acted on immediately.
- Where earthwork operations are in progress, keep exposed earth surfaces dampened continuously. Also, keep dirt accessways and roads dampened continuously.
- If portions of the site are temporarily inactive or abandoned for whatever reason, provide dust control and abatement continuously during such periods of inactivity.
- Where dust resulting from construction activities has collected on public sidewalks and streets, clean all streets and sidewalks by sweeping (either by hand sweeping or with a vehicle mounted

sweeper) and properly dispose of the sediment to abate flying dust particles. Clean all sidewalks and streets from accumulated dirt and dust.

3. e) BART is powered by an electric third rail. There are no odors related to operating the BART system.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>4. BIOLOGICAL RESOURCES -- Would the project:</b>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The location of the two proposed crossovers is on an operating railroad track. The track is located on an engineered embankment constructed for the BART system. The embankment is topped with ballast, which is a bed of coarse gravel or crushed rock laid to hold the track in the correct line and elevation. This portion of the BART alignment was part of the original BART test track constructed in the 1960s. Prior to BART use, this portion of the alignment was occupied by the Sacramento Northern Railroad right-of-way. The BART alignment is located in a transportation corridor in an urbanized landscape. Jones Road and adjacent multi-family residential use lie to the east and Interstate 680 and the City of Walnut Creek’s corporation yard lie to the west.

There is no wetland, woodland, riparian, or other sensitive natural habitat in the project vicinity, and the two crossover locations have low habitat value. Vegetation on the embankment is limited to small bushes and trees along the lower portions of the embankment.

4. a) A background report on the area’s biological and wetland resources was prepared by the Environmental Collaborative and Design, Community & Environment, two environmental consulting firms, as part of Walnut Creek’s general plan update process. One of the purposes of the report was to provide preliminary background information on sensitive species in the city’s Planning Area. Based on the Biological and Wetland Resources Background Report, no known occurrences of sensitive species have been identified in the vicinity of the two crossover sites (Environmental Collaborative, 2004). Wildlife species that do occupy the site are common species that easily adapt to disturbed, urban conditions.

4. b, c) No riparian, wetlands, or other sensitive natural communities are located in the vicinity of the project site.

4. d) The BART right-of-way is long established, and in conjunction with the adjacent Caltrans right-of-way, represents a broad transportation corridor through Central Contra Costa County. The surrounding area is an urbanized area. There are no native streams, wildlife corridors, or wildlife nursery sites in the project vicinity.

4. e) The City of Walnut Creek has a tree preservation ordinance that requires a tree removal permit for any tree, dead or alive, which measures 28 inches in circumference (9 inches in diameter) measured 54 inches above grade (Section 3-8.01, Walnut Creek Municipal Code). In addition, the ordinance designates a number of trees as “Highly Protected Trees.” This category includes valley oak, blue oak, coast live oak, California black oak, canyon live oak, interior live oak, madrone, California buckeye, California black walnut, and grey pine. Requests for tree removal or dripline encroachment are first processed through the City Arborist. The City Arborist may grant approval based on specific findings related to tree health, structure, species, proposed mitigation, etc.

Although activities on BART property are not legally required to comply with local regulations such as the tree ordinance, removal of trees is considered an impact.

**Impact BIO-1. Loss of existing trees.** The proposed crossover project would expand the BART embankment slightly on both the east and west sides. The BART trackway, where the special trackwork for the crossovers would be located, is kept clear of vegetation. However, there are trees along the slopes of the BART embankment and along the perimeter of the BART right-of-way. An accurate tree survey has not been conducted; therefore a record of the size, species, and exact number of trees in the work area is not available. Creating the retained cuts for the traction power gap breaker stations and preparing the site for construction would require the removal of vegetation and a number of trees. Based on aerial photographs, and assuming the worst case scenario in which all trees on both sides of the BART tracks are removed to facilitate construction, the maximum number of trees (of all sizes) that would be lost at the northern crossover would be approximately 90. At the southern crossover, placing the gap breaker station on the west side of the BART alignment (Option B) would remove more trees than placing the gap breaker station on the east side of the alignment (Option A), because trees would be lost on both sides of the alignment with Option B. (Construction of Option B would still require the removal of some trees along the east side of the alignment to construct the trackwork and sound wall.) Assuming the worst-case scenario for the southern crossover, in which trees and vegetation on both sides of the alignment are removed, the maximum number of trees lost (of all sizes) would be approximately 25. In either case, loss of trees with Option A or B for the southern gap breaker station would be mitigated to a less-than-significant level with the implementation of Mitigation Measure BIO-1 below. It is not possible to determine the exact number of trees that would be lost for construction purposes at this time. However, the following mitigation measure would reduce the tree loss to a less-than-significant impact.

**Mitigation Measure BIO-1. Plant replacement trees.** Prior to application for encroachment permits, BART will conduct a tree survey of the affected areas. For the removal of any tree with a circumference of 28 inches (9-inch diameter) measured 54 inches above grade, BART shall provide on-site replacement trees on a 1:1 basis (replacement:loss) for non-native trees and 3:1 (replacement:loss ) for native trees. Replacement trees shall be native, drought-tolerant species.

4. f) There are no habitat conservation plans or natural community conservation plans in the project vicinity.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>5. CULTURAL RESOURCES -- Would the project:</b>				
a) Cause a substantial adverse change in the significance of an historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is located on a raised embankment constructed for railroad use. Construction would be limited to the area within the existing BART right-of-way. Disturbance of native soil would be limited to minor excavation for the two traction power gap breaker stations. The retained cut for each of two gap breaker stations would be approximately 50 feet long by 25 feet wide (1,250 square feet). A cultural resources investigation was conducted by Jones & Stokes Associates (JSA), which included archival research at the Northwest Information Center at Sonoma State University. The results of that background investigation were summarized in a background report and incorporated below (JSA, 2005).

5. a) Section 15064.5 of the CEQA Guidelines outlines how to determine the significance of project impacts to historical resources. The urban area around the two proposed crossovers is relatively new development. The potential for the project to alter the significance of a historic property is low. Archival research and the nature of the project and location indicate that there are no historic architectural resources within or adjacent to the project area that would be affected by the proposed project. The Contra Costa Canal, which is within the project area, has been determined ineligible for listing in the National Register of Historic Places (West and Welch 1996) (JSA, 2005). In addition, when the BART system was constructed in the 1960s, BART rebuilt the section of the canal under the railroad embankment. Therefore, the section of the canal under the embankment is not original and is less than 50 years old. Because there are no historical resources in the project area, the proposed project would have no impact in historical resources.

5. b) Jones & Stokes cultural resources staff conducted an archival review and archival records search on October 14, 2005 at the Northwest Information Center at Sonoma State University. The research indicated that there are no known prehistoric or historic resources within the project area or within 0.5 mile of the project area. A review of the project location, description, and related construction activities indicate that project area is entirely developed and paved and no native soils are visible. In addition, construction related to the proposed project will affect a very minimal area of native soil. Therefore, no pedestrian

survey was conducted. The results of the cultural resources investigation suggest that there is a low potential for the disturbance of archaeological resources as a result of the proposed project.

**Impact C-1. Potential for buried archaeological deposits.** Although the potential for disturbance of archaeological resources is low, buried archaeological deposits are common in Contra Costa County, and there is always the potential for the discovery of unidentified archaeological deposits during project earthwork or other ground-disturbing activities. Disturbance of previously unknown archaeological resources during project construction would represent a significant impact, but would be reduced to a less-than-significant level by implementation of the following measure.

**Mitigation Measure C-1. Stop work if buried cultural deposits are encountered during construction.** If buried cultural resources such as chipped stone or groundstone, historic debris, building foundations, or human bone are inadvertently discovered during ground-disturbing activities, work will stop within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and recommend additional treatment measures appropriate to the nature of the find. As the lead agency under CEQA, BART will be responsible for ensuring that treatment measures are implemented, in accordance with the archaeologist's recommendations.

5. c) According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Sec. 8100), and disturbance of Native American cemeteries is a felony (Sec. 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the Native American Heritage Center (NAHC).

**Impact C-2. Potential for disturbance of Native American human remains.** The potential for disturbance of Native American human remains during project construction is low. No known prehistoric sites with the potential for associated human remains are located in or within 0.5 mile of the project area (JSA, 2005). However, because of the Contra Costa's long history of Native American occupation, there is some potential for the presence of unknown buried remains, and any disturbance of such remains would represent a significant impact. Impacts would be reduced to a less-than-significant level by implementation of the following measure.

**Mitigation Measure C-2. Stop work if human remains are encountered during construction activities.** If human remains are encountered during construction, the County Coroner will be notified immediately, as required by County Ordinance No. B6-18. A qualified archaeologist will also be contacted immediately. If the County Coroner determines that the remains are Native American, the Coroner will then contact the Native American Heritage Commission, pursuant to Section 7050.5[c] of the California Health and Safety Code. S/he will also contact the County Coordinator of Indian Affairs. There will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie human remains until the County Coroner has determined that no investigation of the cause of death is required.

If the remains are of Native American origin, there will be no further excavation or disturbance of the site until the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; unless the Native American Heritage Commission was unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the commission.

5. d) The topography in the site vicinity is level without any distinguishing geologic features. The

project corridor lies on an alluvial plain. There are no known paleontological resources in the project area. Therefore, would be no impacts to geologic or paleontological features.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>6. GEOLOGY AND SOILS -- Would the project:</b>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

6. a (i, ii) The project area is underlain by Tertiary-age marine and non-marine sedimentary bedrock units that have been folded and faulted. The project site is situated on a broad alluvial plain deposited by Walnut Creek and its tributary streams. The Bay Area is a seismically active area that contains several historically active faults that have produced strong earthquakes in the recent past. These active faults include the San Andreas Fault, Hayward Fault, Concord Fault, Mount Diablo Fault and Greenville Fault. In addition, several potentially active faults are located in the project vicinity, including the Calaveras Fault, South Hampton, and Franklin Faults (Parikh, 2004). The fault closest to the project site is the North Calaveras Fault, a northwest-southeast trending fault that lies approximately 0.8 miles west of the project area.

Recently BART has been investigating the seismic vulnerability of the system and updating geologic and seismic data for the BART corridor. This investigation indicates that the proposed project does not cross any known faults (Kelson, 2005). In addition, the BART alignment runs along an earthen embankment in the project area. An engineered embankment is a proven solution to the problem of fault shaking and fault rupture. In addition, fault rupture would be immediately detectable by BART’s seismic sensors and the BART train control system would immediately halt service. No additional mitigation measures are necessary.

6. a (iii) Liquefaction is a process by which water saturated soils and sediments lose strength and are transformed to a fluid-like state during strong earthquake ground shaking. Liquefaction of deep layers may cause the ground surface to deform through differential settlement or lateral spreading. Liquefaction in the Walnut Creek-Pleasant Hill area varies from low to very high (Parikh, 2004). Comprehensive analysis of the liquefaction potential for the area has recently been conducted (Witter, 2005). The project area is considered “moderately” susceptible to liquefaction (Kelson, 2005). The basic project design incorporates standard design features to account for the potential for liquefaction and ensure that this impact remains at a less-than-significant level.

6. a (iv) Landslides tend to occur on steep slopes underlain by weak bedrock and thick soil. In the project area, the BART alignment is located on a level alluvial plain without steep slopes or marked

topographic differences. There are no steep slopes near the project site and the engineered BART embankment itself is not a landslide hazard. (An engineered slope in an earthen structure that is specifically designed with knowledge of the subsurface conditions, fill materials, compaction, estimated loads, and angle of repose.)

6. b) The proposed project would not result in soil erosion or loss of topsoil. As part of the proposed project, the top of the railroad embankment would be expanded on both the east and west sides. Two short retaining walls (approximately 3 feet tall) would be constructed along the east and west sides of the BART alignment to provide trackside walkways as required by the state PUC. Any material added to the embankment would be ballast rock, material specially chosen for its strength and durability. The expanded embankment area would be compacted as part of construction and would be encased by the retaining walls. These design features would virtually eliminate the potential for erosion.

6. c) The project site is located on an engineered railroad embankment on a level plain. See items a and b above.

6. d) The project site is an engineered railroad embankment, and project design is not susceptible to issues related to expansive soils.

6. e) Sewer service is not required for the project. Soil conditions relating to sewer disposal are not relevant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>7. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

7. a) BART trains are powered by an electrical third rail and do not contain substantial amounts of hazardous materials. All maintenance and repair of vehicles, which may require a variety of solvents, oils, and other hazardous materials, is conducted at existing BART maintenance facilities. BART maintains a System Safety Program that includes management, proper containment, and disposal of hazardous materials generated by BART operations. The proposed project would add two track crossovers between Walnut Creek and Pleasant Hill Stations, allowing trains to switch tracks between the two stations. This would not affect any current BART practice related to hazardous materials use.

7. b) Certain hazardous materials, such as gasoline and diesel fuel in trucks, will be present during construction. Best construction practices will be followed to ensure that no significant amounts of hazardous materials will be released during construction. For instance, BART requires the contractor to submit a Hazardous Materials Plan, which would document what hazardous materials would be present on the construction site. The plan also would require that hazardous materials stored on-site would be stored in rated containers or within rated cabinets. BART will comply with applicable state and federal requirements for use and handling of hazardous materials during construction. This would be a less-than-significant impact.

7. c) There are two schools in the project vicinity. The Palmer School, a private elementary and middle school, is located at 2740 Jones Road, approximately 300 feet northeast of the northern crossover site. A second school, Buena Vista Elementary School is located at 2355 San Juan Avenue, approximately 0.35 miles west of the southern crossover. As noted in the response to item a above, operation of the crossovers would not affect use or handling of hazardous materials. As noted in item b above, hazardous materials, such as gasoline, will be on-site during construction. Best construction practices would be employed during construction to reduce any possible release of hazardous materials. Therefore, this would be a less-than-significant impact.

7. d) The project location is not located on a listed hazardous materials site.

7. e) The closest airport to the project site is Buchanan Field in the City of Concord, which is more than 2 miles from the site. No people would be residing or working regularly at the crossover sites.

7. f) There is no private airport in the vicinity of the project site.

7. g) Operation and construction of the track crossovers would not interfere with any emergency response plan or emergency evacuation plan.

7. h) With the exception of the gap breaker stations, there would be no structures constructed at the two crossover locations. The project is in an urbanized area and would not expose additional people or structures to the risk of wildfire.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>8. HYDROLOGY AND WATER QUALITY -- Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

8. a, b, c, and d) The project is located along the top of an existing railroad embankment and would not violate any water quality standards or waste discharge requirements. The project would not alter existing ground levels and would not alter drainage patterns in the area. Though new ballast material may be added as a part of the construction, it would be the same material as the existing ballast. The ballast material is usually a granite gravel material chosen for its strength and durability and is not susceptible to erosion. The retained cuts in the embankment for the traction power gap breaker stations would be buttressed by concrete retaining walls. Therefore, the earthen embankment would be protected from the elements and would not be susceptible to erosion. The project does not include wells, does not require dewatering, and would not affect groundwater.

8. e, f) The increase in impervious surface would be limited to the concrete pads for the two new traction power gap breaker stations. Each station site would be approximately 50 long by 25 feet wide (approximately 1,250 square feet each). If Option B is chosen for the location of the southern gap breaker station (west side of BART alignment), an additional 2,880 square feet (approximate) of impervious surface for the driveway would be required.

*Operational Impacts* - The total amount of new impervious surface would be approximately 2,450 square feet (5,330 square feet with gap breaker Option B). This increase in impervious area would not substantially increase surface runoff in the project area, and existing drainage facilitates would accommodate the anticipated increase in runoff. The proposed project would not create any new sources of pollution, and the water quality of the runoff would be typical of urban runoff. Therefore, in terms of both the quantity and quality of runoff, the proposed project would have no impact on local drainage.

*Construction Impacts.* Although the project would not create a substantial amount of new impervious surface, the project would not create a substantial amount of new impervious surface. **Final Initial Study/ Mitigated Negative Declaration**

surface, the project would require some minor excavation.

**Impact H-1. Potential for erosion and sediment discharge into local drainage system.** Excavation for the traction power gap breaker stations will require some excavation and soil disturbance. This could create increased water erosion and sedimentation impacts. BART provides construction standards for erosion and sediment control through the BART Facilities Standards. Section 1.08(A) of the BFS requires that the contractor “shall prevent erosion of excavated areas, embankments, stockpiled earth materials, and other erodible areas, and shall provide control of runoff sediment from siltation and pollution of the drainage systems.” The BFS requirements address prevention of erosion, sediment control and removal of temporary structures upon completion of work. Section 1.08 of the BFS is attached as Appendix 1 of this document. In addition, implementation of Mitigation Measure H-1 below would reduce this impact to a less-than-significant level.

**Mitigation Measure H-1. Stormwater Pollution Prevention.** BART shall obtain coverage under NPDES General Permit for storm water associated with construction activities. The District shall require the Contractor to implement control measures that are consistent with the General Permit and with the recommendations and policies of the Regional Water Quality Control Board (RWQCB), which would include submitting a Notice of Intent and site map to the RWQCB, developing a Storm Water Pollution Prevention Plan (SWPPP), and implementing site-specific best management practices to prevent pollution to surface waters. The control measures would also be consistent with the Contra Costa Clean Water Program guidelines and Best Management Practices (BMPs). BART shall submit a copy of the SWPPP to the City for review.

8. g, h, i, and j) The project site is on a railroad embankment that is elevated approximately 10 to 20 feet above the surrounding plain. The project area is not within the 100-year flood hazard area (WRECO, 2004). The project location is not susceptible to flooding or mudflows. The project site is not near any large water bodies and therefore is not susceptible to inundation by seiche or tsunamis.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>9. LAND USE AND PLANNING – Would the project:</b>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project area is bound by Geary Road/Treat Boulevard to the North, Parkside Drive to the south, Oak Road to the east, and North Main Street to the west. The two crossover sites are located within the City of Walnut Creek, though the portion of project area east of Jones Road and north of the Contra Costa Canal is unincorporated land in Contra Costa County. The unincorporated county land is within Walnut Creek’s sphere of influence, and Walnut Creek has established land use and zoning designations for the unincorporated area. Walnut Creek has not given the BART alignment a general plan designation; however, the alignment does traverse a variety of Walnut Creek zoning districts, including M-25 (Multi-family residential), C-F (Community Facility) and A-S (Auto Sales and Service). Contra Costa County has designated the BART alignment as PS (Public/Semi-Public) in the county’s general plan.

The BART alignment and Interstate 680 form a north-south regional transportation corridor through the project area. East of this corridor, between Treat Boulevard on the north and Parkside Boulevard on the south, the land use is almost exclusively residential, a neighborhood known as Oak Road. At both the northern and southern ends of this area, the land use is multi-family residential. Between these two multi-family areas, is a single-family development that occupies the area south of Walden Road, centered around Shady Lane. The one exception to residential use in the area is the Palmer School, whose facilities extend from Jones Road to Oak Road north of the Contra Costa Canal.

West of the BART corridor and I-680, is the North Main Street commercial corridor. The area north of San Luis Road, an area designated for service commercial uses, is dominated by one- to two-story buildings. There is a mix of independent small stores with a few chain stores and auto dealers along North Main Street. The Marriot Hotel and Motel 6 are located in the northwest quadrant of the North Main Street/Parkside intersection. Auto sales and service dominate the area between Lawrence Way and North Main Street, and the City of Walnut Creek’s corporation yard is located immediately to the west of the BART alignment. (See aerial photo, Figure 4).

The land south of Parkside Drive (south of the project area) is developed for various commercial uses and is part of the city’s commercial core. North of the project area, the area surrounding the Pleasant Hill BART Station is outside Walnut Creek’s city limits but within the city’s Sphere of influence. It has areas of office and commercial buildings of up to eight to 10 stories as well as residential areas.

9. a) The proposed project would not change any existing land uses in the project area. The proposed project would be constructed within BART’s existing right-of-way.

9. b) According to state law, BART is not required to comply with local plans, policies, and zoning ordinances; therefore, determinations of significant impacts are not made in terms of the proposed project’s consistency with local plans, policies, and zoning. Nevertheless, BART wishes to disclose to the public and to local jurisdictions the extent to which the project is consistent with local, plans, policies and zoning ordinances. The proposed project is consistent with all applicable land use and zoning policies. The city’s tree replacement ordinance is discussed in item 4e, Biological Resources.

9. c) There are no habitat conservation plans or natural community conservation plans in the project area.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>10. MINERAL RESOURCES -- Would the project:</b>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

10. a, b) There are no known mineral resources in the vicinity of the project site. The BART alignment has been in place in excess of 30 years. No new resources discoveries in the vicinity are anticipated.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>11. NOISE-- Would the project result in:</b>				

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

An analysis of the project’s potential noise and vibration impacts was conducted by ATS Consulting, LLC (ATS, 2005). The ATS report investigates potential noise and vibration impacts that could result from the planned crossover and recommends mitigation measures to eliminate the impacts. The report addresses impacts related to both operational and construction impacts and is summarized below.

In the project study area, the BART tracks parallel Jones Road, with the Pleasant Hill BART Station just north of the study area and the Walnut Creek BART Station to the south. The land use on the east side of Jones Road is almost exclusively single-family and multi-family residences. Palmer School, a private elementary and middle school, is located on Jones Road approximately 300 feet northeast of the northern crossover. The area west of the BART tracks is dominated by the I-680 corridor and commercial land uses. There also are hotel and planned multi-family residential units in the northwest quadrant of

Parkside Drive and North Main Street.

The primary concern of the noise and vibration study is the potential impacts to residences in the immediate vicinity of the proposed crossovers along the east side of Jones Road. Train wheel impacts at the special crossover trackwork could cause increased noise and vibration levels. The noise and vibration report used the following methodology to assess potential impacts:

1. Measure existing noise and vibration levels at several locations in the project corridor. The measurements showed that BART operations are the dominant source of both existing noise and vibration in the study area.
  2. Identify sensitive receptors in the vicinity of the proposed crossover location based on review of aerial photographs and a site visit.
  3. Determine noise and vibration impact thresholds. BART has adopted the Federal Transit Administration (FTA) noise and vibration impact thresholds as part of its BART Facilities Standards. The FTA noise impact thresholds are based on a sliding scale that allows more project noise with increasing levels of background noise. The vibration impact thresholds are based on the maximum vibration level caused by the project independent of existing vibration levels. More information on the FTA noise and vibration criteria is available in the ATS Report.
  4. Predict future noise and vibration levels after the proposed crossovers are installed. Because the proposed crossovers would not substantially change the number of daily trains, the potential for impact is limited to the immediate vicinity of the new crossover trackwork.
  5. Recommend mitigation. Where the predicted levels exceed the FTA impact thresholds, specific mitigation measures have been recommended to eliminate impacts.
  6. Predict worst-case levels of construction noise. The construction noise predictions are based on general assumptions of the construction procedures and equipment that would be used.
11. a) *Noise*. BART operates trains in the project vicinity 7 days a week. Typically weekday trains operate on 5- to 15-minute headways from approximately 4:20 a.m. until 7:30 p.m. After 7:30 p.m., service goes to 20-minute headways. The last train leaves the area approximately 1 a.m. Weekend trains operate on 20-minute headways. On Saturdays, train service begins at 6:15 a.m. and ends at 1 a.m. On Sundays, service begins at 8 a.m. and ends at 1 a.m. Noise generated by individual BART trains is intermittent and depends on the length of the train, the speed of the train, and whether the train is on an earthen embankment or an aerial structure.

Noise levels without the BART trains are relatively constant with background noise from I-680 traffic and peaks from intermittent traffic on Jones Road. Because of the BART embankment, the area along Jones Road is acoustically shielded from I-680 traffic. Background noise was consistently around 60 dBA during the daytime hours and reaches a low of 50 dBA between 3 and 4 a.m. Noise from the BART trains increases daytime noise to approximately 64 to 65 dBA. Late night and early morning noise from BART is somewhat lower because of less frequent service and shorter trains.

The proposed crossovers will include switches and frogs<sup>1</sup> that allow the trains to move from one track to another. It is well understood that wheel impacts at crossover frogs substantially increase noise and vibration levels with the amount of increase varying widely depending on how smoothly the rail vehicles travel between the various track components. There can also be increased noise and vibration if the crossover assembly is joined to the adjacent rails using joints. For the proposed project, the crossover trackwork will all be welded in place eliminating wheel impacts at the joints as a potential source of noise.

The traction power gap breaker stations control electric power to various segments of the third rail traction power system, and there are no noise impacts associated with gap breaker operation.

**Impact N-1. Exposure of noise-sensitive land uses to additional noise from proposed crossover.** The wheel impacts at both the north and south crossovers are predicted to cause noise impacts at residences within approximately 200 feet of the frogs. The closest residences are 120 to 170 feet from the proposed locations for the crossover frogs, which means that the frogs would increase noise levels by approximately 5 dB at these residences. According to FTA criteria, the threshold for “Severe Impact” is reached when the project is predicted to increase the existing Ldn by just over 3 dB. As a result, severe noise impacts are predicted by wheel impacts at all four frogs (two for each crossover). The guidance provided by FTA is that efforts should be made to “...gain substantial noise reduction through the use of mitigation measures” when severe noise impacts are predicted, not to simply reduce the predicted levels to just below the Severe Impact threshold. All of the predicted noise levels can be eliminated through the use of 6-foot sound walls parallel to the tracks. The wall height should be measured from the top of rail. The sound walls are predicted to reduce A-weighted sound levels by 8 dB for the first floor receivers and 6 dB for the second floor receivers. This is sufficient that the future noise levels are predicted to be 1 to 3 dB lower than the existing noise levels and is sufficient to eliminate all of the predicted noise impacts.

**Mitigation Measure N-1: Construct Sound Walls to Reduce Noise Impacts.** The proposed project shall provide sound walls along the east side of the BART crossover tracks to reduce noise impacts to residential areas east of Jones Road. Preliminary analysis by ATS Consulting indicates that a 6-foot sound wall would eliminate potential noise impacts. The wall height should be measured from the top of rail. The sound wall for the northern crossover would extend approximately 240 feet in each direction from the center of the crossover (total length of 480 feet), and the sound wall for the southern crossover would extend approximately 175 feet in each direction from the center of the crossover (total length of 350 feet).

11. b) *Vibration.* In order to predict project-related vibrations, ATS used a conservative approach for the first floor living spaces and assumed that the vibration will be the same as the outdoor vibration. For second floor spaces ATS assumed that vibration will be 5 decibels higher than the outdoor vibration. The vibration predictions indicate no impact from the north crossover and vibration levels exceeding the impact threshold by 1 VdB at one residential building near the south crossover.

**Impact V-1. Exposure of vibration sensitive land uses to additional vibration from the special trackwork.** Assuming that the increase in vibration is 6 VdB at 50 feet, ATS expected a smaller increase at distances greater than 50 feet. The projected vibration increase at 120 feet is 3.5 VdB. Since the closest residences are 120 to 170 feet from the proposed frog locations, assuming a 3.5 VdB increase for all

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<sup>1</sup> A “frog” is the special track insert used where two rails cross each other. A standard frog must have a gap to allow wheels rolling in two directions to pass over the rail. When viewed from above, this insert is thought to have some resemblance to the amphibian.

affected residences is a reasonable estimate that should be somewhat on the conservative (high) side.

At the northern crossover, the predicted vibration levels at the residences closest to the crossover locations are below the FTA impact thresholds. Predicted vibration levels are right at the impact threshold for one residential building near the south crossover. Because criteria for ground vibration are applied at indoor living spaces, the response of buildings to the incident ground vibration must be incorporated into the vibration predictions. Vibration testing inside the buildings may demonstrate that future vibration levels would be below the FTA impact threshold. The following mitigation measure would reduce project impacts to a less-than-significant level, if mitigation is required.

**Mitigation Measure V-1. Implement vibration-reducing measures at crossovers.** Perform vibration testing inside one multi-family residential building near the southern crossover as part of final design. If vibration testing inside the building does not demonstrate that future vibration levels would be below the FTA impact threshold, one or more of the following options will be implemented to reduce vibration below the FTA impact threshold. Recommended options for mitigating vibration impacts include the following measures:

- Spring rail frogs: Any system that reduces the wheel impacts at the crossovers would reduce the vibration levels. Spring rail or moveable point frogs are options. Also, it may also be possible to specify a frog design that provides for a smooth load transition between the frog points and wings and reduces the severity of the wheel impacts.
- Ballast mats: Because the ground vibration spectrum peaks at relatively low frequency, ballast mats would be only marginally effective at reducing vibration levels. Because the predicted vibration levels only exceed the FTA impact threshold by a small amount, the attenuation provided by a ballast mat would probably be sufficient.
- Concrete pad: Finite element studies of ballast and tie track on relatively soft soils have shown that some vibration reduction can be achieved through a concrete pad underneath the ballast. The pad would need to be a minimum of 12 inches thick. Stabilized soils systems using a Portland cement slurry may be an alternative to a concrete pad.

11. c) See item a above.

11. d) *Construction Noise and Vibration.* As with any large construction project, the equipment and procedures used during construction have the potential to cause temporary adverse noise and vibration impacts to adjacent properties. Because the design of this project is still in the conceptual state and many of the contractor's means and methods are unknown, only a general assessment of potential impacts can be performed.

There are no FTA criteria for construction noise impacts and no limits on construction noise. However, the FTA guidance manual suggests that noise impact will occur in residential areas if construction noise causes daytime 8-hour Leq to exceed 80 dBA or the nighttime 8-hour Leq to exceed 70 dBA (FTA, 1995).

BART adopted the BART Facilities Standards in August 2004. Section 01-57-00 of the Facilities Standards provides noise standards for BART construction (subsection 1.11). The purpose of the noise controls is to "Minimize noise caused by construction operations, and provide working machinery and equipment fitted with efficient noise suppression devices. Employ other noise abatement measures as necessary for protection of employees and the public. In addition, restrict working hours and schedule

operations in a manner that will minimize, the greatest extent feasible, disturbance to residents in the vicinity of the work.” The BFS sets limits for continuous and intermittent construction noise according to the affected land use. For example, the maximum allowable continuous noise level in a multi-family residential area is 65 dBA in the daytime, (7a.m. to 7p.m.) and 55 dBA nighttime (7 p.m. to 7 a.m.). The maximum allowable level for intermittent noise in multi-family residential areas is 75 dBA daytime and 65 dBA nighttime. The maximum allowable noise levels for single-family areas are slightly less than for multi-family areas. Appendix 2 contains the BART Facilities Standards for construction noise.

The following list is a summary of the key assumptions ATS made to estimate construction noise impacts:

- The majority of the construction would be during daytime hours. Nighttime construction activities would be limited to less intensive activities such as welding and wiring except for several long weekends when there would be 24-hour construction to install the new switches. During these periods there would be a “bus bridge” between the Pleasant Hill and Walnut Creek Stations so the contractor would have full access to the track. To minimize disruption to normal BART service, it is important that this work be completed as quickly as possible. These periods are considered special situations. BART recognizes that the construction activities, although limited in duration, could be intrusive to some adjacent residences and would work with the residents and the City of Walnut Creek to minimize the disruption. The steps to minimize disruption would include keeping the community fully informed about the construction plans and giving affected residents hotel vouchers so they have the option of temporarily lodging if they find the nighttime noise intrusive.
- There would be no pile driving or other major vibration producing activities. There could still be noticeable vibration from vibratory compaction and operation of tracked equipment such as bulldozers. It would be the contractor’s responsibility to ensure that vibration created by this equipment is always below standard criteria for vibration induced building damage.
- Typical noise generating equipment that might be used during a typical 8-hour work day would include:
  - Diesel powered front end loaders, bulldozers, cranes and similar construction equipment.
  - Pneumatic hand tools used on an intermittent basis.
  - Heavy dump trucks and other types of trucks making deliveries to the site and removing material from the site. A worst-case day might include several such truck operations per hour.
  - Stationary ancillary equipment such as air compressors and generators that might operate continuously at the same location for several hours.
- At any specific location, the worst case day would consist of the equivalent of one major piece of diesel powered equipment operating nearby 50 percent of the time and a generator or air compressor operating continuously through the day.

**Impact N-2. Construction noise impacts.** Given the assumptions listed above, the worst case 8-hour Leq would be 85 dBA at 50 ft from the center of the construction activity, which is assumed to be the center of the right of way. At the closest residences, which are approximately 130 ft from the center of the right of way, this translates to an 8-hour Leq of 78 dBA. This means that on a worst-case day, construction noise would cause approximately a 10-decibel increase in the daytime Leq. The BART

Facilities Standards state that the maximum allowable intermittent noise level in residential areas is 75 daytime and 65 nighttime.

Noise impacts related to construction of the southern gap breaker station west of the BART alignment (Option B) may be slightly less than those for the location east of the BART alignment (Option A), because Option B would be farther from the Jones Road residential neighborhood and existing land uses west of the BART alignment (city corporation yard, auto sales and service, Lawrence Way) are less sensitive to noise intrusion. In either case, the implementation of the following mitigation measure would reduce construction noise impacts related to Option A and B to a less-than-significant level.

**Mitigation Measure N-2. Reduce construction noise impacts.** As demonstrated above, the predicted noise and vibration levels during the construction phase may exceed the applicable impact thresholds and mitigation may be necessary. The following steps will be implemented to minimize noise and vibration impacts during the construction phase:

- Require that all construction be in compliance with the noise limits in Section 01 57 00 (1.11) of the BART Facilities Standards.
- Minimize noise generating nighttime activities. Restrictions should be incorporated into the construction specifications prohibiting the use of pneumatic tools, earthmoving equipment, backup alarms, and other high-noise producing equipment between 6 PM and 7 AM without the prior approval of the BART Resident Engineer.
- Prohibit use of impact and vibratory pile driving. If piles are required, the contractor should be required to use alternative means such as drilled piles or hydraulically driven piles.
- For the long weekends when the switch trackwork will be installed and 24-hour construction will be required, BART and the contractor shall coordinate with the City and residents to ensure that the affected residents are fully informed about the upcoming construction. Residents will be given the option of sleeping in hotel rooms at BART expense for the duration of the nighttime construction in areas where construction noise exceeds BART noise standards. Residents that work nights and sleep days in locations where construction noise exceeds BART noise standards will be given the same option.

11. e, f) The proposed project does not involve anyone residing or working at the site, and would not expose additional people to excessive airport noise.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>12. POPULATION AND HOUSING -- Would the project:</b>				

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

12. a) The BART crossover project would provide more efficient service on an existing transit line, but would not extend that line into any new areas. The project is designed to accommodate existing demand for service and provide additional flexibility for system management when delays occur.

12. b, c) No displacement of housing or people would be related to the project, therefore, no replacement housing would be necessary.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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**13. PUBLIC SERVICES**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

13. a) The only additional structures at the two crossover locations would be the addition of traction power gap breaker stations, one at each crossover location. The gap breaker stations are metal structures. In over 30 years of BART operations, the traction power gap breaker stations have proven to be safe and reliable and not fire hazards. Common police-related offenses that may occur in connection to the proposed crossover are vandalism and criminal trespass. BART has its own police department to investigate crimes, and the proposed project would not impact on the local police agencies. The project would not generate any additional population or housing; therefore, it would not place any additional demand on other public services, such as schools or parks.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>14. RECREATION –</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

14. a, b) The East Bay Regional Park District hiking and bicycle trail follows the north side of the Contra Costa Canal. Currently, the trail passes through the BART embankment in a tunnel. The covered portion of the tunnel is 60 feet long, though there are high-sided entryways to the tunnel on both sides

that effectively extend the constricted portion of the trail to approximately 100 feet.

The proposed project does not include any recreational facilities and does not generate any additional housing or population that would increase the demand for existing recreational facilities. The proposed project would not affect the East Bay Regional Park District’s hiking and bicycle trail adjacent to the Contra Costa Canal. No modifications to the trail are planned. However, construction of the northern crossover may require temporary closure of the trail. This issue is discussed further in Section 15g (Transportation/Traffic) below.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>15. TRANSPORTATION/TRAFFIC – Would the project:</b>				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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15. a, b) Operation of the proposed project would not have an impact on the local street traffic. Access to the two crossover locations would be from Jones Road. Jones Road is not an arterial roadway, and its chief function is to serve as a north-south collector street for the Oak Road residential community between Treat Boulevard and Parkside Drive.

*Operational Traffic Impacts.* Traffic generated by the proposed project is limited to periodic visits by BART technicians to service the switches and gap breaker stations. Typically, technicians service track switches twice a week and gap breakers once a week. Traffic related to switch or gap breaker service consists of a technician who arrives at the crossover in a pickup truck. Therefore, the average number of vehicle trips per week per crossover would be six. (Each maintenance trip equals two vehicle trips: one inbound and one outbound from the site.) If both crossovers were constructed on Jones Road, the total number of weekly vehicle trips would be 12, or an average of slightly less than two per day. Other than emergency situations, most of these service vehicle trips would take place when BART is not operating trains; that is, between 1 a.m. and 4 a.m. Due to the small number of service vehicles and low traffic flow during service hours, the proposed project would not affect the local street capacity or level of service standards. If Option B is chosen, which would construct the southern gap breaker station west of the BART alignment; vehicle traffic related to the gap breaker station would be relocated from Jones Road to Lawrence Way. The two vehicle trips a week related to the gap breaker station would not have a noticeable effect on either roadway.

*Construction Traffic Impacts.* Construction of the two proposed crossovers would generate vehicle traffic related to the project. This would include construction workers, delivery trucks, concrete trucks, dump trucks hauling fill material, as well as other project-related vehicles. The level of construction traffic will fluctuate with the various stages of construction. (See construction scenario, Project Description.)

**Impact TR-1. Construction Period Traffic Impacts.** The presence of large construction vehicles on Jones Road and Lawrence Way could cause traffic congestion and potentially hazardous conditions. This is a potentially significant impact. BART requires that contractors implement standard traffic controls specified in the BART Facilities Standards (BFS) during construction (BART, 2004). The BFS sets construction traffic requirements for traffic plans and permits, traffic controls, signage, redirecting traffic, temporary traffic closures, and construction operations under traffic, as well as other construction traffic issues. The following mitigation measure would reduce construction period traffic impacts to a less-than-significant level.

**Mitigation Measure TR-1. Develop and implement construction phasing and traffic management plan.** BART, in coordination with the City of Walnut Creek and Contra Costa County, shall prepare and implement a construction phasing and traffic management plan that defines how construction traffic will be managed during each phase of construction to reduce traffic impacts to a less-than-significant level. The plan shall specify such things as haul routes, traffic control, truck queuing, and any temporary road closures. This plan shall be in addition to the requirements of the BART Facilities Standards.

15. c) The proposed project is an at-grade project and would not have an effect on air traffic patterns.

15. d) The proposed project would require two new access points to BART property: one access for each

new traction power gap breaker station. Entry points for the northern gap breaker station and southern gap breaker-Option A would be from Jones Road. The perimeter of the BART property is fenced, and both access points would be gated. The gates for the gap breaker stations would be set at the property line, which would require the driver of the service vehicle to stop momentarily on Jones Road prior to opening the gate and entering BART property. Assuming that three parking spaces would be lost for each access point, approximately six existing parking spaces would be lost on the west side of Jones Road. (Also see item f below.) There would be no changes to the configuration of Jones Road itself. Encroachment permits for the project access points would be required from the City of Walnut Creek and Contra Costa County. Given the relatively low vehicle volumes on Jones Road and the off hours (1-4 a.m.) when maintenance is typically done, no traffic impacts are anticipated. (See item a above.) If the option for the southern crossover west-side gap breaker station is chosen (Option B), vehicle access to the gap breaker station would be from an existing intersection at Lawrence Way and Pinneman Way. No changes to the existing intersection or street frontage would be required. Therefore, there would be no impact.

15. e) The proposed project does not include any substantial changes to Jones Road or existing emergency access. See item d above.

15. f) As noted above, Jones Road is a collector street for the Oak Road neighborhood between Treat Boulevard and Parkside Drive. Jones Road is approximately 5,300 feet long. Currently, parking is allowed on both sides of Jones Road, although the northern portion of Jones Road is posted for 2-hour parking except by permit. Parking spaces are not marked, but there are an estimated 400 parking spaces total on Jones Road. Daytime parking is heaviest at the north and south ends of Jones Road, where commercial and office developments about the Oak Road neighborhood, and employees use the Jones Road street parking. Numerous daytime spaces remain available along the central portion of Oak Road.

*Operational Impacts.* If both gap breaker stations are accessible from Jones Road (northern gap breaker and southern gap breaker-Option A), approximately six existing parking spaces would be lost on the west side of Jones Road as a result of the project. (See item d above.) Loss of six parking spaces represents approximately 2 percent of the total spaces available on Jones Road. This is considered a less-than-significant impact. If Option B is implemented, and the southern gap breaker station is accessed from Lawrence Road, three parking spaces on Jones Road would be lost. This would be a less-than-significant impact.

*Construction Impacts.* Construction of the two BART crossovers would require a temporary curbside construction zone on Jones Road adjacent to each crossover. The length of the construction zones would correspond to the length of the crossovers: approximately 500 feet for the northern crossover and 200 feet for the southern crossover. The construction zone would be approximately 10 feet wide and would essentially remove the curb parking lane along the west side of Jones Road adjacent to the project sites. The construction zones would be initiated with site preparation and maintained through preassembly of the crossovers at ground level, until they are lifted into place on the mainline. (See the construction scenario, Project Description.) This estimated duration for the construction zones is 8 months for the northern crossover and 4 months for the southern crossover. However, the construction of the two crossovers need not occur simultaneously, and may be staggered to reduce construction impacts on the neighborhood.

**Impact TR-2. Parking Impacts During Construction.** Although this impact would be temporary, due to the physical extent and duration of parking loss along Jones Road during construction, this could be a potentially significant impact. A mitigation measure has been included that would reduce this impact to a

less-than-significant level.

**Mitigation Measure TR-2. Construction Parking Plan.** BART will coordinate with the City of Walnut Creek and Contra Costa County to develop a construction parking plan for the temporary loss of parking spaces along the west side of Jones Road. Construction zones along Jones Road shall only be maintained for the minimum duration necessary to complete street level construction. The plan shall include off-site parking for construction employees and off-site staging areas for equipment and material. The construction of the two crossovers shall be phased so that simultaneous construction along Jones Road at both the northern and southern crossovers will be avoided..

15. g) The project would not conflict with adopted plans, policies, or programs supporting alternative transportation. There is no bus service along Jones Road. There are bicycle facilities in the area. The pedestrian trail adjacent to the Contra Costa Canal is also a Class 1 Bikeway. (A Class 1 Bikeway is defined as a separate right-of-way from the roadway with minimal automobile cross-flow, with a minimum paved width of 8 feet for a two-way path.) The pedestrian trail/bikeway is operated by the East Bay Regional Parks District under sublicense from the Contra Costa Water District. The trail follows the route of the Contra Costa Canal adjacent to the north side of the canal. At Jones Road, the trail passes through the BART embankment in a tunnel and continues under the I-680 freeway structure.

*Operational Impacts.* As described in the Project Description, BART would construct a short retaining wall along the BART trackway and expand the width of the railroad embankment for the trackside walkway. This is not expected to impact the tunnel or the trail itself. BART operations related to the crossover project would not affect trail users; therefore, there is no impact.

*Construction Impacts.* Construction of the proposed northern crossover project would temporarily affect trail users during construction of the northern crossover along Jones Road.

**Impact TR-3. Impact to EBRPD trail users.** The tunnel through the BART embankment will require temporary, short-term closure of the trail during construction of the northern crossover. BART anticipates that not more than three trail closures would be necessary. Typically these closures would not exceed 7 days at a time. Before and after these phases of construction, when construction activity is not in the immediate vicinity of the trail, trail use could continue if adequate steps are taken to protect trail users. An encroachment permit from EBRPD would be required. The following mitigation measure will reduce construction impacts to trail users to a less-than-significant level.

**Mitigation Measure TR-3. Coordinate with EBRPD and Bicycle Advisory Committee on Trail closure plan.** Prior to issuance of an encroachment permit by EBRPD, BART will coordinate with EBRPD and Bicycle Advisory Committee to develop a construction and trail closure plan that provides for public safety, but allows continued use of the trail during construction to the greatest extent practical. BART anticipates that not more than three trail closures would be necessary. Typically these closures would not exceed 7 days at a time. BART will provide protective fencing around the construction zone.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>16. UTILITIES AND SERVICE SYSTEMS-- Would the project:</b>				

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

necessary.

16. c) The project would add a minor amount of impervious surface to the area. (Approximately 2,450 to 5,330 square feet total at two locations.) No changes to drainage facilities would be required.

16. d) The project would require some water to irrigate replacement trees. (See Impact and Mitigation Measure BIO-1, Loss of existing trees.) Drought tolerant native species would be used to replace existing species. Irrigation would be used to establish the replacement trees and would be discontinued after the establishment period was over. Therefore, there would be no impact to water resources and no need for new or expanded entitlements.

16. e) See item a above.

16. f, g) The project would not generate any solid waste during operation. A small amount of tree and shrub material may be generated during construction as a result of clearing and grubbing of the two crossover sites during site preparation. This modest amount of waste material would not affect landfill capacity. BART would comply with all federal, state, and local regulations relating to solid waste.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>17. MANDATORY FINDINGS OF SIGNIFICANCE –</b>				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<p>b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. a) The proposed project does not have the potential to adversely affect fish, wildlife, or plant species or habitat, including special status species.

17. b) The proposed project has the potential to contribute to the cumulative air quality issues related to dust and particulate matter during construction. Mitigation measures have been incorporated into the project to reduce this impact to a less-than-significant level.

17. c) The project has the potential to have adverse noise, vibration, and traffic impacts on people in the project area. Mitigation measures have been incorporated into the project to reduce these impacts to a less-than-significant level.

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**Appendix 1****Section 1.08 – Erosion and Sediment Control****BART FACILITIES STANDARDS****1.08 EROSION AND SEDIMENT CONTROL****A. Requirements:**

1. The Contractor shall prevent erosion of excavated areas, embankments, stockpiled earth materials, and other erodible areas, and shall provide control of runoff sediment from siltation and pollution of the drainage systems.
2. Prevent erosion of excavated areas, embankments, stockpiled earth materials, and other erodible construction areas, and prevent pollution of drainage systems by diversion of storm runoff around construction activities or by trapping or retaining sediment delivered by storm runoff.
3. Provide control of construction operations so that excessive sediment or siltation shall not be introduced into the drainage systems from storm runoff.
4. Comply with all applicable Federal, State, and local laws, orders, and regulations concerning the prevention, control, and abatement of water pollution.

**B. Erosion and Sediment Control Plan:**

1. Within 30 calendar days after the effective date of the Notice to Proceed, submit a plan or program for erosion and sediment control for approval.
2. The proposed plan or program shall indicate complete design and construction details and locations of all proposed temporary control structures, barriers, berms, sediment retention basins, and any other salient features.
3. Approval of the Contractor's proposed plan or program shall not relieve the Contractor of responsibility for designing, constructing, operating, and maintaining erosion and sediment control facilities in a safe and systematic manner, and for repairing any damage to the control structures and equipment caused by floods or excessive storm runoff or other unforeseen circumstance.

**C. Prevention of Erosion:**

1. Protect open excavations, trenches, embankments, and the like with barriers, berms, dams, waterproof coverings, or other measures as required to prevent erosion of open earth areas and excavated piles from storm runoff.
2. Protect stockpiled earth materials to prevent erosion.

3. Where natural drainageways are intercepted by construction activities, such drainageways shall be protected so that runoff from the site or water from construction activities is not allowed to enter the natural drainage way.

**D. Sediment Control:**

1. Sediment retention basins shall be constructed only when there are no other, more economical, measures that can be employed to prevent sediment from entering streams, drainage systems, and storm sewers during storm runoff.
2. Sediment control shall be achieved by well-planned and scheduled excavation and backfill operations and effective control measures.

Removal of Temporary Structures: Erosion and sediment control structures and facilities shall be removed from the site upon completion of the affected work.

**Appendix 2****Section 1.11 – Construction Noise****BART FACILITIES STANDARDS****1.11 NOISE CONTROL**

- A. Requirements: Minimize noise caused by construction operations, and provide working machinery and equipment fitted with efficient noise suppression devices. Employ other noise abatement measures as necessary for protection of employees and the public. In addition, restrict working hours and schedule operations in a manner that will minimize, to the greatest extent feasible, disturbance to residents in the vicinity of the Work.
- B. Definitions:
1. Daytime refers to the period from 7:00 a.m. to 7:00 p.m. local time daily except Sundays and legal holidays.
  2. Nighttime refers to all other times including all day Sunday and legal holidays.
  3. Construction Limits are defined for the purpose of these noise control requirements as the District right-of-way lines, construction easement boundaries, or property lines as shown on the Contract Drawings.
  4. Zones, Special Zones, and Special Construction Sites outside of the Construction Limits shall be as designated by the local authority having jurisdiction. Such specially designated zones shall be treated by the Contractor as if they were within the Construction Limits
- C. Monitoring:
1. Monitor noise levels of work operations to assure compliance with the noise limitations specified herein. Retain record of noise measurements for inspection by the Engineer.
  2. Promptly inform the Engineer of any complaints received from the public regarding noise. Describe the action proposed and the schedule for implementation, and subsequently inform the Engineer of the results of the action.
  3. Monitor noise levels day and night and for each new activity or piece of equipment. Start by measuring 3 times a day plus once a night for three consecutive days. Monitor noise levels at least once a week thereafter.
- D. Measurement Procedure:

1. Except where otherwise indicated, perform all noise measurements using the A-weight network and "slow" response of an instrument complying with the criteria for a Type 2 General Purpose sound level meter as described in ANSI S1.4.
  2. Measure impulsive or impact noises with an impulse sound level meter complying with the criteria of IEC 179 for impulse sound level meters. As an alternative procedure, a Type 2 General Purpose sound level meter on C-weighting and "fast" response may be used to estimate peak values of impulsive or impact noises. Transient meter indications of 125 dB C "fast" or higher will be considered as indications of impulsive noise levels of 140 d or greater.
  3. Measure noise levels at buildings affected acoustically by the Contractor's operations at points between 3 feet and 6 feet from the building face to minimize the effect of reflections.
  4. Measure noise levels at points on the outer boundaries of Construction Limits or Special Construction Sites for noise emanating from within.
  5. Where more than one criterion of noise limits is applicable, use the more restrictive requirement for determining compliance.
- E. Continuous Construction Noise: Prevent noise from stationary sources, parked mobile sources, or any source or combination of sources producing repetitive or long-term noise lasting more than a few hours from exceeding the following limits:

1. Maximum Allowable Continuous Noise Level, dBA:

<u>Affected Residential Area</u>	<u>Daytime</u>	<u>Nighttime</u>
Single family residence	60	50
Along an arterial or in multi-family residential areas, including hospitals	65	55
In semi-residential/commercial areas, Including hotels	70	60
 <u>Affected Commercial Area</u>		<u>At All Times</u>
In semi-residential/commercial areas, Including schools		65
In commercial areas with no nighttime residency		70
 <u>Affected Industrial Area</u>		
All locations		80

F. Intermittent Construction Noise: Prevent noises from non-stationary mobile equipment operated by a driver or from any source of non-scheduled, intermittent, non-repetitive, short-term noises not lasting more than a few hours from exceeding the following limits:

2. Maximum Allowable Intermittent Noise Level, dBA:

<u>Affected Residential Area</u>	<u>Daytime</u>	<u>Nighttime</u>
Single family residence areas	75	60
Along an arterial or in multi-family Residential areas, including hospitals	75	65
In semi-residential/commercial areas, Including hotels	80	70
 <u>Affected Commercial Area</u>		<u>At All Times</u>
In semi-residential/commercial areas, including schools		80
In commercial areas with no nighttime residency		85
 <u>Affected Industrial Area</u>		
All locations		90