4. ENVIRONMENTAL CONSEQUENCES

4.1. TRAFFIC AND TRANSPORTATION SYSTEMS

4.1.1. Methodology

Trip generation and distribution for each of the action alternatives would be very similar, except for the slight differences in road configuration and the movement of buses. Under Alternative 1, buses would turn off of John Muir Parkway, cross Refugio Creek on Transit Loop Drive, drop off/pick up passengers, cross the new bridge at Bayfront Drive, and turn right back onto John Muir Parkway. Figure 2.2-1 of this document shows the layout for Alternative 1. Figure 2.2-18 shows Alternative 2, in which buses would exit John Muir Parkway, drop-off/pick up passengers, and turn left back onto John Muir Parkway. Roadway configuration, traffic effects, and transportation conditions would be the same for either alternative beyond the intersection of Bayfront Boulevard and John Muir Parkway.

4.1.2. Significance Criteria

The impact of the proposed project on transportation and traffic would be considered significant if it would exceed the following Standards of Significance, in accordance with Appendix G of the CEQA Guidelines and the standards adopted by the City:

- 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), as follows:
    - Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways, or exceed thresholds established by the City of Hercules as follows:
        - For any arterial street and signalized intersection, the impact would be considered significant if the project would cause the street segment or intersection to operate below LOS D during peak hours, or
        - For signalized intersections on San Pablo Avenue, the impact would be considered significant if the project would cause the intersection to operate below LOS E during peak hours;
        - 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;
        - Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses;

- Result in inadequate emergency access; or
- Result in inadequate parking capacity.

4.1.3. Impacts and Mitigation

These scenarios evaluate the future baseline scenario traffic conditions plus project-generated traffic estimated for each of the action alternatives currently under consideration. The amount of traffic associated with a project is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. Trip generation is the process of predicting the number of peak hour trips a proposed development would contribute to the roadways, and whether these trips would be entering or exiting the site. After the number of trips is determined, the distribution process projects the direction these trips use to approach and depart the site from a regional perspective. Trip assignment involves determining which specific roadways a vehicle would use to travel between its origin and destination.

No-Action Alternative (Future Baseline Conditions)

The analysis of Traffic and Transportation Systems effects differs from most of the other evaluations contained in environmental documents because the authors must estimate the expected change in conditions that happen over time rather than expected conditions to remain static. Traffic volumes can be expected to increase over time as more people move into an area and general background growth occurs. Traffic volumes would also increase as economic development occurs; whether it is building on undeveloped land, increasing density, or redeveloping land that was previously used for other purposes. The Hercules ITC future baseline traffic analysis considers background growth that is likely to occur in the vicinity of the project. The analysis also includes the traffic expected to be generated by other projects approved by the City or reasonably expected to occur prior to construction of the proposed project as well as those already built and occupied after the existing condition traffic counts were completed. The future baseline scenario also describes the transportation conditions that are likely to occur if the No-Action Alternative were selected.

Major projects currently under construction or expected to be completed prior to construction of the Hercules ITC project would add to the traffic in the study area. The approved or planned projects included in the future baseline condition include:

- Commercial building: 9,850 sf of commercial uses at Willow Avenue/I-80 (under construction).
- Sycamore Downtown: 96 units over 40,000 sf of retail commercial space on Sycamore Avenue between Front and Tsushima Street (approved).
- Hill Town: 640 multi-family units on a 44.2-acre site at San Pablo Ave, I-80, and SR 4 (development application).
- New Town Center (all three phases): 7 parcels on 34.95 acres along Willow Avenue east of I-80 and on San Pablo Avenue west of I-80. This project proposes 1,610,000 sf of residential uses, with 1,650 units; 196,250 sf of office space; 320,000 sf of retail space; 500 parking

spaces for public use; 2,475 parking spaces for residential uses; and 2,060 parking spaces for non-residential uses (development application).

- Bayfront Project: 1,392 residential units, including 209 affordable; 81,000 sf of office space; 74,500 sf of retail space; and 134,000 sf of flex space, on a 42.36-acre site located east of San Pablo Bay, north of Santa Fe, and south of Linus Pauling. This proposed project is intended to be a transit-oriented development and includes the Hercules ITC project site.

- Sycamore Crossing: 170 residential units, 192,500 sf of office space, 160,000 sf of retail space, 180-room hotel, and 1,516 parking spaces, located south of Sycamore Avenue and east of Tsushima.

- As envisioned in the General Plan, a vehicle accessible connection between John Muir Parkway and Linus Pauling Boulevard will be constructed at some time in the future.

The City is considering relocating the I-80/SR-4 ramp at Willow further to the east and, according to the recently released Redevelopment Plan, this would improve traffic conditions at this intersection. This improvement is not included in the analysis because the traffic study was done prior to the issuance of the document and the proposal has not been designed, permitted, or funded and therefore does not yet appear to be reasonably foreseeable.

To obtain the intersection turning movement volumes for the future baseline scenario, forecast results from the Contra Costa County Transportation Authority's (CCTA) countywide travel demand model were analyzed. The model-forecast results indicated that the growth factors for the intersection approaches on San Pablo Avenue and Sycamore Avenue were different from all other approaches, and these are summarized in **Table 4.1-1,** Future Baseline Scenario Link Demand Growth Factors. Using these growth factors, the 2006 intersection turning movement volumes were factored up to year 2010 levels using the following equation:

Future baseline scenario turning movement volumes = existing turning movement counts * (2010 model year link demand/2006 interpolated model year link demand).

Table 4.1-1
Future Baseline Scenario Link Demand Growth Factors

Street	2006 – 2010 Morning Annual Growth	2006 – 2010 Afternoon Annual Growth
San Pablo Avenue	6.4%	6.4%
Sycamore Avenue	9.2%	9.2%
Other Streets	1.5%	2.4%
Source: DKS Associates 2010.		

Figure 4.1-1, Future Baseline Conditions Peak Hour Volumes, illustrates the future baseline scenario peak hour volumes. Intersection operational levels of service, along with their associated delays and volume-to-capacity ratios, are summarized in **Table 4.1-2,** Future Baseline

Scenario – Study Intersection LOS Summary. Detailed calculation work sheets are provided in the Hercules ITC Traffic Impact Analysis, Appendix E of this document.

All study intersections would continue to operate at acceptable levels of service under the future baseline scenario with the exception of Sycamore Avenue/Willow Avenue, which would operate at LOS E during the morning peak hour and LOS F during the afternoon peak hour.

Table 4.1-2
Future Baseline (2010) Scenario – Study Intersection LOS Summary

Intersection Number	Intersection	Morning Peak Hour		Afternoon Peak Hour	
		V/C Ratio[1]	LOS [2]	V/C Ratio [1]	LOS [2]
1	Willow Avenue/I-80 WB off-ramp	0.221	A	0.308	A
2	Willow Avenue/Hawthorne Drive	0.301	A	0.241	A
3	San Pablo Avenue/Willow Avenue	0.218	A	0.442	A
4	San Pablo Avenue/John Muir Parkway	0.513	A	0.706	C
5	San Pablo Avenue/Sycamore Avenue	0.927	**E**	0.830	D
6	San Pablo Avenue/Hercules Avenue	0.598	A	0.534	A
7	San Pablo Avenue/Pinole Valley Road	0.480	A	0.582	A
8	San Pablo Avenue/Tennent Avenue	0.651	B	0.709	C
9	San Pablo Avenue/Appian Way	0.360	A	0.683	B
10	Sycamore Avenue/Willow Avenue	0.975	**E**	1.098	**F**

Source: DKS Associates 2010.
[1]Volume to Capacity Ratio
[2]LOS = level of service
Bold indicates an intersection operating at unacceptable LOS E or LOS F.

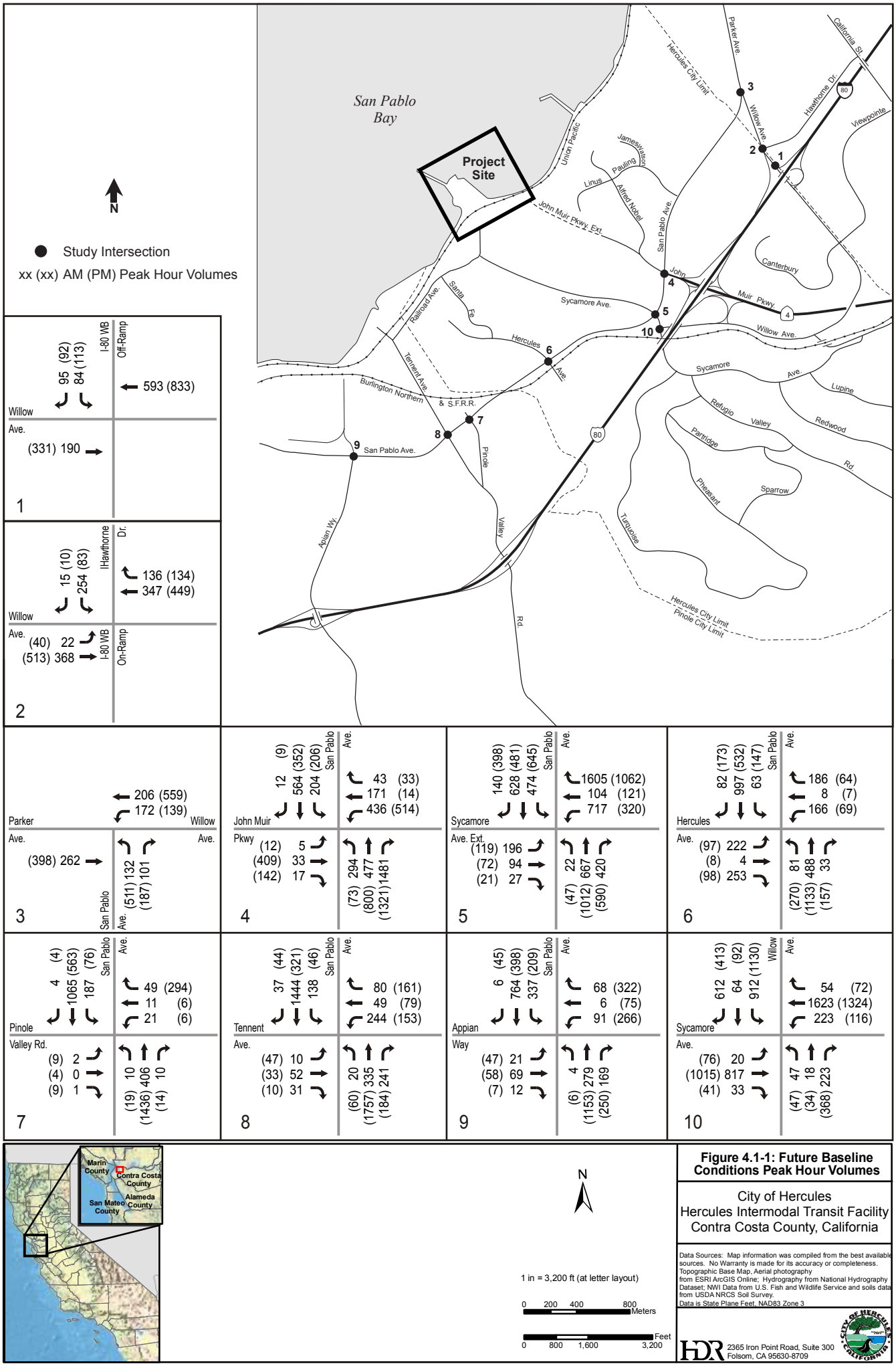

Figure 4.1-1: Future Baseline Conditions Peak Hour Volumes

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

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Alternative 1

Rail Boardings by Mode of Access

Table 4.1-3, 2035 Rail Boardings by Mode of Access, details how rail passengers are forecasted to access the intermodal transit center during the morning peak period. Note that the data for mode of access data are representative of the morning peak period (7:00 to 9:00 a.m.) and not peak hour as it is the critical peak for parking demand.

From the mode of access table, the peak period automobile trip generation, including park-and-ride and drop-off trips (sometimes called "kiss-and-ride" trips), can be forecasted and distributed onto the local roadway network based on prevailing travel patterns and land uses. Since Hercules and the surrounding areas of western Contra Costa County are for the most part a bedroom community, it was assumed that morning peak trips would originate in the Hercules area and that these same trips would return to the Hercules area during the afternoon peak (4:00 to 6:00 p.m.). It was also assumed that the mode of access shown in Table 4.1-3 would also be the mode of egress during the afternoon peak. It is assumed that there would be no "reverse commuting" such as traveling from San Francisco to Hercules during the morning commute. Of the 232 morning peak period trips, approximately 157 are automobile trips. During the afternoon peak period, of the 292 peak period daily boardings, approximately 196 are automobile trips.

Table 4.1-3
Rail Boardings by Mode of Access (2035)

Mode	% Boardings	Number of Boardings Peak Period	
		Morning[1]	Afternoon
Drive Alone	38.6%	90	113
Dropped Off/Picked Up	23.1%	54	67
Walk	16.5%	38	48
Bike	11.5%	27	34
Transit	2.45%	6	7
Carpool[2]	7.9%	18	23
Total	100%	232	292

Source: Fehr &Peers 2009.
[1] Number of Boardings for the morning peak period were derived from the Fehr & Peers December 2009 Memorandum.
[2] Assumes 2.5 person occupancy per vehicle.

Automobile Trip Distribution

The automobile trip distribution pattern for the intermodal transit center was determined based on existing travel patterns and on the nearby complementary land uses. As shown in **Table 4.1-4,** Hercules ITC Trip Distribution, trips coming from the north or south would access the intermodal transit center via San Pablo Avenue. Trips originating from the eastern part of Hercules would use Sycamore Avenue. The remaining trips would be internal to the project area. Because the proposed intermodal transit center would not generate substantial new employment

or draw people to the site, it is assumed that the intermodal transit center would provide transit services to existing commuters and not generate new trips. Rather, these trips would come from the regional roadway and transit network and be diverted to the intermodal transit center.

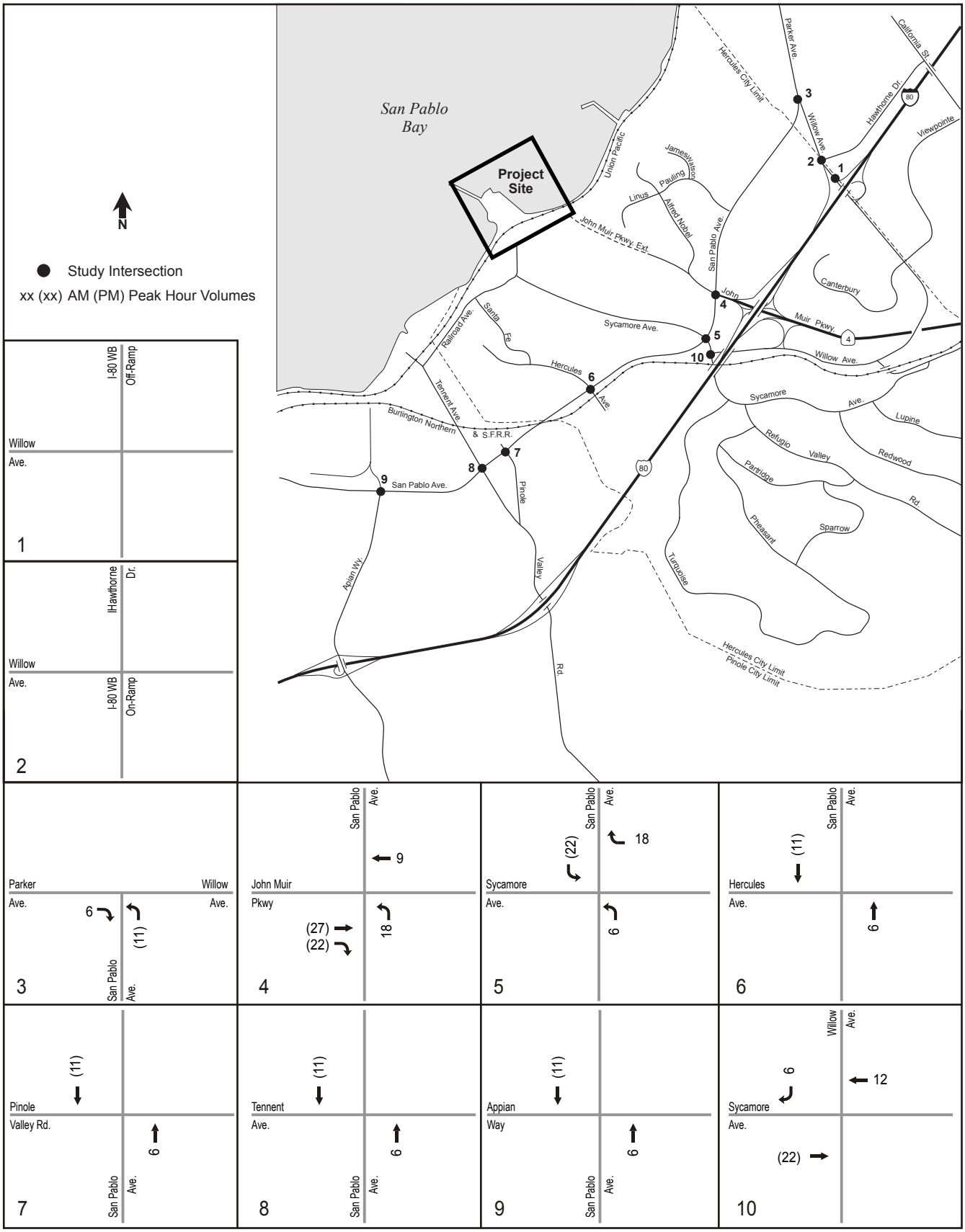
Table 4.1-4
Hercules ITC Trip Distribution

Origin/Destination	Percent Distribution to/from Hercules ITC (Parcel K) garage
San Pablo Avenue (northbound)	10%
Interstate 80 (northbound)	10%
State Route 84 (eastbound)	5%
Refugio Valley via Palm	5%
Refugio Valley via Willow Avenue	15%
Interstate 80 (southbound)	10%
San Pablo Avenue (southbound)	10%
Hercules Residential	35%
Source: DKS Associates. February 2010. Based on Fehr & Peers data emailed to DKS January 14, 2010.	

Automobile Trip Assignment

After the trip distribution was established, each auto trip was assigned to the roadway network based on the most logical route from its respective geographical zone. Based on the Hercules ITC project trip generation, trip distribution, and trip assignment, the proposed project is expected to generate 40 morning peak hour trips and 71 evening peak hour trips. The proportions of these trips that would travel through the study intersections were used for the intersection LOS analysis under project scenario. San Pablo Avenue is used for trips originating in Pinole or Rodeo, while Sycamore Avenue carries most of the Hercules trips. Access to the intermodal transit center would be provided via Sycamore Avenue and Railroad Avenue, and via the planned transit loop roadway connecting to John Muir Parkway. Afternoon egress, and "drop-off" egress trips were assigned to John Muir Parkway or Sycamore Avenue first, depending on the final destination. These trips were then assigned to San Pablo Avenue or SR-4. **Figure 4.1-2** Peak Hour Project Trips, illustrates the project trip assignment at the study intersections. **Figure 4.1-3** Project Conditions Peak Hour Volumes, shows the project scenario intersection volumes.

If either of the action alternatives is selected, regional automobile trips to the south, to the Hercules ITC, or to the north would be removed from the network in their present form to reflect a shift from auto travel to the ITC. This would result in fewer regional trips on I-80 but more trips on the local network, especially at the San Pablo Avenue/Sycamore Avenue intersection and the San Pablo Avenue/John Muir Parkway intersection.



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1 in = 3,200 ft (at letter layout)

0 200 400 800 Meters

0 800 1,600 3,200 Feet

Figure 4.1-2: Peak Hour Project Trips

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources. No Warranty is made for its accuracy or completeness.
Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey.
Data is State Plane Feet, NAD83 Zone 3

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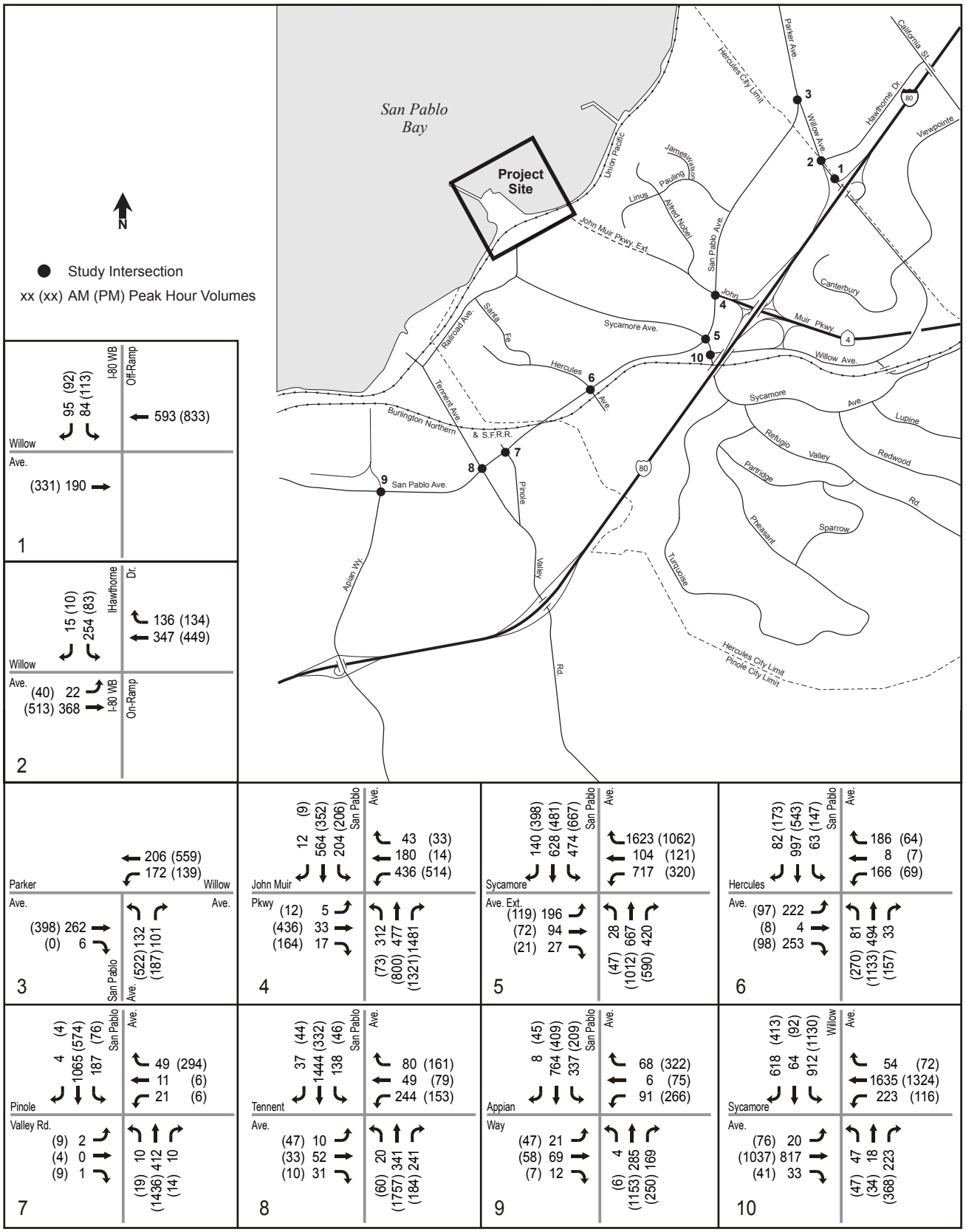

1 in = 3,200 ft (at letter layout)

N

0 200 400 800 Meters

0 800 1,600 3,200 Feet

Figure 4.1-3: Project Conditions Peak Hour Volumes

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources. No Warranty is made for its accuracy or completeness. Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey.
Data is State Plane Feet, NAD83 Zone 3

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In summary, the Hercules ITC project is forecasted to generate 232 inbound park-and-ride automobile trips, including 54 “drop off” automobile trips during morning peak hours. During afternoon peak hours, the intermodal transit center is forecasted to generate 292 outbound park-and-ride automobile trips, including 67 “drop-off” automobile trips.

The automobile trips were distributed based on existing travel patterns and nearby complementary land uses. Automobile trips were assigned to the roadway network and local intersections based on the most logical routing from these zones.

Alternative 2

Beyond the intersection of Bayfront Boulevard and John Muir Parkway the roadway configuration, traffic effects, and transportation conditions would be the same for either alternative and traffic conditions described above for Alternative 1 would be the same for Alternative 2 except that the two looped driveways from John Muir Parkway would provide separate vehicle access for commuter bus/paratransit drop-off and turnaround and for passenger vehicle drop-off. The driveways would slope upward from the street to the pedestrian plaza.

Impacts to Intersection Level of Service

Impact TRANS-1: The proposed Hercules ITC project would not cause a substantial increase in traffic relative to the existing traffic load and capacity of the street system under the Future Baseline conditions.

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC project would not be built, and no vehicle trips would be generated. Under the No-Action alternative, the intersection of Sycamore Avenue/Willow Avenue is expected to continue to function at a deficient level of service, but no additional adverse effects to intersection level of service related to increased vehicle trips would occur. The potential beneficial impacts of the project, which could reduce traffic congestion at local intersections by reducing the number of passenger vehicles and increasing transit use, would also not occur.

The City is considering relocating the I-80/SR-4 ramp at Willow further to the east and, according to the recently released Redevelopment Plan, this would improve traffic conditions at this intersection. This improvement is not included in the analysis but would, if approved, improve sufficiently to avoid a deficient level of service.

Alternatives 1 and 2

The proposed Hercules ITC project would not cause a substantial increase in traffic relative to the existing traffic load and capacity of the street system under the Future Baseline conditions (less than significant).

The estimated vehicle trips generated by the Hercules ITC project as described in the previous section were added to the Future Baseline Scenario Morning and Afternoon peak hour

intersection volumes. The resulting Project Scenario intersection volumes are shown above on Figure 4.1-3.

Table 4.1-4 Project Scenario Level of Service Summary, summarizes the Project Scenario weekday peak hour intersection LOS analysis results. Detailed calculation work sheets are provided in Appendix E. According to the City of Hercules intersection LOS standards, the 10 study intersections would continue to operate at acceptable levels of service for the project scenario with the exception of the Sycamore Avenue/Willow Avenue intersection. This intersection would continue to operate at LOS E during morning peak hours and LOS F during afternoon peak hours. However, the proposed Hercules ITC project would increase intersection volumes by about 1 percent at this intersection. Because the Sycamore Avenue/Willow Avenue intersection would already operate at a less than acceptable level in the Future Baseline Scenario, the addition of Project Scenario traffic would not result in a significant impact.

Mitigation: No mitigation is required.

CEQA Determination: Impact is less than significant.

Table 4.1-4
Project Scenario Level of Service Summary

		Morning Peak Hour		Afternoon Peak Hour	
Intersection Number	Intersection	V/C Ratio[1]	LOS	V/C Ratio [1]	LOS
1	Willow Avenue/I-80 WB off-ramp	0.221	A	0.308	A
2	Willow Avenue/Hawthorne Drive	0.301	A	0.241	A
3	San Pablo Avenue/Willow Avenue	0.220	A	0.445	A
4	San Pablo Avenue/John Muir Parkway	0.524	A	0.720	C
5	San Pablo Avenue/Sycamore Avenue	0.933	**E**	0.833	D
6	San Pablo Avenue/Hercules Avenue	0.598	A	0.534	A
7	San Pablo Avenue/Pinole Valley Road	0.480	A	0.582	A
8	San Pablo Avenue/Tennent Avenue	0.651	B	0.709	C
9	San Pablo Avenue/Appian Way	0.362	A	0.683	B
10	Sycamore Avenue/Willow Avenue	0.979	**E**	1.098	**F**

Source: DKS Associates 2010.
[1]Volume to Capacity Ratio
***Bold** indicates an intersection operating at unacceptable LOS E or LOS F.*

Impacts to Transit Service

Impact TRANS-2: The proposed Hercules ITC project would result in increases in transit ridership.

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC would not be built and no new or increased transit options or service would be provided. No adverse impacts to the existing transit system would occur. However, the potential beneficial impacts of the project, which could rationalize and improve local and regional transit service, and provide new transit options for local commuters, would also not occur.

Alternatives 1 and 2

The proposed Hercules ITC project would result in slight increases in transit ridership.

As discussed in the Purpose and Need, the purpose of the proposed Hercules ITC project is to increase local and regional mobility and transportation options by providing new and expanded transit services with intermodal connections to facilitate use of public transit ridership. Together with the rail terminal, the proposed project includes a local and regional express bus transit terminal. The WestCAT would operate the local and express bus service.

Under Alternative 1, all bus service would access the intermodal transit center via John Muir Parkway at Bayfront Boulevard and a planned transit loop roadway. A passenger loading and unloading area for local and regional buses would be provided along the transit loop roadway.

Under Alternative 2, the transit terminal would be located adjacent to the parking structure and would include layover spaces to serve intermodal transit center passengers. Bus service would be provided at the terminal located off of the John Muir Parkway extension, adjacent to the intermodal transit center and parking structure. Access to the rail platform would be provided by a raised walkway.

According to the trip generation and mode of access analysis, approximately two-percent of peak hour rail ridership would take transit to access the intermodal transit center. This equates to approximately seven multi-modal passengers (rail passengers transferred from transit) during the peak hour in 2035. The average weekday transit boardings for WestCAT in 2035 are projected to be 11,600 (MTC 2008). Under either alternative, the incremental increase in passenger demand should be accommodated by the additional, re-routed transit service at the intermodal transit center.

Mitigation: No mitigation is required.

CEQA Determination: The impact of the project would be less than significant.

Parking Impacts

Impact TRANS-3: The proposed Hercules ITC project would not increase parking demand that may exceed the available parking supply.

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC would not be built and there would be no increase in demand for parking in the project vicinity. No adverse impacts to the existing parking supply would occur. However, the potential beneficial impacts of the project, improving intermodal transit connections, attracting automobile commuters to transit, and reducing overall private vehicle use and the attendant demand for parking, would also not occur.

Alternatives 1 and 2

Alternative 1 of the proposed Hercules ITC project would result in increased parking demand that may exceed the available parking supply in the short-term.

According to the mode-of-access analysis, there would be a park-and-ride demand of 189 vehicles during afternoon peak hours. A parking supply analysis was conducted for both project alternatives to determine if the provided parking capacity would be sufficient. A longer term horizon of year 2035 was used to reflect ridership projections at full build-out, and so that the analysis would conservatively reflect the full potential for future parking demand and supply, as a shorter horizon year may not capture the full potential parking demand.

Under Alternative 1, the proposed project would provide approximately 150 interim surface parking spaces. In the absence of additional surface parking spaces or the planned parking structure, this would result in a deficit of 39 parking spaces. Under Alternative 2, the proposed project would provide 385 parking spaces within a proposed parking structure. With a projected park-and-ride demand of 189 vehicles, there would be a sufficient supply of parking.

Mitigation Measure TRANS-3: The 150-space surface parking lot proposed under Alternative 1 shall be expanded or alternative parking capacity, such as shared or off-site parking, shall be identified to accommodate the expected demand of 189 park-and-ride vehicles during afternoon peak hours. Alternatively, measures to reduce parking demand, such as bus or shuttle service from the Hercules ITC or remote lots, shall be implemented.

CEQA Determination: For both Alternatives 1 and 2, potential impacts related to parking would be to less than significant with implementation of **Mitigation Measure TRANS-3**.

Safety Impacts

Impact TRANS-4: Construction of the proposed Hercules ITC project will introduce additional large (haul) trucks and other related traffic that could result in potentially adverse safety impacts to pedestrians, bicyclist and/or other motorists.

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC project would not be built, and therefore there would be no project-related increase in haul truck or other construction-related traffic. No adverse impacts related to pedestrian, bicycle and/or other motorist safety would occur.

Alternative 1

Construction activities that would generate off-site heavy construction traffic include removal of the surcharge material currently located on site, as well as removal of other excavated materials, and importation of construction material. It is estimated that approximately 6,500 truck trips (based on a 10-cubic-yard truck without a "pup" trailer). Because the architectural designs and plans have not yet been finalized, only a rough estimate of the quantity of material required to be brought onto the site is available. Based on the 30 percent design report, it is estimated that approximately 300 truck trips would be required to bring construction materials onto the site. Additionally, the method for constructing the new track has not yet been finalized, so it is currently not known whether the new track material (including track, ties, signals, and turnouts) would be brought in by train or truck. It can also be assumed that most of the 600 workers associated with the project would travel by motor vehicle to and from the site while working on the project. Construction traffic can be expected to occur throughout the entire 18 month construction period. Construction traffic would increase the number of heavy vehicles using the local roadways adjacent to the Hercules ITC site; however, the quantity of construction traffic associated with the project is not expected to result in a significant adverse effect to the safety impacts to pedestrians, bicyclists and/or other motorists in the area surrounding the Hercules ITC site.

Alternative 2

Construction traffic would be the same for Alternative 2 (East of Refugio Creek) as that described above for Alternative 1 (West of Refugio Creek).

Mitigation Measure TRANS-4: To reduce hazards to vehicles on local roadways, the City shall ensure that its primary construction contractor implements the following measures:

- Develop and implement a traffic safety plan in coordination with the City. The construction contractor shall develop a plan for traffic safety assurance for the local roadways in the project vicinity. The contractor shall submit the plan to the City Public Works Department for approval review before the initiation of construction-related activity that could adversely affect traffic on local roadways. The plan shall include the following elements:
    - Posting warnings about the potential presence of slow-moving vehicles;
    - Using traffic control personnel when appropriate;
    - Scheduling truck trips outside of peak morning and evening traffic periods to the extent feasible;

- Placing and maintaining barriers and installing traffic control devices necessary for safety, as specified in Caltrans's Manual of Traffic Controls for Construction and Maintenance Works Zones and in accordance with City requirements;
- Maintaining routes for passage of emergency response vehicles through roadways affected by construction activities.
- Training construction personnel in appropriate safety measures as described in the plan, and implementing the adopted plan.
- Assessing damage to roadways used during construction and repairing all potholes, fractures, or other damages.
- Maintaining emergency access during construction. Notifying and consulting with emergency service providers and undertaking measures necessary to maintain emergency access and facilitate the passage of emergency vehicles on city streets.

CEQA Determination: With implementation of **Mitigation Measure TRANS-4**, this impact will be less than significant.

Impact TRANS-5: The proposed Hercules ITC project would not result in increased hazards to pedestrians or bicyclists or conflicts with adopted policies, plans, or programs promoting walking or bicycling due to operation of the project.

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC project would not be built, and therefore there would be no project-related increase in pedestrian or bicycle activity in the project vicinity. No adverse impacts related to pedestrian and bicycle safety would occur. However, the potential beneficial impacts of the project, which would provide new pedestrian- and bicycle-accessible transit options and reduce the distance many pedestrian and bicycle commuters would need to travel to reach transit service, also would not occur. Under the No-Action Alternative, the Bay Trail link would remain unbuilt until another, unknown, development initiative constructs the trail segment.

Alternatives 1 and 2

The proposed Hercules ITC project would not result in increased hazards to pedestrians or bicyclists or conflicts with adopted policies, plans, or programs promoting walking or bicycling.

Approximately 28 percent of the peak hour ridership (65 morning riders and 82 afternoon passengers) would access the Hercules ITC by non-motorized means. For pedestrians, access along the adjacent roadway network would continue to be accommodated by the provided sidewalks that connect the surrounding neighborhood to the Hercules ITC or by planned sidewalks and pedestrian paths that would be required as part of the planned surrounding transit-oriented development. For bicyclists, a bike lane is provided on San Pablo Avenue from Willow Avenue to Hercules Avenue. West of San Pablo Avenue, bicyclists would share Sycamore

Avenue with motor vehicles to access the Hercules ITC. The Bay Trail and Creekside Trial would also provide bicyclists and pedestrians with separate access to the Hercules ITC.

The study intersections are currently signalized and equipped with pedestrian crossing signals and crosswalks. The expected increase in vehicular traffic volumes at these intersections would not significantly impact pedestrian or bicycle movements. However, the project site plans do not identify bicycle parking facilities. Therefore, the project's impact related to conflicts with adopted policies, plans, or programs promoting walking or bicycling would be potentially significant. To minimize impacts to pedestrians and bicyclists associated with the proposed project, the following mitigation measure shall be implemented.

Mitigation Measure TRANS-5: Final design of the Hercules ITC project shall provide bicycle parking spaces to further encourage bicycle access to the site. The trip generation and mode of access analysis indicates that 34 bicycle riders would board the train, and therefore, it would be appropriate to provide roughly 40 bicycle parking spaces at the Hercules ITC to meet the expected demand and provide some additional parking for high volume days. Additionally, the current draft design includes 12 bicycle storage lockers.

The final design should also provide for bicycle lanes along the future John Muir Parkway extension.

CEQA Determination: For both Alternatives 1 and 2, impacts related to the promotion of bicycling would be less than significant with implementation of **Mitigation Measure TRANS-5**.

Access and Circulation Impacts

Impact TRANS-6: The internal design of the Hercules ITC project would not result in impacts on vehicle site access and circulation.

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC project would not be built. No adverse impacts related to site access or circulation would occur.

Alternatives 1 and 2

The internal design of the Hercules ITC project would not result in impacts on vehicle site access and circulation.

Project access and circulation were analyzed for both alternatives of the proposed project. The site plans (Figures 2.2-1 and 2.2-18) indicate access from the John Muir Parkway extension and from Bayfront Boulevard. These roadways would allow for two-way vehicular circulation.

Under Alternative 1, transit vehicles would access the Hercules ITC from John Muir Parkway, following the transit loop roadway to the west to drop off and pick up passengers directly in front of the terminal. "Drop-off" vehicles would access the passenger drop off zone, located on the east side of transit loop roadway across the street from the transit drop-off, by turning right (westbound) or left (eastbound) from Bayfront Boulevard. Other vehicles traveling westbound on

John Muir Parkway would turn left at Bayfront Boulevard to reach the driveway for the structured parking, or turn left into the proposed surface parking lot. Vehicles traveling eastbound on Bayfront Boulevard would turn left into the parking structure or right to reach the surface parking lot. The project design includes crosswalks, sidewalks, curbs, and islands where feasible to separate pedestrians and bicyclists from vehicular traffic. Emergency vehicles would have access from Bayfront Boulevard to the north into the UPRR ROW and connect to the west end of the station platform.

Under Alternative 2, vehicles traveling westbound on John Muir Parkway would turn right into the project site to park at the proposed parking structure while vehicles traveling eastbound on Bayfront Boulevard would turn left. Two looped driveways from John Muir Parkway would provide separate vehicle access for commuter bus/paratransit drop-off and turn-around and one for passenger vehicle drop-off. This alternative includes a three-level parking structure located east of Refugio Creek.

The overall project internal design would provide acceptable site access and would not create significant conflicts with existing traffic patterns. No adverse internal circulation impacts related to the proposed project are anticipated.

Mitigation: No mitigation is required.

CEQA Determination: No significant or potentially significant impact would occur.

4.1.4. Cumulative Impacts and Mitigation

The traffic analysis also found that the Hercules ITC would have not result in any cumulative adverse effects to the intersections within the study area. Although several intersections in the study area would operate at less than acceptable levels in 2035 and project-related traffic would contribute to traffic volumes, the project would not result in a significant impact at these intersections. **Tables 4.1-5** and **4.1-6** provide a level of service comparison for all study intersections during the a.m. and p.m. peak-hour, respectively.

CEQA Determination: Cumulative effects associated with traffic and transportation systems from other identified projects are not considered significant.

Table 4.1-5
LOS Comparison Summary – A.M. Peak

Intersection Number	Intersection	Cumulative No Project		Cumulative with Project		Difference Project vs. No Project Delay	Potentially Significant Impact?
		Delay	LOS	Delay	LOS		
1	Willow Avenue/I-80 WB off-ramp	0.591	A	0.591	A	0.000	No Impact
2	Willow Avenue/Hawthorne Drive	0.781	C	0.781	C	0.000	No Impact
3	San Pablo Avenue/Willow Avenue	0.806	D	0.807	D	0.001	No Impact
4	San Pablo Avenue/John Muir Parkway	0.764	C	0.780	C	0.016	No Impact
5	San Pablo Avenue/Sycamore Avenue	0.859	D	0.865	D	0.006	No Impact
6	San Pablo Avenue/Hercules Avenue	0.758	C	0.758	C	0.000	No Impact
7	San Pablo Avenue/Pinole Valley Road	0.889	D	0.889	D	0.000	No Impact
8	San Pablo Avenue/Tennent Avenue	1.138	F	1.138	F	0.000	No Impact
9	San Pablo Avenue/Appian Way	0.624	B	0.626	B	0.002	No Impact
10	Sycamore Avenue/Willow Avenue	0.656	B	0.660	B	0.004	No Impact

Notes: Intersections operating below acceptable LOS are in bold.
Source: DKS Associates 2010

Table 4.1-6
LOS Comparison Summary – P.M. Peak

Intersection Number	Intersection	Cumulative No Project		Cumulative with Project		Difference Project vs. No Project Delay	Potentially Significant Impact?
		Delay	LOS	Delay	LOS		
1	Willow Avenue/I-80 WB off-ramp	**0.938**	**E**	**0.938**	**E**	0.000	No Impact
2	Willow Avenue/Hawthorne Drive	0.733	C	0.733	C	0.000	No Impact
3	San Pablo Avenue/Willow Avenue	0.712	C	0.712	C	0.000	No Impact
4	San Pablo Avenue/John Muir Parkway	**1.239**	**F**	**1.253**	**F**	0.030	No Impact
5	San Pablo Avenue/Sycamore Avenue	**1.103**	**F**	**1.110**	**F**	0.015	No Impact
6	San Pablo Avenue/Hercules Avenue	0.755	C	0.755	C	0.000	No Impact
7	San Pablo Avenue/Pinole Valley Road	**1.108**	**F**	**1.108**	F	0.000	No Impact
8	San Pablo Avenue/Tennent Avenue	**1.259**	**F**	**1.259**	F	0.000	No Impact
9	San Pablo Avenue/Appian Way	**1.366**	**F**	**1.366**	F	0.000	No Impact
10	Sycamore Avenue/Willow Avenue	0.762	C	0.762	C	0.000	No Impact

Notes: Intersections operating below acceptable LOS are in bold.
Source: DKS Associates 2010

4.2. LAND USE, PLANS AND POLICES

This section discusses the potential impacts of the Hercules ITC alternatives on lands uses within the project area. The analysis will focus on the project components that would be considered an impact to the current planned land uses and zoning designations in accordance with the various regulatory authorities governing the proposed site for each of the alternatives, including the no-action alternative.

4.2.1. Methodology

The analysis in this section focuses on the compatibility of land uses between existing and planned land uses proposed for the project site. The determination of the potential impacts was extracted from a review of the applicable federal, state, and local plans and policies. The land use and zoning designations in the project site include undeveloped public-open space and waterfront-commercial land intended primarily for mixed-use development.

4.2.2. Significance Criteria

The analysis for this section will address the criteria listed below for each of the proposed alternatives, with the purpose of determining any potential impacts under NEPA and CEQA guidance. The proposed project would be considered to have potential adverse impacts to the environment if the proposed project alternatives would exceed any of the following Standards of Significance regulations from Appendix G of the State CEQA Guidelines and definition of significance in the Council on Environmental Regulations (40 CRF Sec. 1508.27):

- Physically divide an established community causing a disruption in the community cohesion, either directly or indirectly.
- Conflict with applicable land use plan, policy, or regulation or 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.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.2.3. Impacts and Mitigation

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC project would not be implemented. Consequently, the No-Action Alternative would not result in the construction of an intermodal transit center with a potential adverse impact or physical division of the community, or conflict with any of the applicable and existing habitat conservation or natural community conservations plans, policies, and regulations. There would be no direct or indirect land use impacts as a result of the No-Action Alternative. However, the No-Action Alternative would be inconsistent with City plans and policies, especially with the Waterfront Initiative, which proposes the development of the proposed project.

Action Alternatives

The potential impacts related to land use are temporary effects on land uses and include temporary impacts to pedestrian traffic flow during construction activities. The impacts would be essentially the same for the proposed Alternatives 1 and 2. The potential impacts resulting from these alternatives will be addressed jointly in the discussion below.

Construction Impacts and Mitigation

Impact LU-1: Potential of temporary affects or displaced land uses in or near the project sites resulting from construction activities.

Construction activities associated with the implementation of each of the proposed alternative actions would require landside construction activities. The landside construction activities would take place during Phase 1 of the proposed project's development and would include the train station, John Muir Parkway extension, Bayfront Bridge, Transit Loop roadway and bridge, and temporary surface parking areas. The Bay Trail would be temporarily affected during construction, and then re-routed through the Plaza of the completed Hercules ITC.

Alternatives 1 and 2. Construction activities associated with the John Muir Parkway and Bayfront extensions and the bridge construction could result in potential temporary affects to the existing land use. During construction activities, pedestrian access flow through the existing trail could be affected; however, these potential temporary impacts would not be considered adverse. Furthermore, because the project area has been proposed as an area intended for mixed-use TOD, development and construction activities would not conflict with the land use designations of the project area. No further adverse impacts are anticipated.

Mitigation: No mitigation is required.

CEQA Determination: The proposed project could potentially result in temporary affects to the existing land uses within the project area as a result of construction activities. Temporary impacts would be mainly associated with the John Muir Parkway Extension and the construction of the bridge; the potential affect would be on pedestrian flow through the existing trails. However, the impacts would be less than significant.

Operation Impacts and Mitigation

Community Disruption and Displacement

Impact LU-2: Potential disruption or displacement of existing land uses or communities.

Alternatives 1 and 2. No adverse impact is expected to result from the implementation of the proposed alternatives. The project area has been designated and intended to be converted into a mixed-use area with the intent of developing the proposed intermodal transit center. No existing structures are found in the proposed project area; consequently, there would be no project-specific impacts or adverse disruption to land uses or communities.

Mitigation: No mitigation is required.

CEQA Determination: The proposed alternative actions would not result in disruption or displacement of existing land uses or communities; therefore, the potential impacts resulting from the proposed alternative actions would be less than significant.

Land Use Compatibility with Plans, Policies, and Regulations

Impact LU-3: Potential conflict with exiting plans, policies, and regulations governing the areas at and near the proposed alternatives.

The plans identified below are described in Section 3.2.

BCDC-San Francisco Bay Plan (2008)

Alternatives 1 and 2. The proposed alternatives are consistent with the BCDC Bay Plan Recreation and Public Access policies which require development along the shore line to provide public access to the Bay shoreline and recreational facilities. The proposed alternatives will integrate these elements by integrating public paths and extensions to existing trails into the project design. During Phase 1 of Alternative 1, the Bay Trail Class I would be developed; also, a Waterfront Promenade, approximately 500-ft long of public space and extending approximately 26 ft wide along the proposed Transit Loop Drive would be integrated into the project design.

The BCDC Bay Plan states the need of a permit for any development in and within 100 feet of the Bay. The proposed project site for both Action Alternatives is within 100 feet of the San Francisco Bay and subject to the BCDC jurisdiction. Assuming permit approval, no adverse impacts are anticipated.

Mitigation: No mitigation is required.

CEQA Determination: The proposed project anticipates no potential adverse impacts conflicting with the Bay Plan policies and regulations. The proposed actions would be in compliance with the BCDC guidelines and policies; therefore no potentially significant impact would occur.

City of Hercules General Plan -Land Use Element and Open Space/Conservation Element

Alternatives 1 and 2. Development of the Hercules ITC is subject to the General Plan guidelines and policies. In accordance with Government Code Section 65566, the proposed project is consistent with the General Plan, and specifically with the policies of the Open Space Element of the General Plan. Phase 1 of the proposed project would involve the development of recreational and public open space facilities in compliance with the Land Use and Open Space/Conservation Element objectives and policies. Therefore, no adverse impacts are anticipated.

Mitigation: No mitigation is required.

CEQA Determination: The implementation of the proposed alternative actions would not conflict with the General Plan. No potentially significant impacts are anticipated to occur.

Waterfront District Master Plan (WDMP)

Alternative 1. The project at the Alternative 1 location would be consistent with the City's zoning regulations as set forth in the WDMP. The WDMP envisions and plans for the transit center to be located at the Alternative 1 site. The WDMP also plans for the roadway improvements that are part of the proposed project, including John Muir Parkway extension, Transit Loop and Bayfront Boulevard. The realignment and improvements to Refugio Creek would also be consistent with the WDMP.

Mitigation: No mitigation is recommended.

CEQA Determination: The proposed project at the Alternative 1 location would be consistent with the City's zoning regulations.

Alternative 2. The project at the Alternative 2 location would be inconsistent with City's zoning regulations as set forth in the WDMP. The WDMP designates the transit center at the Alternative 1 site. Also the exclusion of Transit Loop would be inconsistent with the WDMP. Alternative 2 does not include Transit Loop.

Mitigation: No mitigation is required.

CEQA Determination: The implementation of Alternative 2 would be inconsistent with the WDMP. The WDMP, as amended by the Waterfront Master Plan Initiative, can only be changed by the consent of the owner of the land or by a vote of the people in the City. The City is not the owner of the land under Alternative 2.

4.2.4. Cumulative Impacts and Mitigation

The proposed project area is designated primarily as mixed-use and public open space. Under the City's redevelopment plans, the project area has been designated predominantly as an area to be developed into a mixed-use area. Consequently, the development of the Hercules ITC would be fulfilling the City's redevelopment plan's anticipated vision and no cumulative impacts are anticipated as a result of the proposed project implementation.

CEQA Determination: Cumulative impacts associated with land use, plans and policies from other identified development projects are not considered significant.

4.3. SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.3.1. Methodology

Economic effects can be expected in the vicinity of the Hercules ITC when construction workers frequent local businesses, from construction traffic that delays business, or from transit riders who conduct business going to or from the transit center. Economic effects may extend to a larger area because construction materials and workers can be drawn from the regional, national, or even international market depending upon the scale and complexity of the project. For this project, any project related economic effects are expected to be experienced in both the project vicinity, as well as the greater San Francisco Bay Area because all of the construction materials and workers required to build and operate the facility are likely to be available within daily driving distance of the site.

Economic effects from project construction and operation are assessed to determine if they would have a reasonable likelihood of causing more than a minor effect within the area of potential effect, have been raised as an issue during the public scoping process, or are otherwise controversial. Social and economic effects typically addressed in NEPA environmental documents include changes to: population; employment; tax base; local businesses; housing communities and community cohesion; and community facilities.

4.3.2. Significance Criteria

Socioeconomics

Historical and projected data were analyzed to determine whether the project alternatives would result in potential impacts on employment, population, and housing. A socioeconomic impact would be considered adverse if the project would:

- Directly or indirectly induce substantial population growth;
- Displace or create severe hardship for a substantial number of people, housing, or businesses; or
- Disrupt or separate a neighborhood, including transportation improvements that could change traffic patterns.

Environmental Justice

For this analysis, it is reasonable to expect that any potential social effects would be limited to the new residential units located within one-half mile of the Hercules ITC and, to a lesser extent, the surrounding City and portions of Pinole. This constitutes the general “draw area” for Hercules ITC users and would make up the area of potential effect for the social analysis. The area of potential social effects, including the Environmental Justice analysis, consists of U.S. Census Tract 3591.01 of Contra Costa County that includes the project site, the rest of the City ., and portions of the City of Pinole. Including additional census tracts would make the analysis inclusive of nearly all of the expected riders but would also include a large number of residents

who are outside the ridership "draw area" for the project and distort the composition of the social community.

As described in detail below, the best available census data indicate that the minority population of the census block/tract/group is greater than 50 percent and the project would be subject to an Environmental Justice analysis. Potential effects to low-income population does not need to be addressed because the percentage of the population living below the poverty level does not exceed 50 percent of the total nor is it greater than the surrounding area.

Because racial or ethnic minority residents live in the vicinity of the project site, the potential effects of project construction and operation on these residents need to be addressed in this environmental document to ensure that they are not disproportionately affected in terms of:

- Adverse effects to human health;
- Destruction or disruption of man-made or natural resources;
- Diminution of aesthetic values;
- Disruption of community cohesion;
- Adverse employment effects;
- Displacement of persons;
- Adverse effects to businesses or farms,
- Increased traffic congestion; and,
- Isolation or separation of low-income or minority individuals within a given community or from the broader community.

4.3.3. Impacts and Mitigation

No-Action Alternative

Under the No Action-Alternative, the proposed Hercules ITC would not be implemented. Consequently, the No-Action would not result in the construction of an intermodal transit center with a potential adverse impact on socioeconomics or environmental justice. Therefore, there would be no construction or operation impacts to socioeconomics or environmental justice, and they would remain the same as the existing setting.

Action Alternatives

Because the two alternatives are very similar in size, location, and potential environmental effects, they are not differentiated in the socioeconomics and environmental justice discussions below.

Impact SOCIO-1: The project alternatives would not result in significant adverse socioeconomics impacts.

Alternatives 1 and 2. Construction of the proposed project is expected to cost approximately $50 million and employ roughly 600 workers during the 18 month construction period. Operation of the facility may employ a small number of workers. The proposed project includes development of a bus-to-train connection that is projected to serve 837 riders per day (Fehr & Peers 2009) and construction of a surface parking lot, and in the future, a transit area garage for up to 425 automobiles (Fehr & Peers 2009). The proposed project would improve access to public mass transit and would be an amenity to nearby residents and a benefit to workers in the vicinity of the Hercules ITC. Other than providing a transfer point for the proposed Hercules ITC, transit service to and from the nearby Hercules Transit Center is not expected to change as a result of the proposed project. The majority of Hercules ITC patrons are expected to come from the new residential units located within one-half mile of the transit center and the surrounding cities of Hercules, Pinole, and Rodeo-Crockett (Fehr & Peers 2009).

The San Francisco Bay Area is a large metropolis with over 7 million residents and a well-developed construction industry. Construction workers are likely to be available within the San Francisco Bay Area and would not need to move into the area for the project. Construction of the facility is, therefore, unlikely to generate a measurable increase in the population of the area. Operation of the facility would not directly generate more than a minimal number of jobs for maintenance activities or to work at the café, and these workers would likely come from the surrounding area as well. The project is unlikely to have more than a minor effect on population or employment in the area.

The Hercules ITC site currently does not generate any substantial tax revenues because it is undeveloped and no economic activity occurs on the site. Construction of the facility would generate minor tax revenues from the purchase of construction materials, income tax from workers, and spending in the local economy by construction workers. These tax revenues would be a minor benefit for the local jurisdiction and would end when the project is complete. Local businesses would experience a minor increase in activity during construction of the facility from sales of consumer goods such as lunches and other small items to construction workers and they may continue to experience improved sales to commuters using the facility. However, because the facility would serve fewer than 1,000 daily commuters, the volume of sales to commuters would be limited. Operation of the café would generate a small amount of tax revenues, but this is expected to be minor. Because the Hercules ITC would be a governmental activity, operation of the facility would not generate any tax revenues. Changes to tax revenues associated with the project would be minor.

Construction of the project would increase the demand for construction materials and workers, and local businesses would be able to compete for the construction contracts. Although the cost to construct the project is expected to be roughly $50 million, it would be a small project compared with other major public works projects in the San Francisco Bay Area. Local businesses would also experience a temporary benefit from spending by construction workers, but these effects are expected to be minor, temporary, and localized. Within the San Francisco Bay Area that constitutes the economic area of potential effect, these benefits would be minor.

Because the site is currently undeveloped, construction of the proposed project would not require the acquisition of any housing units and the project would not add to the number of housing units available in the area. As described above, the project is not expected to draw workers from outside the area, and the demand for housing would be unaffected.

The proposed project would provide a new access to public mass transit and this would benefit the newly constructed transit-oriented community located south of the Hercules ITC site, as well as the surrounding communities. Public transit could be expected to increase social interactions between transit riders and this would be a beneficial effect of the project. Because daily ridership is expected to be less than 1,000 people, this would have only a minor effect.

The proposed project would not include acquisition of any community facilities, nor would it change or deny access to any of these facilities. Because the project would not increase population in the area, it would not increase the use of any community facility.

The proposed project would provide a socioeconomic benefit by increasing transit options and improving transit services for nearby residents and businesses and this could reduce the time and cost of travel.

Mitigation: No mitigation is required.

CEQA Determination: Less than significant

Impact SOCIO-2: The project alternatives would not result in disproportionately adverse impacts to minorities, ethnic groups, or low-income households.

Alternatives 1 and 2. Potential project impacts to human health effects include potential adverse air quality and noise effects. The results of the air quality and noise evaluations conducted for the Hercules ITC project, shown in Sections 4.7 and 4.8 of this document, found no significant adverse effect (only modest effects) to either air quality or noise. Because of the absence of significant environmental effects, there would be no significant or disproportionate adverse effect to an environmental justice population living in the area.

The project would redevelop a former explosives/fertilizer production site that is currently vacant and unused by the public. Selecting either of the action alternatives would improve the man-made resources at the site and would neither destroy nor disrupt any man-made resources that might be used by an environmental justice population.

Selection of either Alternative 1 or 2 would not result in the destruction or disruption of any b resource, including subsistence resources, currently used by members of an environmental justice population. The natural resources of the site are described in detail in Section 3.9 Biological Resources.

The visual impacts of the project are described in Section 4.5 of this document. As discussed in this section, the aesthetic values of the site are expected to improve with construction of either of the action alternatives.

Because the site is currently unoccupied and there is no public access through the site, the project would not divide communities or reduce access through the site, and constructing either of the action alternatives would not disrupt community cohesion. Construction of the Bay Trail through the site would improve access and might increase community interactions and strengthen community cohesion.

Because the site is vacant, the proposed project would not reduce employment or require the displacement of any residents.

As discussed in detail in Section 4.1 Traffic and Transportation, both Alternatives 1 and 2 would increase localized traffic congestion as nearby residents travel to and from the Hercules ITC. Traffic congestion would be mitigated, to the maximum extent practicable, by roadway and highway improvements. Because the project increases access to public mass transit, traffic congestion in the broader community would decrease as additional commuters use the Hercules ITC and reduce trips by private vehicles. Additionally, the proposed project would not reduce public transit at the existing Hercules ITC. Localized traffic congestion would be an impact, but it would not fall disproportionately on the minority community in Hercules and the broader APE.

As stated above, the proposed project would not displace any residents, divide any community, or reduce access within a community. The proposed project would increase access from the south of the site to the north by way of the trail improvements and, at some point in the future, by connection of John Muir Parkway to Linus Pauling Drive. Minority individuals would also have improved access to public mass transit and could experience an increase in community and community interaction as a result of this improved access.

Mitigation: No mitigation is required.

CEQA Determination: Neither Alternative 1 nor 2 would have any significant adverse environmental effect on socioeconomics or environmental justice, either from construction or operation of the project. Beyond implementation of roadway improvements proscribed in the Section 4.1 Traffic and Transportation, no further mitigation measures are required. The impact would be less than significant.

4.3.4. Cumulative Impacts and Mitigation

As the area redevelops and more people live and work at the site of the former Hercules Powder Company, the public transit access provided at the Hercules Intermodal Center can be expected to become a more valuable social and economic asset and the beneficial socioeconomic effects can be expected to increase.

CEQA Determination: Cumulative impacts associated with socioeconomics and environmental justice from other identified development projects are not considered significant.

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4.4. CULTURAL RESOURCES

The proposed project site was once the site of an extensive factory, owned by the Hercules Power Company and the early period railroad, with many structures and features. As a result of subsequent demolition, no intact standing structures remain. The features noted on the surface during this investigation are disturbed remnants of complex facilities that survived demolition. None of these loci are considered eligible due to a lack of integrity.

A buried prehistoric period site P-07-002570, (CA-CCO-750) was identified during a fiber optic trench monitoring project and recorded by Cervantes and Tremaine (2000 *unpublished*) at a depth of 104 to 140 cm below the surface. The site is within the study area but is, as far as is known, outside the APE. However, the fact that there is a buried site close to the APE (within 100 feet) suggests the possibility that site could extend beneath the APE at depth. The area of the APE where the burial site is found occurs is within the Bayside Trail west of Hercules Point. If the trail is maintained in an as-is condition, or even resurfaced to a depth of no more than 10 centimeters, no potential impacts to site P-07-002570, if it exists buried beneath the trail, are anticipated.

4.4.1. Significance Criteria

During project preconstruction, construction, and operation phases, direct or indirect impacts to cultural resources may occur. Direct impacts are those that may result from the immediate disturbance of resources including vegetation or fill removal, off-road vehicle travel over the surface, various grading, trenching or other earth moving activities, or altering the setting of a resource. Indirect impacts are those that may result from increased erosion due to project clearance and preparation, staging, or from inadvertent damage or increased opportunities for vandalism due to improved surface visibility or access. Consideration of effects or impacts applies under both NHPA and CEQA. Under CEQA Guidelines Section 15126.4, impacts to archeological sites should be avoided. Preservation in place is the preferred alternative for cultural resources, when feasible.

When federal resources are involved, a project adheres to requirements of the NHPA and other federal mandates. Under the NHPA, a resource needs to be evaluated in terms of eligibility for the National Register of Historic Places (NRHP). If a site is determined to be an eligible or "historic property," impacts are assessed in terms of "effects." An effect means "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register." A formal finding of effect including the SHPO consultation is needed for evaluation of cultural resources. If a property is determined "not eligible," then no determination of effect, or mitigation measures is necessary.

In accordance with CEQA (Section 15064.5 and Appendix F), a project would have a significant adverse impact to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;

- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5;

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

- Disturb any human remains, including those interred outside of formal cemeteries.

As per CEQA guidelines, Section 15064.5(b)(2) a "substantial adverse change" in the significance of a resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate setting such that the significance of the resource would be materially impaired. The significance of a resource is materially impaired when a project demolishes or materially alters, in an adverse manner, those physical characteristics:

- Of a historic resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR;

- That account for its inclusion in a local register of historic resources pursuant to Public Resources Code Section 5020.1(k) or its identification in an historical resources survey meeting the requirements of Public Resources Code, Section 5024.1(g), unless the public agency reviewing the effect of the project establishes, by a preponderance of evidence, that the resource is not historically or culturally significant; or

- Of a historic resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

4.4.2. Impacts and Mitigation

No-Action Alternative

Under the No-Action Alternative, the project site would remain undeveloped and there would be no adverse environmental effects. The site would, however, remain available for other development alternatives. While studies are on-going for Track Option B, it is expected that Track Option B will have a similar level of impact as the project alternatives based on the review of record search and field verification conducted to date.

Action Alternatives

Impact CULT-1: The potential to adversely affect unidentified archaeological resources during construction

Alternatives 1 and 2 and Track Option B. Record search and survey results indicate that there are no significant cultural resources on the surface of the APE, however, there are known cultural resources in the area. While the surface of the project area has been heavily altered and severely impacted, prehistoric and historic period archaeological sites could occur in buried contexts. Finds indicating prehistoric deposits may include shell, flaked, and ground stone tools, bone, and darkened soil. Historic period deposits are indicated by the presence of ceramics, glass, metal, milled lumber, and other refuse. The presence of known buried sites in and around

the proposed Project indicates the possibility that other buried resources could be discovered. If such finds are encountered, the Project would result in a significant impact.

Mitigation Measure CULT-1: Prior to construction, construction personnel shall be briefed regarding what to do in the event buried cultural materials are encountered. If cultural materials (artifacts, shell, bones, dark soil, etc.) are uncovered, work shall be stopped temporarily at the discovery location, and within a 100-foot-wide buffer zone around it. The City, or its agent, shall be immediately notified. The City will retain a qualified archaeologist who will examine, document, and evaluate the find. The archaeologist shall then consult with appropriate agencies to development mitigation measures to implement prior to resumption of further construction at the discovery point. The archaeologist shall oversee implementation of these mitigation measures once they have been determined.

CEQA Determination: This impact would be less than significant with implementation of **Mitigation Measure CULT-1.**

Impact CULT-2: The potential to adversely affect unidentified human remains during construction

Alternatives 1 and 2 and Track Option B. There is no evidence suggesting that human remains are present in the project area. There are no recorded cemeteries. However, there is always the possibility human remains could be encountered during any earth-moving endeavor, even when considered unlikely. If such finds are encountered, the project would result in a significant impact.

Mitigation Measure CULT-2: Prior to construction, construction personnel shall be briefed regarding procedures to follow in the event buried human remains are encountered. Once encountered, work should stop immediately at the discovery point, and within a 100-foot-wide buffer zone around it. The City, or its agent, shall be immediately notified. The Contra Costa County coroner shall be contacted immediately to examine and evaluate the find. The procedures presented in CEQA Guidelines, Section 15064.5(e)(1) will be followed. If the coroner determines that the remains are Native American, the City will contact the Native American Heritage Commission in accordance with Health and Safety Code Section 7050.5, and PRC 5097.98. The City shall insure that the discovery site and buffer zone are not damaged further until the City has consulted with the mostly likely descendants regarding their recommendations for treatment.

CEQA Determination: This impact would be less than significant with implementation of **Mitigation Measure CULT-2**.

Impact CULT-3: The potential to adversely affect unidentified paleontological resources.

Alternatives 1 and 2 and Track Option B. There are no known significant paleontological remains (vertebrate) located within the Project area, and the ground surface is largely disturbed and largely covered with fill. Regardless, construction activities at the proposed project could result in adverse impacts to undiscovered paleontological resources. Impact would be less than significant with mitigation measures incorporated.

The project area is largely made of fill and extremely altered landscapes. The Monterey sandstone and possible overlying Pleistocene age deposits that may contain fossils that might underlie project area soils and fill. It is possible to discover significant fossil deposits even in areas thought to have low potential. Construction excavation could expose and have an adverse impact on undiscovered paleontological resources. Following construction, operation of new facilities would not require actions that could expose paleontological resources and would not result in an impact to any such resources. This impact would be reduced to a less than significant level with implementation of the following mitigation measure.

Mitigation Measure CULT-3: Prior to construction, construction personnel shall be briefed regarding what to do in the event buried cultural or paleontological materials are encountered. If paleontological materials (bones, shells, leaf prints, etc.) are uncovered, work shall be stopped temporarily at the discovery location, and within a-100 foot wide buffer zone around it. The City, or its agent, shall be immediately notified. The City will retain a qualified paleontologist who will examine, document, and evaluate the find. The paleontologist shall then consult with appropriate agencies to develop procedures to implement prior to resumption of further construction at the discovery point. The paleontologist shall oversee implementation of these procedures once they have been determined.

CEQA Determination: This impact would be less than significant with implementation of **Mitigation Measure CULT-3**.

4.4.3. Cumulative Impacts and Mitigation

It is unlikely that the Project could have significant cumulative effects on cultural resources. Minimally, future project development within Hercules would be subject to CEQA-level review and would be required to mitigate impacts to cultural resources to a less than significant level. If any inadvertent finds are made during construction, an incremental effect to cultural resources may result. If the finds are evaluated and managed properly, no cumulatively considerable effect to cultural resources is anticipated.

CEQA Determination: Cumulative impacts associated with cultural resources from other identified development projects are not considered significant.

4.5. VISUAL AND AESTHETIC RESOURCES

The following section identifies and describes visual and aesthetics changes that would result if the two action alternatives were implemented. The existing visual landscape surrounding the Hercules ITC action alternatives sites, as described in Section 3.5, provides the baseline data for comparing the No-Action Alternative with the visual and aesthetic quality of the area after the project is implemented.

4.5.1. Methodology

Field visits were conducted to the sites of the Hercules ITC action alternatives. In addition to the field observations, the visual impact assessment is based on the review of project materials including topographic maps, project drawings, and technical data supplied by the Hercules ITC project design team, and aerial and ground-level photographs of the project area. During the field visits, photos were taken from different viewpoints and perspectives to illustrate the existing visual quality of the area surrounding each site. The photos were used as graphic examples of the existing visual and aesthetic setting. In addition, architectural design drawings were created to illustrate the how the proposed project would appear if the Hercules ITC was fully developed. These drawings were used to create conceptual renderings of the station, building, bridges, and other features of the fully-developed Hercules ITC as it would appear from various viewpoints, as shown on **Figures 4.5-1 and 4.5-2**. Alternative 2 would be a smaller version of the Hercules ITC, consisting of basically the station building, pedestrian bridge, platform structures, and other transit-related features but located on the eastern side of Refugio Creek. The design of the individual structures would be of similar for both alternatives.

Impacts have been determined according to the significance criteria listed below. Views across the project site out into the Bay and views on the land were used to indicate whether the scale of the surrounding landscape or the visual resources that distinguish these landscapes were substantially altered. If the proposed project substantially alters the visual context to result in adverse visual impacts, the impact was described and mitigation measures were recommended. In accordance with CEQA guidelines, the significance of the impact after mitigation was determined. As construction activities are temporary duration and of limited range, such activities would not permanently alter visual conditions, and thus the analysis focuses on long-term or operational effects.

4.5.2. Significance Criteria

As indicated in the Regulatory Framework described in Section 3.5, Aesthetics and Visual Resources, the principal regulations that govern design for new construction and limit the appearance, height, and bulk of a new project are local and regional. As such, CEQA guidelines tend to reinforce the issues addressed in permitting new construction. For the NEPA analysis involving transportation improvement projects, FTA considers the effect of the project alternatives on scenic vistas and scenic resources, as well as substantial light and glare. CEQA also considers these criteria in addition to those that provide a more local perspective of the scale or visual character of the surrounding landscape. Impacts are determined to be adverse if the project would:

- Create a substantial effect on a scenic vista;
- Substantially alter or obstruct scenic resources, including trees;
- Substantially degrade the visual character or quality of the site;
- Substantially contrast with the scale and context of the surrounding landscape; or
- Create a new source of light or glare which would affect views in the area.

The project would have no impact on scenic resources within a State scenic highway, as there are no scenic routes located within the vicinity of the project site, and no scenic routes on the project site that would be affected by the proposed project. Since there would be no project-specific impacts related to this issue, no further analysis is necessary.

4.5.3. Impacts and Mitigation

No-Action Alternative

The No-Action Alternative would leave site conditions as they presently are and does not include projects that would change the visual landscape, either temporarily or permanently, along the City waterfront area, although the planned development on adjacent parcels is anticipated to eventually occur. No visual or aesthetic impacts would result from the No-Action Alternative,. However, there would also be no beneficial effect from redeveloping the project site(s) or restoration of Refugio Creek.

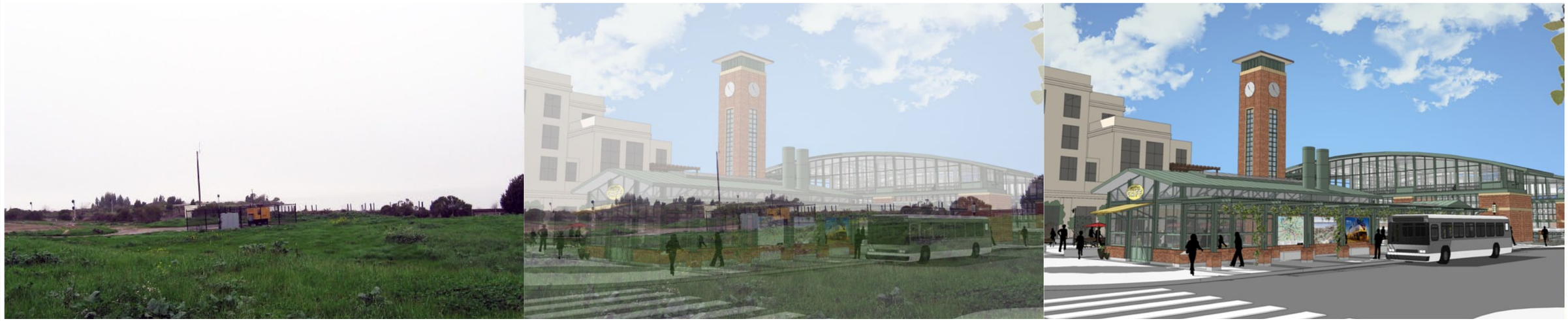
Action Alternatives

Scenic Vistas

Impact VAR-1: Implementation of the project could result in a substantial adverse effect on a scenic vista.

Alternative 1

The project site is very prominent in the City waterfront area, so it is viewed from the adjacent open space, residential, and commercial land uses to the south, east, and north, as well as by boaters on San Pablo Bay. Views of San Pablo Bay are available from the project site as well as from these surrounding uses. This alternative would develop a transit terminal building, a public plaza, and a pedestrian bridge near the west side of Refugio Creek on a parcel that is presently undeveloped. These structures would be visible within the currently expansive views from the developed areas and the Refugio Creek watershed toward San Pablo Bay.



View From Corner at Bayfront Blvd.

View From Transit Plaza

Figure 4.5-1: Conceptual renderings of Hercules ITC

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Figure 4.5-2: View of ITC from Transit loop and Promenade facing southwest

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Both Action Alternatives include the restoration of the Refugio Creek North Channel, which would greatly improve the aesthetic appearance of this location. The present creek channel would be restored to a more natural state, with a new meandering low-flow channel and enlarged marsh that would improve hydraulic and ecological function. The marsh would gradually increase the floodplain width to a maximum of approximately 200 feet upstream of Bayfront Bridge, with the construction of a new outlet to San Pablo Bay. Restoration work in the channel would include planting of native plant species.

In addition, a ten-foot-wide multipurpose trail flanked by landscaping and a split rail fence would also be constructed along the creek's eastern edge; this trail (known as Creekside Trail) would ultimately connect to the future multipurpose Bay Trail to be constructed adjacent to the UPRR tracks as part of the Hercules ITC. This trail would serve as a pathway for bicyclists and pedestrians, connecting users from John Muir Parkway near the North Channel along the east bank of Refugio Creek with the Hercules ITC facility across Bayfront Boulevard.

The proposed Hercules ITC would be visible or partially visible from certain areas in the City, such as the existing adjacent residential areas, the planned residential and commercial development to the west, south, and east in the proposed Hercules Bayfront Project in the Waterfront area, the planned extension of John Muir Parkway, and from Hercules Point to the north. Distant views of the project would also be visible from some residential areas at higher elevations east of I-80, and from residential areas along the shoreline in Hercules and Rodeo, north of the project site. The Hercules ITC site would be visible as well from part of the planned Hilltown residential development west of I-80. The project site; however, would be partially screened by existing residential structures and other development, and intervening topography. With the exception of the clock tower, the proposed Hercules ITC would be of sufficiently low elevation as to not obscure views of distant scenic landscape features such as the Bay or shoreline that are currently seen by receptors from these locations.

The Hercules ITC’s visibility from receptors in nearby residential areas would vary depending on proximity and elevation; most of the residential area directly south of the project site is relatively flat and only slightly elevated above the project site level, and from most viewpoints, that existing residential development would serve to screen the Hercules ITC. The eventual planned Bayfront mixed use development project would partially or completely block views of the Hercules ITC from many nearby viewpoints. The residential development in the southwestern part of the Hercules Village is at higher elevations and Hercules ITC would be visible to receptors at this location against the backdrop of San Pablo Bay, the Rodeo shoreline, and the distant northern shoreline along the Bay. To better maintain views for adjacent receptors, the design scheme for the terminal waiting area and platforms would have northern and southern sides of these structures constructed of plate glass (Figure 4.5-1), which would serve to provide a nearly uninterrupted view from the plaza and Bayfront Boulevard of the Bay and the shorelands to the north.

To receptors at viewpoints to the north and northeast, including the residential areas along the shoreline in cities of Hercules and Rodeo, and in the business park to the northeast, the Hercules ITC would appear against the backdrop of the low promontory across the tracks to the south. The Hercules ITC elements would be visible during daylight hours, but not prominent in these views, as they would generally appear lower in profile than the background areas. During the

evening, night lighting would make the project more visible over the short - term, especially from viewpoints along John Muir Parkway to the east. Over the longer term, the Hercules ITC project would be seen against the backdrop of the Hercules Bayfront Project, and would appear less prominent from receptors to the north and east. Intervening topography would screen the Hercules ITC from receptors south of Sycamore or Railroad Avenues.

Waterside receptors would be able to see the Hercules ITC from San Pablo Bay north of Hercules Point. As seen from waterborne viewpoints, the Hercules ITC would appear against the backdrop of existing and planned residential and commercial development and the existing rail line. The Hercules ITC structure would be prominent only from receptors nearer the shore viewpoints. Generally, from most waterborne viewpoints, the elements of the Hercules ITC would appear to be lower in height than most of the buildings behind it, and would be seen in the context of existing urban development. Although the proposed 80-foot clock tower would appear as a prominent visual feature of the site, the tower has been designed to complement the appearance of the Hercules ITC and the Bayfront Project adjacent to it, and is not anticipated to represent an adverse visual change. As seen from these vantage points, the proposed Hercules ITC is compatible with the structures beyond, and this would not be considered a significant change. As such, no scenic views or vistas from waterborne receptors would be significantly impacted.

As part of the project's regulatory review process, the City has included BCDC Bay Plan policies on appearance, design, and scenic views, which provide guidelines for enhancing the visual quality of development around the Bay, while preserving views of the Bay and shoreline. The City has extensively consulted with local, State, and federal natural resources and permitting agencies regarding the planning and design process for the proposed Hercules ITC. Public meetings and design review workshops have been conducted as well to solicit comments from the general public.

Additionally, the City's Design Review Subcommittee and Planning Commission and the BCDC, would review all proposed development, City and County ordinances, and policies related to architectural design apply to the Hercules ITC project. With implementation of this review process and design controls, the proposed Hercules ITC project would not result in significant aesthetic and visual impacts to scenic vistas of the Bay and its associated shoreline.

Mitigation: No mitigation is required.

CEQA Determination: Implementation of Alternative 1 would not result in a substantial adverse effect on a scenic vista, and the impact is less than significant.

Alternative 2

Development of Alternative 2 would also be phased like Alternative 1 and the components would be similar. The main difference between the two action alternatives is that Alternative 2 would not construct the Transit Loop Drive and bridge, and the transit-related facilities would be located east of Refugio Creek on the planned new John Muir Parkway extension. Previous considerations for Alternative 2 included a proposal for a conference center and banquet facility. In response to feedback received at community and public workshops; however, this

consideration was removed. Two looped driveways from John Muir Parkway would provide separate vehicle access for commuter bus/para-transit drop-off and turnaround, and for passenger vehicle drop-off. A three-level parking structure would be located along John Muir Parkway, adjacent and east of the proposed transit center. As this alternative would have more structures than Alternative 1, it represents somewhat more visibility than the previous alternative. Otherwise, the visibility of these structures within the vicinity of the shoreline and Bay would be very similar to those described for Alternative 1. The proposed station, pedestrian bridge, and railroad platform structures would be of similar design as for Alternative 1 and would have similar appearance against the vista of the Bay. As the development of the Bayfront Project advances, the features of the Hercules ITC would blend more with its surroundings and would even be partially screened by some of the development's structures, and would not significantly intrude into a scenic vista. With the implementation of the required review process, design controls, and other measures described under the Alternative 1 discussion, the effects to scenic vistas by the Hercules ITC would be similar to those described for Alternative 1, also resulting in a less than significant impact.

Mitigation: No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would not result in a substantial adverse effect on a scenic vista and the impact would be less than significant.

Track Option B

Implementation of Track Option B would have temporary construction impact to residents of the Victoria by the Bay and users of the Bay Trail in the Victoria by the Bay subdivision by temporarily limiting visibility of the shoreline and Bay and of distant vistas during construction. Construction of Track Option B would expose sensitive receptors at these locations to limited views of the Bay and environs for up to 3 months during construction activity. Due to the temporary nature of this activity, Track Option B would result in a less than significant impact to scenic vistas.

Mitigation: No mitigation is required.

CEQA Determination: Implementation of Track Option B would not result in a substantial adverse effect on a scenic vista and the impact would be less than significant.

Visual Character

Impact VAR-2: Implementation of the project would alter the existing visual character of the project site but would not substantially degrade the existing visual character or quality of the site and its surroundings. Construction activities could temporarily degrade the visual quality of the site and its surroundings.

Alternative 1

The proposed Alternative 1 station building would be constructed on Bayfront Boulevard, west of Refugio Creek on the south side of the project site. The station would include an additional upper level to provide access over the UPRR tracks to an approximately 25,100-square-foot

passenger waiting area and train platform building. Also proposed in Alternative 1 is a bridge (primarily for pedestrian use) that would connect the Railroad Plaza to Hercules Point. The bridge would provide pedestrian access over the railroad tracks to the planned Hercules Point park and recreation area. The bridge is an integral component of the overall project design and its appearance would be in character with the rest of the project. The proposed project would introduce built elements into a presently undeveloped, open landscape setting. Existing features include railroad tracks and the rubble and debris from the demolition of the explosives factory. Adjacent to the site on the west, there are extensively graded land parcels for the Bayfront Project. The nearest existing developments include residential and commercial uses / buildings to the south and west of the site. The Refugio Creek channel and open space characterize the lands to the east, with Hercules Point, San Pablo Bay, and the shorelines that define them to the north.

The proposed project site itself is a former industrial complex and is heavily disturbed from its past use and its demolition. The shoreline portion of the site is generally lined with rip-rap and stone ballast along the railroad grade. The site has been graded and most of the vegetation has been removed, leaving some scattered brush, but mostly non-native grasses and weeds. Project plans for the site include the removal of any remaining demolition debris, and landscaping for the Hercules ITC. Vegetation removal would be mitigated by planting new landscaping on the project site and by restoration and enhancement of the Refugio Creek channel and marshlands on Hercules Point.

To better blend in, the design for the Alternative 1 Hercules ITC terminal would be of generally similar scale to existing nearby development, and with design of the planned development of the waterfront area. With the exception of the clock tower, the Hercules ITC would be constructed at a somewhat lower elevation than much of the nearby developed areas and would not be visually prominent to most landside off-site receptors. As the adjacent Bayfront Project development progresses, the Hercules ITC would become less visually prominent from existing receptors as it would be partially screened by the new development and visually blend in. The Hercules ITC would be; however, visible to receptors at typical public vantage points of the planned mixed-use development of the Bayfront Project. Project structural plans would utilize exterior design and building materials similar to those already in use or planned for nearby development, such as masonry, stucco, wood, colors, painted finishes, and glass. Project design and construction would be in accordance with the architectural design guidelines developed in coordination with the public through multiple community and public workshops and in coordination with the BCDC Design Review Board in accordance wit the BCDC Bay Plan policies on appearance, design, and scenic views, as well as the design standards of the City's Waterfront Master Plan. The architectural style of the finished Hercules ITC would visually merge with those of the planned commercial and residential development of the Bayfront Project that would fill in around it. The project would contribute to a coherent appearance in the existing neighborhood through the use of similar materials and by coordination with planned development.

The design for the passenger waiting area and rail platform would include a steel, arched roof canopy that would cover the pedestrian bridge and portions of the rail platforms, but leave the railroad tracks exposed. The glass of photovoltaic cells on top of these structures would be glare-resistant. The terminal would also include a clock tower, approximately 80 feet tall. Except for the clock tower, most component features, would not be as visually prominent in most distant

views, as they would be constructed at lower elevations than nearby development and would be screened by both existing structures and those planned for the remainder of the waterfront area. As the clock tower would be a prominent sight for many people, the project sponsors designed visual character of the tower to consider the views from such receptors and have a generally pleasant appearance. As the development of the surrounding area progresses, the clock tower would eventually become partially screened by other structures of varying heights and would eventually blend in with its surroundings to appear less prominent in the viewshed, resulting in a less than significant impact.

Train traffic moving through the terminal is an established local visual condition that would be consistent with existing visual conditions at the site and would not represent a significant change to visual character.

Visual conditions during construction operations at the site would include various types of construction equipment, materials staging areas, construction-force parking areas, construction fencing, and construction-related debris. Although this would represent a temporary visual condition and would be mostly limited to the site itself, it would be an unsightly condition for nearer receptors. Although temporary, such conditions represent an impact on visual quality of the project site. However, with the application of **Mitigation Measure VAR-2,** temporary visual disruptions would be reduced to less than significant.

Mitigation Measure VAR-2: The City shall require the contractor to remove construction debris and dispose of it at a licensed facility on a daily basis. In the event daily disposal is not determined to be practical, it must be stored on site as far from residential receptors as feasible and be screened from view. The contractor would also be required to remove any debris, mud or other soils from the site that was deposited on public roadways by construction-related traffic. Construction equipment and crew parking areas are to be staged in an orderly manner and as far as possible from existing residences. Site conditions are to be left in a clean and orderly manner at the end of each working day.

CEQA Determination: Implementation of Alternative 1 would not substantially degrade the existing visual character or quality of the site and its surroundings. Construction activities could temporarily degrade the visual quality of the site and its surroundings; however, with the contractual construction site maintenance stipulations of **Mitigation Measure VAR-2** properly executed, temporary visual degradation would be less than significant.

Alternative 2

The main difference between the two action alternatives would be that Alternative 2 would not require construction of the Transit Loop Drive and bridge, while the transit-related facilities would be located east of Refugio Creek. The facilities that differ from Alternative 1 include the transit terminal, which would be located east of Refugio Creek on the planned John Muir Parkway extension near its intersection with Bayfront Boulevard.

The rail platform and pedestrian bridge would be similar to those described for Alternative 1 and their related impacts to visual quality would be similar to those described for that alternative as well, and would be less than significant. Potential temporary visual degradations during

construction activities would also be mitigated to less than significant s with the application of **Mitigation Measure VAR-2** described above.

Both Action Alternatives would enhance the appearance of the area by removing the unsightly rubble, weeds, and other debris that presently litter the project site.

Mitigation: Implement **Mitigation Measure VAR-2**.

CEQA Determination: As the project will be designed to the required City and BCDC standards, the implementation of Alternative 2 would not substantially degrade the existing visual character or quality of the site and its surroundings. Construction activities could temporarily degrade the visual quality of the site and its surroundings; however, with the contractual construction site maintenance stipulations of **Mitigation Measure VAR-2** properly executed, temporary visual degradation would be less than significant.

Track Option B

Implementation of Track Option B would temporarily degrade the visual quality of the site and its surroundings. Specifically, the residents of Victoria by the Bay and users of the Bay Trail in the Victoria by the Bay subdivision would experience limited visibility of the shoreline, Bay, and of distant vistas during construction for a period of up to 3 months. Due to the temporary nature of this activity, Track Option B would result in a less than significant impact to relative to the visual degradation of the site and its surroundings.

Mitigation: No mitigation is required.

CEQA Determination: Implementation of Track Option B would not result in a substantial adverse effect on degrading visual quality of the site and surroundings and the impact would be less than significant.

Light and Glare

Impact VAR-3: Implementation of the project would create new sources of substantial light and glare, and would result in unavoidable significant adversely- affected day or nighttime views in the project area.

Alternative 1

At present, the proposed project is an undeveloped parcel with no internal sources of light. What existing sources of light there are, currently come from mobile sources, such as passing trains along the Capitol Corridor line, or from vehicles along Bayfront Boulevard. Adjacent sources of light include street lights and exterior lighting from nearby developed areas.

Implementation of Alternative 1 of the proposed Hercules ITC would introduce new nighttime sources of light and glare that would include exterior and safety lighting from the station, the railroad platform, Creekside Park and Plaza, pedestrian walkways, and parking facilities. The large window panels of the station structure would emit interior light from the waiting area and would also become a source of night time glare. To minimize glare from the window areas, light

will be directed down or interior to the structures to minimize external glare and light spillage **(Figure 4.5-3).** The increased number of vehicles entering and leaving the site would also be sources of night time light and glare. New sources of potential daytime glare include pavement, windows, roofs, and exterior surfaces of project structures.

Most of the glare from moving vehicles would be temporary, would be mostly limited to those months of the year when nightfall occurs before the evening peak hour commute, and would combine within the visual character of roadways with other moving vehicles in the through-traffic. The mobile and limited peak- hour nature of vehicle glare from the Hercules ITC would be considered less than significant.

The Hercules ITC facilities would be located adjacent to open space and previously unlit areas. Existing and planned residential areas, which generate their own light and glare, including those to the southeast, south, and southwest of the project site, would be affected by these additional light sources. New light sources may represent a potentially significant impact to light-sensitive land uses, including nearby residential areas. To minimize potential impacts to light-sensitive receptors, the Hercules ITC lighting design scheme would generally consist of a low-voltage lighting control system consisting of relay/contactor panel(s), control switches, occupancy sensors, photocells, and other controlling devices. The general operation of lighting and controlled loads shall include the following:

- Interior Lighting: Manual switch control on/off with automatic time-scheduled shut off.
- Scheduled On/Off Loads: Time on/off by automatic time schedule with after hour override capability and shutoff.
- Exterior Lighting: Photocell or astronomic time on/off, time on/photocell, or astronomic off.

The system would include a rail-mounted automation module, photocontrol module, and/or other low voltage control devices. These devices are totally compatible with the manual operation of the dataline switches.

Exterior lighting control would consist of two photo electric cells, which will turn on three circuits at sunset, and a time switch that would turn off Part Night circuits at times determined by Hercules ITC management. All Night and exterior emergency circuits would be turned on and off by photo electric cells.

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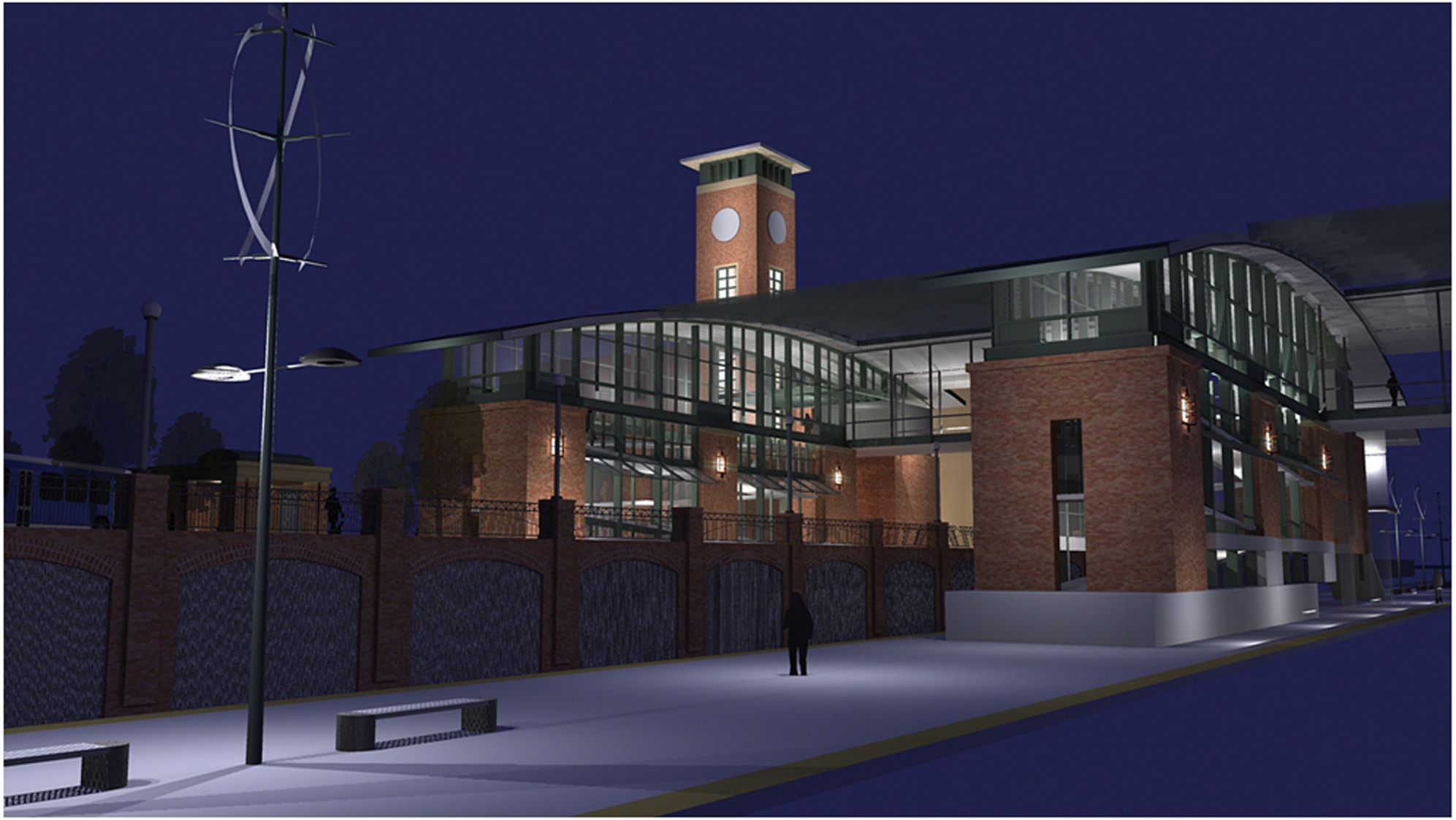

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Figure 4.5-3: Hercules ITC Conceptual Rendering of Potential Nighttime Glare

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Alternative 2

Light and glare impacts under Alternative 2 would be similar in nature to those described for Alternative 1, but would be of slightly greater magnitude because of the larger size of this alternative. The same lighting scheme, facility design, and materials specifications described under Alternative 1 would be applied to this alternative as well.

Mitigation Measure VAR-3: Prior to the approval of the final project design plans, the project applicant shall submit a Final Lighting Plan for review and approval by the City Planning Commission. The Final Lighting Plan shall be in compliance with the General Plan, the WDMP, and all other applicable City codes, as required by City Planning authorities. The Final Lighting Plan shall specify reasonable measures to minimize light spillover and glare from the completed facility, such as screened / hooding lighting, automatic dimmers, or strategically placed landscaping.

CEQA Determination: Although the Hercules ITC would be designed to minimize to the extent feasible, light or glare that would potentially significantly adversely affect day and nighttime views in the area. This impact would be significant and unavoidable.

Track Option B

Implementation of Track Option B would create no new source of substantial lights and glare. Due to the temporary nature of this activity, Track Option B would result in a less than significant impact to creating new sources of light and glare or nighttime views of the area.

Mitigation: No mitigation is required.

CEQA Determination: Implementation of Track Option B would not result in a substantial adverse effect relative to creating new sources of light and glare or nighttime views of the area and the impact would be less than significant.

Cumulative Impacts and Mitigation

It is anticipated that a ferry terminal would eventually be added to the Hercules ITC facility and would connect to the northern side of the station. The light from the vessels and ferry terminal facilities would be removed from existing residential land uses or approved development projects in the study area. The eventual build-out of the HB project to the east and west of the Hercules ITC complex and the existing residential and commercial development to the south and west would serve to add to the incremental effects of the light and glare emanating from the Hercules ITC and ferry terminal area, and would result in additional light and glare in combination with approved development projects that are scattered throughout the study area. Additionally, the proposed bridge to access the future Hercules Point Park would also alter views towards Hercules Point. Cumulative development in Hercules ITC site would obstruct and alter views looking west over the Bay. Cumulative visual effects are anticipated to be significant and unavoidable.

CEQA Determination: Cumulative impacts associated with visual and aesthetic resources from other identified development projects are considered significant and unavoidable.

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4.6. PARKLANDS AND RECREATIONAL FACILITIES

This section discusses the potential impacts of the Hercules ITC alternatives on study area parklands and recreational resources, including potential Section 4(f) properties (which are defined in U.S. DOT 49 USC, Section 303 and 223 USC, Section 138) and described below under NEPA Thresholds and Section 4 (f) Properties, and the CEQA Thresholds.

4.6.1. Methodology

Nine public parkland and recreational resources are currently located in the City of Hercules have been identified as potential Section 4(f) properties. These include: (1) Railroad Park; (2) Bayside Park; (3) Hanna Park; (4) Frog Pad Park; (5) Foxboro Park and tennis courts; (6) Woodfield Park and tennis courts; (7) Ohlone Park; (8) Refugio Valley Park; and (9) parts of the Bay Trail system. The closest recreational facilities to the proposed project site are the Bay Trail and Railroad Park, located at Railroad Avenue and Santa Fe Avenue. An evaluation of the potential direct ("use") and indirect ("constructive use") effects associated with the implementation of the terminal alternatives was conducted for these parkland and recreational facilities. A direct effect occurs when land is permanently incorporated into a transportation facility, or if there is a temporary occupancy of land that is adverse in terms of preservation. An indirect effect occurs when there are adverse impacts that would substantially impair the significance or enjoyment of a public park or recreation property. Other than part of the Bay Trail, none of these resources would be affected by the proposed project.

4.6.2. Significance Criteria

CEQA Thresholds

The impact of the proposed project on public parklands and recreational resources would be considered significant if it would exceed the following Standards of Significance, in accordance with Appendix G of the CEQA Guidelines and the definition of significance in the Council on Environmental Quality Regulations at 40 CFR Section 1508.27. A significant impact to park and recreational resources would occur if:

- The project would result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts for parks;

- The project would 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; or

- The project would include recreational facilities or require the construction or expansion of recreational facilities which may have an adverse physical effect on the environment

NEPA Thresholds and Section 4(f) Properties

The following criteria were applied to evaluate the proposed project alternatives. An alternative is considered to result in impacts to parklands and Section 4(f) properties when:

- Protected land is permanently acquired for transportation facilities;
- A temporary use is considered adverse; or
- Constructive use of a resource occurs.

A more detailed definition of "use" and "constructive use" is provided below.

Section 303, 49 USC Subtitle 1, known as Section 4(f) of the U.S. DOT Act, allows the use of land from a significant publicly owned public park, recreational area, wildlife or waterfowl refuge, or any significant historic site for use on a transportation project only when the Secretary of Transportation has determined that there is no feasible and prudent alternative. The project must also include possible planning to minimize harm to the property resulting from such use. The purpose of Section 303 is to preserve public parklands and recreation areas, refuges, and historic sites by limiting the circumstances under which such land can be used for transportation programs or projects. Protection also applies to non-publicly owned historic sites if officials having the jurisdiction determine they have federal, State, or local significance. Section 303 does not apply to archaeological resources if the City, in consultation with the SHPO, determines they do not require preservation in place, and their important information can be recovered or preserved through study.

Within the meaning of Section 303, "use" is generally considered to occur when the project requires a physical taking or other direct control of the land for the purpose of the project, and as a consequence, the use is changed and adversely impacted. For example, acquiring and developing a portion of a park to build a transportation improvement would be considered a "use."

However, "use" within the meaning of Section 303 includes not only actual physical takings, but also adverse impacts (constructive use) as well. For example, it has been said that a project that respects a park's territorial integrity may still, by means of noise, air pollution, or otherwise, "dissipate its aesthetic value, crush its wildlife, defoliate its vegetation, and take it in every practical sense." Therefore, when applied to transportation projects developed near Section 303 resources, a "constructive use" may occur when impacts due to proximity of the project substantially impair the activities, features, or attributes of the resource. Substantial impairment occurs when the protected activities, features, or attributes of the resource are substantially diminished.

In addition, Section 6(f) of the Department of the Interior Land and Water Conservation Fund Act (LWCFA) as amended (16 USC Sections 460l-4 et seq.) is addressed as appropriate. If Section 6(f) effects are determined, coordination and approval of the U.S. Department of the Interior (U.S. DOI), National Park Service (LWCFA liaison), and local agencies would be initiated. Replacement of Section 6(f) property for property used may be necessary.

In the event that a use of Section 303 and Section 6(f) of the LWCFA land would occur as result of implementing the Hercules ITC, the City must then determine that no feasible and prudent alternatives exist, and that all feasible mitigation has been incorporated into the project. The resulting Section 4(f) and Section 6(f) evaluation would be summarized in a new chapter incorporated into the Final EIR / EIS.

4.6.3. Impacts and Mitigation

No-Action Alternative

Under the No-Action Alternative, the Hercules ITC alternatives would not be implemented. The conversion of parklands, recreational facilities, or Section 4(f) properties would not occur. Therefore, Section 4(f) does not apply, and the No-Action Alternative would not result in direct or indirect effects on recreational resources, create any Section 4(f) impacts or generate any impacts under either CEQA or NEPA.

Action Alternatives

Impact PR-1: Alternatives 1 and 2 of the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered park or recreational facilities.

Alternatives 1 and 2. The proposed project would not introduce residential development into the project area and therefore would not directly generate an increase in population that could affect local public parkland and recreational facilities.

The proposed Hercules ITC is anticipated to generate little employment, with too few jobs to result in a significant long-term increase in employment, and is therefore unlikely to have indirect effects on public parks and recreational facilities related to an increase in residents associated with more employment. The proposed Hercules ITC would create only minimal employment and would not induce indirect effects on public parks and recreational facilities related to an increase in residents associated with increased employment. Most Hercules ITC activities that would create employment opportunities would be generally station maintenance and operations support activities, requiring few or no employees on site during a typical day. Any employees would most likely be recruited locally. Events at the banquet/conference center (Alternative 2 only) would be intermittent and for limited amounts of time, and are likely to employ mostly temporary personnel. Maintenance of trains and transit vehicles would not be conducted in Hercules, but instead be carried out at existing service facilities at other locations elsewhere in the Bay Area. Other Hercules ITC activities would consist of self-service passenger operations, such as ticketing and boarding. Impact would be less than significant.

The plan for Alternative 2; however, would also include a banquet/conference center, and would employ more people than Alternative 1, employees who would also likely be recruited locally. Therefore, indirect growth is not anticipated to induce the demand for additional public parks and recreational facilities in order to meet service ratios.

The proposed project would include a new Bay Trail segment that could be used for pedestrian and bicycle access to the Hercules ITC. The City would be responsible for construction and

maintenance of this segment. In addition, project and City plans include the addition of Creekside Park along Refugio Creek, and also would eventually provide access to the future Hercules Point Park. Most pedestrian and bicycle access to the Hercules ITC would be by public streets and sidewalks. Based on user projections, the increase in project-related Bay Trail use on adjacent, existing segments of the trail would likely number in the tens at most. Such a minor potential increase in use would not require the City to provide new or physically alter existing facilities not currently planned for, and would therefore not result in significant indirect environmental impacts.

Mitigation: None is required.

CEQA Determination: The proposed project would not result in adverse physical impacts associated with the provision of new or physically altered public parkland or recreational facilities.

Impact PR-2: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.

Alternatives 1 and 2. Similar to the findings of Impact PR-1 (above), the proposed Hercules ITC may indirectly add a minimal number of new residents to the area as facility employees, who in turn may use regional and local public parks and recreational facilities. The proposed Hercules ITC's minimal number of employees would not cause substantial physical deterioration to the use of local public parks and recreational facilities, and this impact would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: The proposed Hercules ITC project would not increase the use of existing neighborhood and regional public parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. This is a less than significant impact.

4.6.4. Section 4 (F) Determination

Alternatives 1 and 2

Impact PR-3. The proposed project would not have the potential for direct use of Section 4(f) properties during project construction and operation.

Alternatives 1 and 2. Construction activities of both alternatives at the proposed Hercules ITC site may have the potential to temporarily impair the planned Bay Trail segment easement, as well as the existing Bay Trail segments adjacent to the project . Potential impairments that could occur to parts of the existing Bay Trail that are adjacent to the project could include temporary encroachment by construction equipment and materials (staging areas), impairment of access, air quality, noise, and visual intrusion. According to the Section 4(f) statute, a temporary occupancy of property does not constitute a use of a Section 4(f) resource, when the following conditions are satisfied: (1) the occupancy is of a temporary duration shorter than the period of construction;

(2) no change in ownership of the property occurs; (3) only minimal changes to the protected resource occur; (4) no permanent physical effects or interference with the purpose of the resource exist; (5) the resource can be fully restored at the completion of project construction; and (6) there is documented agreement of the appropriate officials having jurisdiction over the resource. These conditions would be met prior to and during construction of the Hercules ITC facilities. Temporary rerouting of Bay Trail users across the project site may be necessary to accommodate construction activities without impeding trail users. As such, the proposed project represents a de minimis impact, which is defined under 36 CFR Part 800, as one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

The alignment for the planned Bay Trail segment is currently undeveloped within the proposed sites of both Alternatives 1 and 2 and the proposed alignment is currently on private property (see the discussion in Section 3.6 regarding the Bay Trail – Bio – Rad Segment and the Bay Trail – Hercules Segment Easement Agreement). To properly integrate the design and construction of the Hercules ITC and the Bay Trail - Hercules Segment, the City is willing to undertake the design and construction of the Bay Trail - Bio-Rad Segment subject to the terms of the Easement Agreement. As outlined in the project description, the project design would incorporate a 20-foot wide easement through the site to facilitate unimpeded public access along the Trail. The City will construct and maintain the new Trail segment according to the standards used by the EBRPD, and would not result in a permanent displacement or acquisition of any portion of the existing Bay Trail. Upon completion, the Trail would be a paved Class 1 trail approximately 5,300 foot-long by 14 feet-wide.

The Hercules Point site is currently unoccupied and planned to become open space, and a public park on 10.96 acres. The Point; however, is presently under private ownership and access is restricted. Even though Hercules Point is included in adopted plans, it is not currently known as to when the property would actually become a public recreational facility. Furthermore, the components of the proposed project would not encroach onto Hercules Point itself, or hinder access to the property beyond existing conditions. As such, Hercules Point does not qualify for protection under Section 4 (f).

Because the operations of Alternatives 1 and 2 would not require the permanent acquisition of land designated as a Section 4(f) property, no potentially substantial adverse impacts are anticipated.

Mitigation: No mitigation is required.

CEQA Determination: This impact would be less than significant.

Impact PR-4. The proposed project would have the potential for temporary use of Section 4(f) properties during project construction.

Alternatives 1 and 2. The construction-related peak impacts of Alternatives 1 and 2 would be temporary and of limited scale, affecting a relatively small area adjacent to the planned and existing developed portions of the Bay Trail alignment. The application of **Mitigation Measures AIR-1, VAR-2, VAR-3, NOI- 2**, and **NOI-3**,, would serve to avoid or significantly reduce potential adverse effects during construction operations. Project construction would not

substantially impair the features and attributes of the Bay Trail, thereby resulting in less than substantial potential Section 4(f) impacts to the Bay Trail.

Mitigation: Implementation of **Mitigation Measures AIR-1, VAR-2, VAR-3, NOI-2**, and **NOI-3** will reduce potential impacts to less than significant. No additional mitigation is required.

CEQA Determination: This impact would be less than significant.

Impact PR-5. The proposed project would have the potential for constructive use of Section 4(f) properties during project construction.

Alternatives 1 and 2. The design for Alternatives 1 and 2 includes construction of a new segment of the Bay Trail ,other proposed improvements that would be located directly adjacent to the new Bay Trail alignment easement, and potential construction-related activities that would encroach on off-site segments of the existing Bay Trail. Therefore, some temporary and limited construction-related constructive use of parklands would occur.

It is anticipated that construction operations for the track realignments, the Hercules ITC building, the track platforms, the landside portion of the waterfront promenade, the pedestrian overpass, the Refugio Creek realignment, and the pedestrian plaza would encroach upon or enter the planned Bay Trail alignment. The construction of the John Muir Parkway extension, the Bayfront Bridge, and the restoration of the lower Refugio Creek channel would encroach upon or enter the planned Bay Trail alignment easement, or some parts of the existing Bay Trail off-site. As outlined in the project description, the alignment for the Bay Trail would be reconfigured through the project site, but would be kept as close to its original configuration as possible. Although the alignment is presently undeveloped, the design for both proposed Alternatives would also upgrade it to a Class I trail.

The Bay Trail typically experiences its greatest use during weekends and in the midday hours on weekdays. The affected segment of the Trail is located generally along the upland side of the San Pablo Bay shoreline in an undeveloped part of an urbanized area. Construction operations would generate temporary noise, visual, and access effects in the immediate vicinity of the Trail. Construction operations are anticipated to occur during the weekday-daylight hours, when the Trail is most heavily used. Additionally, construction activities would occur on either side of the Trail in some places that could require temporary taking of the easement to implement the project.

The construction-related peak impacts of Alternatives 1and 2 would be temporary and of a limited scale, affecting a relatively small area adjacent to the Bay Trail alignment. Project construction would not substantially impair the features and attributes of the Trail. The temporary impacts of these activities would be further minimized by application of **Mitigation Measures VAR-2, VAR-3, NOI-2**, and **NOI-3**, thereby resulting in less than substantial potential Section 4(f) impacts to the Bay Trail.

Mitigation: Implementation of **Mitigation Measures VAR-2, VAR-3, NOI-2**, and **NOI-3** will reduce potential impacts to less than significant. No additional mitigation is required.

CEQA Determination: This impact would be less than significant.

Impact PR-6. The proposed project Alternatives 1 and 2 would not have potential for impacts to historic sites or other cultural resources.

Alternatives 1 and 2. No historic sites were identified at these sites, as described in **Section 4.4 Cultural Resources**. Therefore, no impacts would occur to Section 4(f) properties under provisions of Section 106 of the NHPA of 1966. As also discussed in **Section 4.4**; however, construction activities associated with project implementation would have the potential to unearth undocumented resources, which could result in significant impacts. In the event this actually occurs, potential impacts to undocumented resources would be further minimized by application of the mitigation measures recommended in **Section 4.4** and would result in a less-than-significant effect.

Mitigation: With the implementation of **Mitigation Measures CULT-1** and **CULT-2**, no additional mitigation is required.

CEQA Determination: No significant or potentially significant impacts would occur with implementation of **Mitigation Measures CULT-1** and **CULT-2**.

4.6.5. Cumulative Impacts and Mitigation

Currently, the City provides nine park and recreational faculties. Moreover, a number of regional parks such as Lone Tree Park, and Pinole Point Regional Shoreline are all available for use by Hercules residents. The development of Creekside Park and Hercules Point Park are already anticipated under adopted City plans. Therefore, the need for more public parklands or recreational facilities as a result of improved access due to the project, when combined with regional growth, would not be expected to produce adverse cumulative impacts on parklands and recreational resources.

CEQA Determination: Cumulative impacts associated with parklands and recreational facilities from other identified development projects are considered less than significant.

4.6.6. Measures to Minimize Harm

Substantial adverse impacts could result from constructive use of areas adjacent to the Bay Trail. However, the potential temporary impacts would be mitigated through implementation of mitigation measures recommended in **Section 4.4 Cultural Resources, Section 4.5 Visual and Aesthetic Resources,** and **Section 4.8, Noise and Vibration**, of this EIR / EIS. With implementation of these measures, Section 4(f) impacts to the Bay Trail would be reduced to less than significant and no additional measures to minimize harm are required or recommended. In addition, the City will continue to consult with agencies and individuals who have jurisdiction over Section 4(f) lands on or adjacent to the project site.

4.6.7. Finding

The FTA will make a decision about whether there is direct, temporary, or constructive use of Section 4(f) resources within the project site based on the existing evaluation. Aside from the Section 4(f) use, consultation and coordination with the City will continue to ensure that all measures to minimize harm to Section 4(f) resources within the project site would be undertaken.

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4.7. AIR QUALITY

4.7.1. Methodology

In accordance with 40 CFR § 93, a conformity determination is required as part of the NEPA process for FTA and FHWA projects. Conformity involves demonstrating that the project is consistent with the purpose of the approved air quality State Implementation Plans (SIP), which is to eliminate or reduce the severity and number of violations of the NAAQS.

Project conformity is determined through the following criteria:

- Currently conforming transportation plan and Transportation Improvement Plan (TIP). The project area must be covered by a conforming transportation plan and TIP (40 CFR § 93.114).

- Projects from a transportation plan and TIP. The project must be included in the conforming plan (40 CFR § 93.115).

- Localized CO, PM_{10}, and $PM_{2.5}$ violations (hot-spots). The project must not cause or contribute to any new localized CO, PM_{10}, and/or $PM_{2.5}$ violations or increase the frequency or severity of any existing CO, PM_{10}, and/or $PM_{2.5}$ violations in CO, PM_{10}, and $PM_{2.5}$ nonattainment and maintenance areas. This criterion is satisfied for FHWA/FTA projects in CO, PM_{10}, and $PM_{2.5}$ nonattainment and maintenance areas if it is demonstrated that, during the timeframe of the transportation plan, no new local violations will be created and the severity or number of existing violations will not be increased as a result of the project (40 CFR § 93.116).

- Compliance with PM10 and PM2.5 control measures. The project must comply with any PM10 and PM2.5 control measures in the applicable implementation plan. This criterion is satisfied if the project-level conformity determination contains a written commitment from the project sponsor to include those control measures in the final plans, specifications, and estimates for the project (40 CFR § 93.117).

As discussed in Section 3.7, the project area is currently designated a maintenance area for CO and a nonattainment area for the 2006 standard for $PM_{2.5}$. However, the $PM_{2.5}$ designation was only recently published in the Federal Register and became effective in December 2009. The USEPA has granted a one-year grace period from the effective date of the new nonattainment designation before transportation conformity applies (USEPA 2009). Therefore, transportation conformity is not required for the $PM_{2.5}$ nonattainment area, and a hot-spot evaluation for $PM_{2.5}$ was not completed for this project. Furthermore, a SIP has not yet been prepared for the area and is not required to be submitted to USEPA until December 2012. Because there is not yet a SIP for the $PM_{2.5}$ nonattainment area, there are currently no approved control measures to be included in the project.

Although the project is not expected to create any new localized CO exceedances, a hot-spot analysis for CO was conducted for the proposed project and is described later in this section.

4.7.2. Significance Criteria

The significance criteria listed below are derived from Appendix G of the State CEQA Guidelines and the definition of significance in the Council on Environmental Quality Regulations at 40 CFR § 1508.27. For the purposes of this EIR/EIS, impacts to air quality would be significant if implementation of one of the proposed project alternatives would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollution concentrations; or
- Create objectionable odors affecting a substantial number of people.

The *BAAQMD CEQA Guidelines* (BAAQMD 1999, updated 2009) recommend analytical methodologies and provide evaluation criteria for determining the level of significance of project impacts under the above-listed general criteria. The BAAQMD's evaluation criteria for determining air quality impacts provide defined screening thresholds for pollutant emissions.

Construction Emissions

PM_{10} is the pollutant of greatest concern with respect to construction activities. Construction emissions of PM_{10} can vary greatly depending upon the level of activity, construction equipment, local soils, and weather conditions, among other factors. As a result, the *BAAQMD CEQA Guidelines* specify that "[t]he District's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions." Therefore, the determination of significance with respect to construction emissions should be based on a consideration of the control measures to be implemented. If all applicable control measures for PM_{10} indicated in the *BAAQMD CEQA Guidelines* would be implemented, then air pollutant emissions from construction activities would be considered less than significant. If a project would not implement all applicable control measures, construction emissions may be considered to result in a significant impact.

Operational Emissions

The *BAAQMD CEQA Guidelines* recommend the following thresholds of significance for operational emissions, which include both direct emissions and indirect emissions, or those that result from motor vehicles traveling to and from the project. A project is considered to have significant impacts if it produces any of the following:

- Mobile-source emissions of CO violating or significantly contributing to a violation of the CAAQS (9 ppm averaged over 8 hours, and 20 ppm averaged over 1 hour);

- Operational emissions of reactive organic gas (ROG), NO_x, or PM_{10} exceeding 80 pounds per day or 15 tons per year;

- Objectionable odors emitted near residential areas or other sensitive receptors;

- Emissions that would expose sensitive receptors (including residential areas) or the general public to substantial levels of TACs. Specifically, project emissions of TACs would be deemed significant if they result in a probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeding 10 in one million and/or ground-level concentrations of non-carcinogenic TACs resulting in a hazard index greater than 1 for the MEI.

- A significant air quality impact from an individual project is also considered to be a significant cumulative air quality impact. For a project that does not individually have significant operational air quality impacts, the determination of significant cumulative impact should be based on an evaluation of the consistency of the project with the local and regional air quality plans.

4.7.3. Impacts and Mitigation

No-Action Alternative

The No-Action Alternative would not implement the proposed Hercules ITC. Existing air quality issues would continue to be addressed through the measures undertaken by the BAAQMD and identified in the SIP to reduce air pollutants to acceptable levels under federal and state guidelines.

Action Alternatives

Impact AIR-1: Construction of the proposed project would create emissions of fugitive dust from excavation and grading, and emissions of criteria pollutants from construction equipment exhaust.

Alternatives 1 and 2 and Track Option B: Construction of either action alternative of the proposed project (Alternative 1 or Alternative 2) will result in short-term impacts to air quality in the project area. These impacts include temporary increases in emissions of CO, carbon dioxide (CO_2), NO_x, PM_{10}, $PM_{2.5}$, ROG, oxides of sulfur (SO_x), and TACs. Once the proposed project has been completed, construction emissions would cease. The BAAQMD does not currently require full quantification of construction emissions for a project. The District considers implementation of all feasible control measures to be sufficient to reduce any air quality impacts from construction activities to less than significant.

In addition to construction activities on land, the proposed project would require the dredging of a new channel and outlet as part of the improvements of Refugio Creek through the tidal flats. Again, the BAAQMD does not currently require full quantification of construction emissions for

a project, but considers implementation of all feasible control measures to be sufficient to reduce any air quality impacts from construction activities to less than significant.

Mitigation Measure AIR-1a: During construction of the proposed project, the contractors shall implement the following control measures from Table 2 of the *BAAQMD CEQA Guidelines* to control fugitive dust emissions from excavation:

- Basic Control Measures:
  - Water all active construction areas at least twice daily.
  - Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
  - Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at the construction site.
  - Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at the construction site.
  - Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Enhanced Control Measures:
  - Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This shall apply to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
  - Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
  - Enclose, cover, water daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).
  - Limit traffic speeds of hauling and non-earth moving equipment on unpaved roads to 15 mph and earth moving equipment to 10 mph.
  - Install wind fencing and phase grading operations, where appropriate, and operate water trucks to stabilize unpaved surfaces under windy conditions.
  - Install sandbags or erosion control measures to prevent silt runoff to public roadways.
  - Replant vegetation in disturbed areas as quickly as possible.

Mitigation Measure AIR-1b: During construction of the proposed project, in order to reduce emissions and TACs from construction equipment exhaust, the developer shall implement all feasible Best Available Control Technologies (BACTs), which may include the following:

- Use alternative fuel or ultra-low sulfur fuel for construction equipment, as feasible;
- Employ catalyst-equipped diesel construction equipment and other add-on emission control measures, as feasible;
- Minimize equipment idling time to a maximum of 5 minutes, or other appropriate limit;
- Limit the hours of operation of heavy equipment and/or the amount of equipment in use;
- Ensure that all construction equipment used on the project is maintained in good working order and properly tuned according to manufacturers' specifications; and
- Implement periodic spot checks by construction managers to ensure that emission control mitigations are maintained.

CEQA Determination: Implementation of the above mitigations will reduce the impacts of construction emissions to less than significant.

Impact AIR-2: Net operational emissions of ROG, NO_x, CO, SO_x, and PM_{10} could increase as a result of the implementation of the Hercules ITC.

Alternatives 1 and 2: Following construction of either action alternative, the Hercules ITC would generate operational emissions associated with the proposed rail station, bus trips, and motor vehicle trips, as well as the future ferry terminal. Although the ferry portion of the proposed project has been delayed to a future phase, it remains as a reasonably foreseeable cumulative impact. The proposed Hercules ITC would provide an intermodal transit center for commuters and residents in Hercules and adjacent communities to utilize bus and rail transportation. The proposed Hercules ITC would affect user commute trips differently between the various users' modes of travel. The following impact analysis discusses the effect the proposed Hercules ITC would have on mobile-source emissions in the project area.

Rail Emissions

The proposed Hercules ITC would add an additional rail station along the UPRR railway. Currently, commuters in the Hercules region drive to the Martinez Amtrak Station to board the northbound Capitol Corridor line, or drive to the Richmond Station to board the southbound Amtrak and BART lines. Implementation of the proposed project would allow commuters in the Hercules region to drive to the Hercules ITC to board either the northbound or southbound Capitol Corridor lines. The existing Capitol Corridor train already passes through the project site; however, the proposed project would allow the train to stop for passengers at the proposed Hercules ITC. The additional stop and boarding point would cause a slight increase in rail emissions due to the deceleration, idling, and acceleration of the train. Net changes in total operational emissions are summarized in **Table 4.7-1** below.

Bus Emissions

The proposed Hercules ITC would provide another transit stop for the existing WestCAT bus system. Currently, buses stop at the new Hercules Transit Center (HTC) on Willow Avenue, just

east of I-80. The proposed project would add an additional bus stop in the Hercules region at the proposed Hercules ITC. The project site is approximately 1.5 miles away from the new HTC; therefore, implementation of the proposed project would not add a substantial distance to the existing bus route. In addition, adding the proposed Hercules ITC to the existing bus route would allow some users to completely eliminate a motor vehicle trip to drive from their residence to the bus stop. It is not anticipated that implementation of the Hercules ITC would alter motor vehicle trip distances for commuters using the bus system. Some bus riders may begin to board the bus at the Hercules ITC; however, this change in trip distance would be small and would not result in a substantial change in emissions. Net changes in total operational emissions are summarized in Table 4.7-1.

Table 4.7-1
Total Net Hercules ITC Operational Emissions

Emissions Source	Emissions in Pounds per Day				
	ROG	NO_X	CO	SO_X	PM_{10}
Proposed Emissions*	1.29	2.40	25.00	0.02	0.09
Existing Emissions*	7.58	13.04	133.60	0.10	0.33
Net Change in Emissions	(6.29)	(10.64)	(108.60)	(0.08)	(0.24)
BAAQMD Threshold	80	80	—	—	80
Exceeds Threshold?	NO	NO	—	—	NO

** NOTE: Emissions are for all modes of travel, including rail, bus, and motor vehicle.*
Totals in table may not appear to add exactly due to rounding in the calculations.
Negative numbers are shown in parentheses.

Motor Vehicle Emissions

The proposed Hercules ITC would alter existing motor vehicle trips to transit centers (e.g., BART or Amtrak station) and provide commuters with alternative modes to reach San Francisco and other destinations in the Bay Area. The change in motor vehicle emissions associated with implementation of the proposed project was calculated using EMFAC2007 (CARB 2010c). Net changes in total operational emissions are summarized in Table 4.7-1.

Total Emissions

As shown in Table 4.7-1 Total Net Hercules ITC Operational Emissions above, total net operational emissions would decrease with implementation of the proposed Hercules ITC, primarily because of reduced carbon monoxide (CO) emissions from motor vehicle emissions.

Net operational emissions associated with the proposed project would not exceed any of the BAAQMD thresholds of significance. Therefore, operational emissions would have a less than significant impact on air quality in the region.

Mitigation: No mitigation is required.

CEQA Determination: The impact related to total net operational emissions would be less than significant.

Impact AIR-3: Implementation of the proposed project could expose sensitive receptors to CO concentrations in excess of the federal or state ambient air quality standards.

Alternatives 1 and 2: CO is produced in greatest quantities from gasoline-powered motor vehicle combustion and is usually concentrated at or near ground level because it does not readily disperse into the atmosphere. As a result, potential air quality impacts to sensitive receptors are assessed through an analysis of localized CO concentrations. Traffic-congested roadways and intersections have the potential to generate high localized levels of CO, which are called hot-spots. These hot-spots have the potential to exceed the state ambient air quality 1-hour CO standard of 20 ppm or the 8-hour CO standard of 9.0 ppm. Note that the federal levels are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. An exceedance of the state or federal ambient air quality standards would constitute a significant air quality impact.

The project was evaluated to determine if it would cause a CO hot-spot utilizing a simplified CALINE4 screening model developed by the BAAQMD. The simplified model is intended as a screening analysis that identifies a potential CO hot-spot. If a hot-spot is identified, the complete CALINE4 model is then utilized to determine precisely the CO concentrations predicted at the intersections in question. This methodology assumes worst-case conditions (i.e., wind direction is parallel to the primary roadway and 90 degrees to the secondary road, wind speed of less than one meter per second, and extreme atmospheric stability) and provides a screening of maximum, worst-case, CO concentrations. This model was utilized to predict future CO concentrations at representative receptors 0 feet and 25 feet from the intersections in the study area based on projected traffic volumes for these intersections contained in the project traffic study. Maximum CO concentrations occurring during cumulative (i.e., year 2035) plus project conditions were calculated for peak hour traffic volumes. The results of these CO concentration calculations are presented in **Table 4.7-2,** Cumulative (2035) CO Concentrations.

As shown below, the contribution of traffic from cumulative (past, present, and reasonably foreseeable future) projects including the ferry terminal and planned development of the area around the Hercules ITC plus the proposed project traffic would not generate CO concentrations near the study intersections that would exceed the federal or state CO ambient air quality standards. Therefore, the project's impact would be considered less than significant and the project would not expose sensitive receptors to substantial pollutant concentrations. The day-to-day operations of the proposed project would generate CO concentrations that would not violate or contribute substantially to a violation of the CAAQS.

Mitigation: No mitigation is required.

CEQA Determination: The impact related to CO concentrations would be less than significant.

Table 4.7-2
Cumulative (2035) CO Concentrations

Intersection	0 Feet		25 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour
Hawthorne Drive and Willow Avenue	3.9	3.9	3.7	3.7
Hercules Avenue and San Pablo Avenue	4.0	3.9	3.7	3.7
I-80 Westbound Off-Ramps and Willow Avenue	4.0	3.9	3.7	3.7
San Pablo Avenue and Appian Way	4.1	4.0	3.8	3.8
San Pablo Avenue and John Muir Parkway	4.6	4.3	4.1	4.0
San Pablo Avenue and Pinole Valley Road	4.0	3.9	3.8	3.7
San Pablo Avenue and Sycamore Avenue	4.7	4.4	4.2	4.0
San Pablo Avenue and Tennent Avenue	4.1	3.9	3.8	3.7
San Pablo Avenue and Willow Avenue	4.0	3.9	3.7	3.7
Sycamore Avenue and Bayberry Avenue	5.9	5.2	4.8	4.4
State CO Standards (ppm)	20	9.0	20	9.0

Source: Impact Sciences, Inc.2009
All CO concentrations at intersections are shown in parts per million (ppm).

Impact AIR-4: Implementation of the project could cause a substantial health risk to nearby receptors from exposure to toxic air contaminants (TACs) from diesel exhaust.

Alternatives 1 and 2: As described previously, CARB formally identified particulate matter emitted by diesel-fueled engines as a TAC. Diesel engines such as the proposed ferries, rail locomotives, and dredging equipment emit TACs in both gaseous and particulate forms. The particles emitted by diesel engines are coated with chemicals, many of which have been identified by the USEPA as Hazardous Air Pollutants, and by CARB as TACs. The proposed project would generate diesel particulate matter (DPM) emissions associated with operation of the rail, as well as periodic maintenance operations using engines. It should be noted that the Amtrak rail line currently passes through the project site. Adding the proposed rail station as part of the Hercules ITC would slightly increase the DPM emissions due to the deceleration, idling, and acceleration of the train as it arrives at and departs from the terminal. However, the addition of these emissions is not anticipated to be a substantial increase beyond the current operating emissions. The area of impact from DPM will depend on meteorological conditions. If light to moderate wind conditions prevail in the project area, DPM is likely to be dispersed widely and have its impact on a regional scale. During periods of very light wind speeds, low inversion heights, and atmospheric stability, diesel particulates may remain in the project area and have a relatively high local impact. However, health risk assessments typically evaluate the long-term or lifetime exposure to DPM; therefore, it is long-term average exposure that is of most concern. Due to the prevailing meteorological conditions in the project area, DPM is expected to be well dispersed. Therefore, due to the meteorological conditions at the project site, it is not anticipated that the project would cause a substantial health risk to nearby receptors due to DPM emissions.

Mitigation: No mitigation is required.

CEQA Determination: The impact related to exposure to diesel particulate matter would be less than significant.

Impact AIR-5: Implementation of the project could create objectionable odors affecting a substantial number of people.

Alternatives 1 and 2: The proposed project would include emissions associated with a new rail station, transit buses, and motor vehicles accessing parking spaces on-site. The proposed project's tendency to generate objectionable odors would depend on multiple factors. The occurrence of an objectionable odor depends on the nature, frequency, intensity of the source, wind speed, and direction, and also the sensitivity of the individual. Offensive odors typically do not cause any physical harm; however, they can be unpleasant and cause distress among the public and generate citizen complaints. The BAAQMD's Regulation 7 (Odorous Substances) would impose odor concentration standards in the case odor complaints about the proposed facility reach or exceed 10 complaints in a 90-day period.

Construction activities associated with development of the proposed project would include dredging operations that would generate odors associated with construction vehicles (i.e., diesel exhaust). In addition, if any surfaces of the proposed project require painting, odors could be generated during architectural coating operations. However, construction activities would only occur during daytime hours and would be confined to the project site. Therefore, it is not anticipated that construction related odors would affect a substantial number of people. Furthermore, dredging operations would not likely occur during the same period as architectural coating operations.

Following construction of the proposed Hercules ITC, operational emissions would include potential operational odors associated with diesel exhaust. Given the small number of diesel buses and passenger trains, as well as support vehicles (e.g., maintenance and garbage trucks) operating on the site, it is anticipated that the proposed project would not generate sufficient objectionable odors that would affect a substantial number of people.

Mitigation: No mitigation is required.

CEQA Determination: The impact related to objectionable odor would be less than significant.

4.7.4. Cumulative Impacts and Mitigation

Impact AIR-6: Implementation of the project could result in a cumulatively considerable net increase of criteria pollutants and TACs compared to the No-Action Alternative.

Alternatives 1 and 2: Implementation of the Hercules ITC would result in a reduction of vehicle trips across the Bay Area bridges and trip distances to mass transit stations. As discussed in Impact AIR-2, the proposed project would allow commuters from the East Bay region who drive to the San Francisco area to reduce their VMT by driving to the proposed Hercules ITC rather than driving directly to San Francisco. For rail users traveling north, the proposed project would allow commuters in the project's region who previously drove to the Martinez Amtrak station or the El Cerrito del Norte BART station to drive to the proposed Hercules ITC. For rail users traveling south, the proposed project would allow commuters in the project's region who

previously drove to the Richmond Amtrak station to drive to the proposed Hercules ITC. As shown in Table 4.7-1, the net increase in emissions associated with implementation of either action alternative of the proposed project would not exceed the BAAQMD thresholds of significance and, in the case of CO, emissions would be reduced.[1]

According to the *BAAQMD CEQA Guidelines*, any project that would individually have a significant air quality impact would also have a significant cumulative air quality impact. As discussed in Impact AIR-2, emissions associated with operation of the proposed project would not exceed any of the BAAQMD recommended operational thresholds of significance. Therefore, the project would not have an individually significant air quality impact.

For a project that does not individually have a significant air quality impact, the *BAAQMD CEQA Guidelines* recommend that a determination of cumulative impacts be based on an evaluation of the consistency of the project with the local general plan and of the general plan with the regional air quality plan. If a project is proposed in a city or county with a general plan that is consistent with the regional air quality plan and the project is consistent with that general plan, the project would not have a significant cumulative impact.

The applicable local plans are the General Plan as amended by the WDMP and the *Plan for Central Hercules* (City of Hercules 2000). The General Plan discusses an intermodal transit center in the Historic Town Center which includes the project site. The proposed Hercules ITC is consistent with several of the plan's stated objectives and policies in the Circulation Element, including:

- Objective: Promote public transit service within the City and area (p. III-20).
- Policy: The City shall actively participate in cooperative efforts to provide effective public transit to the City and adjacent communities, including promoting a commuter rail extension of BART in the City and a train station along San Pablo Bay within the Lower Refugio Valley serving the Capitol Corridor to intercept through travelers on I-80 (p. III-21, 22)

Furthermore, the *Plan for Central Hercules* specifically identifies a Capitol Corridor train station at the location of the proposed Hercules ITC (p. 6.2). Therefore, the project is consistent with the local general plans for Hercules.

The most recently adopted regional air quality plan, or CAP, for this area is the *2005 Ozone Strategy* (BAAQMD 2006). To analyze if the local general plan is consistent with the *2005 Ozone Strategy*, the *BAAQMD CEQA Guidelines* recommend evaluating 1) the local plan consistency with CAP population and VMT assumptions, 2) the local plan consistency with CAP TCMs, and 3) the local plan impacts associated with odors and toxics. If a local general plan fulfills the criteria above, the plan is consistent with the CAP.

[1] Implementation of the proposed project would cause a net increase of some pollutants and a net reduction in some pollutants. Nevertheless, any net increase in emission associated with the proposed project would not exceed the BAAQMD thresholds of significance.

Firstly, the *2005 Ozone Strategy* was developed by BAAQMD, in cooperation with the ABAG, a regional board composed of representatives from each of the city jurisdictions in the Bay Area, including the City. Population and VMT assumptions were developed by ABAG and, at the time, were consistent with the local general plans of each of the ABAG member jurisdictions. The local plans, including the *Hercules General Plan as amended by the Waterfront District Master Plan* and the *Plan for Central Hercules*, were consistent with the population and VMT assumptions used to develop the *2005 Ozone Strategy*.

Secondly, the General Plan and the *Plan for Central Hercules* contain numerous objectives and policies designed to achieve the same goals as the TCMs in the *2005 Ozone Strategy*. A majority of the TCMs contained in the *2005 Ozone Strategy* are related to mass transit, carpooling, and facilities associated with commercial uses (e.g., bicycle facilities, vanpool services, and other incentives). Similarly, as stated above, the local plans contain objectives and policies to encourage the expanded use of public transit, such as the proposed Hercules ITC, and are therefore consistent with the CAP. Specifically, the following list includes the applicable TCMs that relate directly to public transit and describes how the proposed Hercules ITC would be consistent with those TCMs:

- TCM 1 – Support Voluntary Employer-Based Trip Reduction: The proposed Hercules ITC would offer commuters in the project's vicinity various commute alternatives. Therefore, commuters that would utilize the proposed Hercules ITC would reduce vehicles trips or VMT in the air basin.

- TCM 3 – Improve Area-wide Transit Service: The proposed Hercules ITC would provide commuters in the region with access to various transit services. By creating a central location where commuters have access to multiple transit services, the proposed project provides a more accessible and feasible mass transit alternative.

- TCM 4 – Improve Regional Rail Service: The proposed Hercules ITC would include an additional rail station, which would reduce the distance driven by commuters (in the project's vicinity) to reach a rail station.

- TCM 5 – Improve Access to Rail and Ferries: The proposed Hercules ITC would allow commuters in the project's vicinity to access both rail and, ultimately, ferry transportation.

- TCM 7 – Improve Ferry Service: As part of a later phase, the proposed Hercules ITC would allow commuters from Alameda, Contra Costa, and potentially Solano Counties to access ferry services. The intermodal design of the proposed project would allow commuters to potentially use rail or bus services to reach the ferry rather than using an individual motor vehicle.

- TCM 12 – Improve Arterial Traffic Management: The proposed Hercules ITC would offer multiple alternate modes of transportation. Commuters who utilize the proposed project would be removing or minimizing vehicle trips or VMT from the roads, thereby improving traffic management.

Lastly, the General Plan and the *Plan for Central Hercules* do not specifically address odors or TACs, but such concerns are adequately addressed through the land use element and land use map. Industrial facilities and major highway corridors, which would be expected to generate the highest potential for odors and emissions of TACs, are specifically separated from residential areas and other sensitive land uses in the local plans. Although the plans encourage higher density and mixed land uses, the intended uses do not extend to industrial categories. Furthermore, the General Plan contains an extensive Hazardous Waste Management Plan Element that explicitly addresses the need to control hazardous waste and hazardous emissions from industrial facilities within the City. It can be concluded, therefore, that the plans implicitly address the issue of odors and TACs, and therefore, satisfy the third evaluation element of the plans.

As discussed above, the proposed Hercules ITC is consistent with the General Plan and the *Plan for Central Hercules*, and those plans meet the criteria used to determine consistency with the *2005 Ozone Strategy*. Furthermore, all appropriate control measures would be implemented during construction to minimize the generation of fugitive dust, and all appropriate BACTs would be implemented to minimize construction emissions of criteria pollutants and TACs. The recommended mitigation measures would help reduce construction and operational emissions to a less than significant level. Therefore, the proposed project would not cause an individually significant impact. Accordingly, the proposed project would not have a significant cumulative impact.

CEQA Determination: Cumulative impacts associated with criteria pollutants and TACS from other identified development projects are not considered significant.

Impact AIR-7: Implementation of the project would generate GHGs and could contribute to cumulative impacts of global climate change.

Alternatives 1 and 2: Guidelines for GHGs and climate change within the CEQA process, including thresholds for significance, are currently being developed. Following Assembly Bill 32 (the Global Warming Solutions Act of 2006), Senate Bill 97 was passed in 2007, which required the Governor's Office of Planning and Research (OPR) to develop draft amendments to the CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions." The OPR prepared a Technical Advisory on CEQA and Climate Change in June 2008 as a precursor to the draft CEQA guidelines.

As required by SB 97, OPR developed and, on April 13, 2009, submitted to the Natural Resources Agency its proposed amendments to the CEQA guidelines for GHG emissions. The Natural Resources Agency conducted a formal rule-making process throughout the remainder of 2009, adopted a slightly revised version of the amendments, and then submitted them to the Office of Administrative Law (OAL) on December 31, 2009. The CEQA Guidelines Amendments became effective on March 15, 2010.

In preparation for the new guidelines, many air districts, including the BAAQMD, have been revising their CEQA guidance documents to include specific guidance for implementing the new state guidelines on GHG emissions. Specifically, the BAAQMD issued a draft of its CEQA Air Quality Guidelines on December 7, 2009, which includes specific guidance for assessing and

mitigating GHGs for projects, and even sets thresholds of significance for project-level GHG emissions. The new CEQA guidelines were finalized in June 2010. The proposed project was evaluated prior to the guidelines being adopted and was evaluated for GHGs using the Draft BAAQMD guidance (BAAQMD 2010).

The Draft BAAQMD guidance outlines a five-step process to evaluate a project for GHG emissions and make a significance determination. Step 1 involves comparing the project attributes with screening criteria to decide whether more detailed evaluations are necessary or whether the project would likely result in a less than significant impact to global climate change. For projects needing additional evaluation, Step 2 details an emissions quantification procedure to calculate unmitigated GHG emissions for the project operation. In Step 3, the unmitigated emissions total is compared to thresholds of significance to determine the need for mitigation. If mitigation is needed, it is detailed in Step 4, along with the associated reduction in GHG emissions to determine the mitigated GHG emissions from the project operation. Finally, in Step 5, the mitigated emissions are compared with thresholds of significance.

The GHG evaluation for the Hercules ITC began with the Step 1 screening procedure, which compares project-specific land use categories to assumed thresholds that would not be expected to result in significant GHG contributions. However, the list of land use categories did not include a transit center or any related description, so it could not be assumed through the screening procedure that the project would result in a less than significant impact to global climate change. As a result, a detailed emissions quantification was required, following the procedure in Step 2.

GHG emissions quantification involves both direct emissions and indirect emissions. Direct emissions are those that originate from the specific project site, while indirect emissions are associated with the energy production, water conveyance, and wastewater treatment of the project's incremental consumption of energy and water. Direct emissions are calculated using the URBEMIS2007 model, which estimates CO_2 emissions from construction, area, and mobile sources accessing the project. The attributes of the proposed Hercules ITC were modeled in URBEMIS2007, which estimated that the operation of the project would generate 985.3 tons per year (896.6 metric tons per year [MT/yr]) of combined area source and operational emissions of CO_2. However, the indirect emissions must also be calculated and added to this figure.

The Draft BAAQMD guidance recommends that indirect emissions calculations use data from CARB's Local Government Operations Protocol (LGOP), which contains utility-specific emissions factors for CO_2 and region-specific emissions factors for methane (CH_4) and nitrous oxide (N_2O). Specific data on average water usage and wastewater treatment was also obtained from the East Bay Municipal Utility District. Using the BAAQMD recommended procedures, the indirect GHG emissions for the proposed Hercules ITC were estimated to be 37.04 MT/yr of CO_2 equivalents (CO_2e) for electricity consumption, 0.28 MT/yr of CO_2e for electricity used in water conveyance, and 0.52 MT/yr of CO_2e for electricity used in wastewater treatment, for a total of indirect GHG emissions of 37.84 MT/yr of CO_2e. The calculations include adjustments for CH_4 and N_2O. The combined direct and indirect GHG emissions for the proposed Hercules ITC project were estimated at 934.4 MT/yr of CO_2e.

With the total estimated operational-related GHG emissions for the project, the evaluation moved to Step 3 of the Draft BAAQMD guidance, which was to compare the unmitigated emissions to the thresholds of significance. The threshold of significance for GHG emissions for land use development projects (e.g. residential, commercial, industrial, institutional, and public land uses and facilities) is 1,100 MT/yr of CO_2e. The estimated operational GHG emissions from the proposed Hercules ITC project are 934.4 MT/yr of CO_2e, which is below the BAAQMD threshold of significance. Therefore, the estimated GHG emissions from the proposed project would result in a less than significant impact, and Steps 4 and 5 of the GHG evaluation do not need to be completed.

CEQA Determination: Cumulative impacts associated with to GHG emissions and global climate change from other identified development projects are not considered significant.

4.8. NOISE AND VIBRATION

4.8.1. Significance Criteria

According to Appendix G of the CEQA Statutes and Guidelines, the proposed project would have a significant impact with respect to noise if it causes or results in:

- 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;
- Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Exposure of people residing or working in the project area to excessive noise levels due to the project being 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; or
- Exposure of people residing or working in the project area to excessive noise levels due to the project being located within the vicinity of a private airstrip.

An interior CNEL of 45 dBA is mandated by the State of California Noise Insulation Standards (CCR, Title 24, Part 6, Section T25 28) for multiple-family dwellings and hotel and motel rooms. In 1988, the State Building Standards Commission expanded that standard to include all habitable rooms in residential use, including single-family dwelling units. Since normal noise attenuation within residential structures with closed windows is about 20 dB, an exterior noise exposure of 65 dBA CNEL[2] allows the interior standard to be met without any specialized structural attenuation (dual-paned windows, etc.) features. The noise standards used in this analysis are, therefore, 65 dBA CNEL exterior use and 45 dBA CNEL interior.

4.8.2. Issues Not Discussed Further

There are no public or private airports or airstrips in the project vicinity and the project site is not located within an airport land use plan. Furthermore, there are no public or private airports or airfields within at least 10 miles of the project site. Therefore, the proposed project would not expose people to excessive airport or aircraft related noise levels and these issues are not discussed further in this EIR/EIS.

[2] The 24-hour average noise level with noise occurring during evening and nighttime hours weighted prior to averaging.

4.8.3. Impacts and Mitigation Measures

No-Action Alternative

Under the No-Action Alternative, the Hercules ITC project would not be constructed, and therefore it would not increase ambient noise levels in the project vicinity above acceptable levels. No noise impacts would occur.

Action Alternatives

Impact NOI-1: Implementation of the proposed project would add new vehicle trips to the roadway network in the project vicinity, which could increase ambient noise levels at nearby noise-sensitive receptors above acceptable levels.

Alternatives 1 and 2: The implementation of either action alternative (Alternative 1 or Alternative 2) would increase vehicle traffic and traffic noise in the project area. Traffic data contained in the Hercules ITC Traffic Impact Analysis prepared by DKS Associates (2010) was used to calculate potential project-related traffic noise levels along roadways in the project vicinity. These data included turning movement counts at 10 intersections for existing conditions and projections for baseline and project conditions. Link volumes were calculated based on the turning movement data. The surrounding roadway network, along with the associated link traffic volumes, was modeled in the FHWA approved Traffic Noise Model software, version 2.5 (TNM 2.5) (FHWA 2004), to evaluate traffic-related noise impacts to surrounding residential land uses. Both the a.m. and p.m. peak hour periods were modeled for both action alternatives, for a total of four scenarios. Although the results were similar amongst all scenarios, the p.m. peak hour for Alternative 1 was slightly higher than the other scenarios, so the results discussed here are for that scenario. The TNM 2.5 modeling indicated that the project would not result in traffic noise levels exceeding acceptable levels at sensitive receivers near the site (e.g., residences). Project-related traffic noise levels at the residences closest to John Muir Parkway, west of San Pablo Avenue, are calculated to be in the range of 53 to 55 dBA Leq, while the residences closest to the future intersection of John Muir Parkway and Bayfront Boulevard are calculated to be in the range of 42 to 52 dBA Leq. These future noise levels are approximately 0 to 3 dBA higher than the future noise levels without the project, which are expected to range from 42 to 52 dBA Leq, and are in the range of existing ambient noise levels measured in the area of 50 to 51 dBA Leq. The traffic-related noise levels are projected to remain below the applicable noise criteria (65 dBA Leq) and the slight increase at some of the residences would be considered less than significant because it would be less than a 5-dBA increase. **Table 4.8-1** summarizes existing noise levels and future traffic-related noise levels with and without the project.

Mitigation: No mitigation is required.

CEQA Determination: This impact would be less than significant.

Table 4.8-1
Traffic-related Noise Levels

Receiver Location	Existing (2009) measured noise levels (dBA)	Future (2035) modeled noise levels without project (dBA)	Future (2035) modeled noise levels with project (dBA)	Project contribution (dBA)
R1 – Corner of S. Front St. and N. Front St.	50	52	55	3
R2 – Corner of N. Front St. and Cabrillo Ln.	50	52	53	1
R3 – Corner of N. Front St. and Drake Ln.	50	52	54	2
R4 – Corner of Sanderling Dr. and Sanderling Dr.	51	52	52	0
R5 – Corner of Sanderling Dr. and Avocet Dr.	51	51	50	0
R6 – Promenade St., south of Bayfront Blvd.	50	50	51	1
R7 – Earnest St., south of Bayfront Blvd.	50	45	45	0
R8 – Railroad Ave., south of Bayfront Blvd.	50	42	42	0

Impact NOI-2: Operation of the proposed Hercules ITC would cause increased noise levels in the project area from trains and buses.

Alternatives 1 and 2 and Track Option B: The operation of either action alternative of the proposed Hercules ITC would result in increases in noise levels from trains and buses.

Trains

Both action alternatives would place the train station platform at the same location, so the train noise issues would be the same for both alternatives. Trains are required to sound their signal horn as a safety measure, when approaching curves or other points where view may be obscured, and when approaching an at-grade crossing or another train. Observations made in the vicinity of the proposed station site confirmed that railroad trains do not normally sound their horns in this area. This was supported by the measured data. Maximum noise levels were typically 75-85 dBA Lmax measured at a distance of 160 feet from the center of the tracks. The measured day/night average noise level was 68 dBA Ldn. During the same time period near the Martinez Amtrak Station, typical maximum noise levels ranged from 90 to105 dBA Lmax and the measured noise level over a 24-hour period was 76 dBA Ldn. An at-grade railroad crossing near the Martinez station necessitated the sounding of horns for all trains passing through the area. Near the Hercules ITC, there would only be a locked gate at the crossing for emergency vehicle access. Because the proposed station would not have a nearby at-grade crossing noise levels are expected to be substantially lower than those measured at the Martinez station.

Specific train noise impacts were calculated for the proposed Hercules ITC using the methodology contained in the FTA Transit Noise and Vibration Impact Assessment (2006). The methodology uses spreadsheet-based calculations using project-specific details. The nearest existing residences to the proposed Hercules ITC are approximately 300 to 500 feet from the station platform. The calculations result in projected future noise levels from train activity (not including or other noise sources) of 53 to 58 dBA Ldn at these nearest residences. These projected noise levels compare with the long-term ambient noise measurements (LT-2) conducted in the area of 61 dBA Ldn (refer to Section 3.8.3.3), which also includes noise from other sources in the surrounding area. According to FTA noise criteria (refer to Figure 3.8-1), based on existing noise levels, there would be no noise impact to existing nearby residences from future train activity at the Hercules ITC.

Buses

Buses would access the proposed Hercules ITC from John Muir Parkway. Under Alternative 1, buses would pick-up and drop-off passengers directly in front of the intermodal transit center approximately 175 feet north of existing residences south of Bayfront Boulevard. Under Alternative 2, the bus loading zone would be located about 400 feet northeast of these residences. According to the project's traffic study, there are a total of 14 local, express, regional, and transbay bus routes currently operated out of the Hercules Transit Center, about 1.5 miles from the proposed Hercules ITC. Some of the existing transit routes would be re-routed to serve the intermodal transit center, although not all existing routes would directly serve the proposed Hercules ITC. This analysis assumed an average headway of 20 minutes during the peak hour for existing bus routes. Using worst-case assumptions that all existing routes would access the Hercules ITC, up to 42 buses could access the transit center during the peak hour. These buses were also included in the traffic-noise modeling under Impact NOI-1. Average noise levels resulting from buses are calculated to be 49 dBA Leq at 175 feet and 44 dBA Leq at 400 feet. Based on these calculations, the operation of buses at the proposed Hercules ITC would not substantially increase the hourly average noise levels or daily average noise levels resulting from train operations at the Hercules ITC.

Combined Sources

Future noise levels from train activity alone would be approximately 10 to 12 dBA higher than noise levels from bus activity alone at similar distances. Therefore, the combined noise levels from all Hercules ITC activity would be the same as those from train activity alone. Future project-related noise levels from train and bus activity combined is calculated to range from 53 to 58 dBA Ldn at the residences nearest to the station platform. This compares to the long-term ambient noise measurement (LT-2) conducted in the area of 61 dBA Ldn.

FTA impact thresholds are shown in Figure 3.8-1. Considering the existing noise exposure at nearby residential receivers was measured at 61 dBA Ldn, and the highest project-related noise level would be 58 dBA Ldn, there would be an increase in the cumulative noise level in the area (from existing noise sources and from the future Hercules ITC) of approximately 1.8 dBA. As shown in the noise impact thresholds in Figure 3.8-1, The noise increase would fall within the no impact

Mitigation: No mitigation is required.

CEQA Determination: The impact related to operational noise from the Hercules ITC would be less than significant.

Impact NOI-3: Noise-generating construction activities are anticipated to exceed noise level standards and be at least 5 dBA above the ambient noise environment at adjacent noise-sensitive land uses.

Alternatives 1 and 2 and Track Option B: The proposed Hercules ITC would be constructed on either the west or east side of Refugio Creek (Alternatives 1 and 2, respectively) on the south side of the existing railroad tracks. Primary project components include a transit terminal and bus turnaround located on Bayfront Boulevard adjacent to Refugio Creek, track realignment and construction of a rail platform at the train station, and the railroad bridge replacement at Refugio Creek that would include installation of new riprap and embankment protection. Interim surface parking lots would be constructed north of the planned intersection of John Muir Parkway and Bayfront Boulevard and a parking structure would be constructed off John Muir Parkway north of the transit center. Finally, both alternatives would include the extension of the John Muir Parkway, including the proposed Bayfront Bridge, and the restoration of the lower Refugio Creek channel. In order to provide for the future ferry component, the "tie-in" for the bay- or waterside ramp will be constructed as part of the Hercules ITC project. The ramp "tie-in" will include concrete or steel piles on the western side of the Hercules ITC terminal.

Sources of construction noise that are unique to railroad construction include a rail saw, spike driver, tie cutter, tie handler, and tie inserter. Typical noise levels resulting from this equipment range from about 77 to 90 dBA, measured at a distance of 50 feet (FHWA 1995). During impact pile driving hourly average noise levels could reach 94 dBA Leq at 50 feet. Maximum noise levels generated during demolition or foundation construction would typically range from 85 to 105 dBA Lmax assuming the operation of jackhammers, hoe rams, or impact pile drivers. Typical ranges of noise levels at 50 feet from construction sites are listed in **Table 4.8-2**. Construction-generated noise levels from large projects, like the proposed Hercules ITC, drop off at a rate of about 4 to 6 dBA per doubling of distance between the source and receptor. Shielding provided by barriers or structures can provide an additional 5 to 10 dBA noise reduction at distant receivers.

Construction of the rail platform, track relocation, signals, and overpass could begin in 2010 and the train station and bus terminal could be completed in 2012. No schedule has been established for construction of the permanent parking structure; timing of these facilities would depend on funding and economic conditions. Construction activities are anticipated to include grading, excavation, paving, installation of underground utilities, building construction, and pile driving. Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction lasts over extended periods of time.

Table 4.8-2
Typical Ranges of Noise Levels at 50 Feet from Construction Sites (dBA Leq)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial, Parking Garage, Religious, Amusement & Recreation, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

Notes:
I - All pertinent equipment present at site.
II - Minimum required equipment present at site.
Source: USEPA 1973

The nearest existing sensitive uses are residences located approximately 300 to 500 feet south of areas on the site where major construction activities would occur. As indicated in **Table 4.8-3**, noise from the loudest phases of construction would range from 55 to 73 dBA Leq at existing residences when construction activities occur at the site. Pile driving noise levels would typically range from 72 to 78 dBA Leq at existing sensitive uses if pile driving occurs near the periphery of the site nearest residences. The UPRR tracks will be temporarily relocated on the landside of the railroad alignment in order to accommodate construction. This will temporarily place trains in closer proximity to residential uses and increase potential noise and vibration effects until final construction of the Hercules ITC Station.

Table 4.8-3
Range of Construction Noise Levels at Nearby Land Uses (dBA Leq)

Direction of Nearest Receivers	Distance from Major Areas Proposed for Construction	Land Use Type	Typical Construction Noise Level Range	Pile Driving Construction Noise Levels
South	300	Residential	61 to 73	78
South	500	Residential	55 to 67	72

Mitigation Measure NOI-3: The proposed project shall implement the following best-available construction noise control measures.

- Ensure that construction activities (including the loading and unloading of materials and truck movements) are limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and between the hours of 9:00 a.m. and 5:00 p.m. on weekends or holidays.

- Restrict pile driving to the hours of 8:00 a.m. to 5:00 p.m. to ensure that driving occurs when residents are more likely to be away from home or able to leave if necessary to avoid noise effects.
- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment.
- Prohibit unnecessary idling of internal combustion engines.
- Utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- Locate stationary noise-generating equipment as far as feasible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Pre-drill foundation pile holes to minimize the number of impacts required to seat the pile.
- Where feasible, construct solid plywood fences between the construction noise sources and adjacent noise-sensitive land uses to reduce offsite propagation of construction noise.
- Route construction-related traffic along major roadways and as far as feasible from sensitive receptors.
- Residences or noise-sensitive land uses adjacent to construction sites shall be notified of the construction schedule in writing.
- Designate a "construction liaison" that would be responsible for responding to any local complaints about construction noise. The liaison would determine the cause of the noise complaints (e.g., starting too early, bad muffler, etc.) and institute reasonable measures to correct the problem.
- Conspicuously post a telephone number for the liaison at the construction site.

CEQA Determination: Even with the implementation of mitigation, the impact related to construction noise would be significant and unavoidable.

Impact NOI-4: Project construction and operation could generate groundborne vibration levels exceeding acceptable limits.

Alternatives 1 and 2 and Track Option B: Construction activities such as pile driving generate groundborne vibration. Like noise, groundborne vibrations naturally attenuate with distance. The nearest sensitive receptors are located approximately 300 feet from where pile driving would occur. At a distance of 300 feet, groundborne vibration levels from pile driving would be in the range of 0.26 mm/s to 0.46 mm/s. For comparison, the threshold for risk of architectural damage to buildings occurs above 2.5 mm/s of vibration, the same threshold at which people begin to be annoyed by vibration levels. As a result, groundborne vibration resulting from construction activities would be less than significant.

The operation of the station would result in train speeds equal to or lower than existing train speeds through the area. Groundborne vibration resulting from railroad train operations is a function of speed and decreases with decreasing speed. The presence of the station, therefore, would result in lower levels of groundborne vibration than currently exist in the area. Vibration impacts associated with the operation of this project would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: This impact would be less than significant.

Track Option B

Implementation of Track Option B would generate short term noise impacts to residents at Victoria by the Bay at the northeastern section of the UPRR corridor where the third track would be installed. Mitigation measures to reduce the potential noise and vibration impacts discussed above would be implemented as part of the construction for Track Option B. However, implementation of Track Option B would have a number of beneficial effects reducing the potential adverse effects of the project related to noise and vibration. Implementation of Track Option B would eliminate the need to construct the shoofly tracks, thereby avoiding the need to route traffic closer to residents temporarily during construction of the Hercules ITC. Additionally, Option B would require few piles reducing noise and vibrations impacts. Most significantly, implementation of Track Option B is anticipated to shorten the duration of construction from approximately 30 months to 24 months. Construction related noise and vibration would still result in temporary significant impacts. Decreasing the period of construction Option B would reduce the duration of construction related noise; however, this impact would still be significant and unavoidable.

4.8.4. Cumulative Impacts and Mitigation

Construction of the Hercules ITC and the other reasonably foreseeable projects in the vicinity, including the ferry terminal and the mixed use developments, are not expected to occur at the same time and construction as the Hercules ITC. Therefore, noise and vibration impacts would be spread over an extended period.

Operation of the Hercules ITC, the ferry terminal, and the commercial activities associated with the mixed use developments would occur during normal working hours and the only evening/night time or weekend noise would be from residential activities. As the area redevelops and more people live and work in the vicinity of the Hercules ITC, the area can be expected to experience more constant noise and fewer periods of quiet. This is a foreseeable result of redeveloping the area into an urban environment and consistent with the approved plans of the City.

CEQA Determination: Cumulative effects associated with noise and vibration from other identified development projects are not considered significant.

4.9. BIOLOGICAL RESOURCES

This section describes potential impacts of the Hercules ITC on the biological environment. This section outlines construction impacts, operational impacts, and cumulative impacts on each potentially affected biological resource. Special-status species are discussed first, followed by sensitive natural communities, marine mammals, fishery resources, and lastly waters of the U.S. This section provides an evaluation of each proposed Action Alternative and the No-Action Alternative. Where differences in impacts occur between the Alternatives 1 and 2, they are discussed separately. Otherwise, impacts for Alternatives 1 and 2 are discussed together. Mitigation measures are also proposed to avoid or minimize each potential impact.

The information presented in this section is summarized from the "Biological Resources Information for the Hercules Intermodal Transit Center Project" (HDR 2010a; Appendix G), which provides a background for the information presented in this section.

4.9.1. Methodology

Special-status Species Evaluation

A list of regionally-occurring special-status species with the potential to occur in the ESL and/or be impacted by the proposed project was prepared by reviewing the following sources: the list of reported occurrences of special-status in the California Natural Diversity Database (CNDDB) for the "Mare Island, California" USGS quadrangle and the surrounding eight quads (CNDDB 2009); the list of federal listed special-status species with the potential to occur in, or be affected by projects in the "Mare Island, California" USGS quad and the surrounding eight quads (USFWS 2009); and the list of rare and endangered plants known to occur on the "Mare Island, California" USGS quad and the surrounding eight quads obtained from California Native Plant Society Online Database (CNPS 2009). HDR then conducted a biological reconnaissance survey to characterize the habitat types present in the ESL. The results of the habitat assessment were compared to the habitat requirements of the regionally occurring special-status species and used to determine which of these species had the potential to occur in the ESL. The list of regionally-occurring special-status species compiled from the USFWS, CNDDB, and CNPS lists, their specific habitat requirements, and a discussion of presence/absence of suitable habitat for these species in the ESL is presented in Appendix G to this EIR/EIS.

Special-status species and sensitive natural communities that were determined to have potential habitat in the project area are listed in Table 3.9-1, the Project Study Area Sensitive Species/Natural Communities Table, which is located in Section 3.9.4 of this EIR/EIS.

Regionally Occurring Marine Mammals and Regionally Important Fisheries

A list of marine mammals and regionally important fisheries potentially occurring in San Pablo Bay was obtained from the following sources: CDFG's monitoring programs (Fall Midwater Trawl and Summer Townet Survey) as queried from the Bay Delta and Tributaries Project database (WWR 2007a), the San Pablo Bay Watershed Restoration Framework Program (California Coastal Conservancy and USACE 2000), the Report on the Subtidal Habitats and

Associated Biological Taxa in San Francisco Bay (NMFS 2007), and the Hercules Multimodal Transit Facility Fish and Fisheries Assessment (WWR 2007a).

Waters of the U.S. Including Wetlands

A delineation of potential jurisdictional waters of the U.S. for the project site was prepared by Vollmar Consulting in 2008 (Vollmar 2008) and a Jurisdictional Determination was issued by the USACE in December 2008 (USACE 2008). Project design modifications occurred in 2009 subsequent to the Jurisdictional Determination being issued. Project design modifications necessitated enlargement of the study area boundary and additional jurisdictional delineation effort. HDR prepared a delineation report in fall 2009 for potential waters of the U.S. in the remaining portions of the study area not included in the previously verified delineation (HDR 2010b). The 2009 delineation has not yet been verified by the USACE.

The 2008 and 2009 jurisdictional delineation reports are both included in Appendix G to this EIR/EIS.

WWR completed a wetland delineation of the Chelsea Wetlands area in March 2008 (WWR 2009) This wetland delineation was field verified by the USACE in March 2009.

4.9.2. Significance Criteria

The project would have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly through “take” or indirectly 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 USFWS, CDFG, or CNPS;
- Have a substantial adverse effect on a species Critical Habitat designated by NMFS or USFWS, or on EFH designated by the Magnuson-Stevens Act;
- Result in the introduction or spread of an invasive species;
- Have a substantial adverse effect on any sensitive natural community identified in local or regional plans, policies, regulations, or by the USFWS or CDFG;
- Have a substantial adverse effect on federally protected wetlands as defined by Sections 10 and 404 of the CWA, including special aquatic sites (e.g., eelgrass beds, mudflats), through direct removal, filling, hydrologic disruption, or other means;
- 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;
- Conflict with any local policies or ordinances protecting biological resources;
- Have a substantial adverse effect on habitat for commercially or recreationally important fisheries;

- Have a substantial adverse effect on waterfowl breeding or wintering habitat by reducing acreage or quality, or have a substantial adverse effect on the acreage or quality of migrant or wintering shorebird habitat; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.9.3. Impacts and Mitigation

No-Action Alternative

This alternative would not alter existing biological conditions. There would be no construction or operational impacts to biological resources, therefore biological conditions would remain the same as the existing setting.

Action Alternatives

Potential Impacts to Federally Listed Threatened or Endangered Wildlife Species

Impact BIO-1: Construction of the proposed project could potentially result in "take" through harm or harassment of individual California red-legged frogs (CRLF).

Several seasonal and perennial wetlands occur within and near the project site. All aquatic habitats within one mile of the project site are unsuitable for CRLF breeding. Potential dispersal corridors identified within one mile of the project site contain barriers, including heavy traffic areas (e.g., I-80, SR-4, city streets), moderate to high-density urban, commercial, and industrial developments, and numerous culverts stretching for long distances. Because habitats on the project site are not suitable for breeding, and potential corridors for dispersal to the site have barriers, CRLF is not expected to occur in the project site or areas adjacent to the project boundaries for Track Option B. In the remote possibility that an individual dispersed through barriers to the project site, construction activities within and adjacent to Refugio Creek, the North Channel (e.g., creek realignment and restoration, extension of John Muir Parkway), and habitat adjacent to the project boundaries for Track Option B would have the potential to harm or harass the individual. Take of CRLF would be a potentially significant impact. Implementation of the following standard avoidance and minimization measures prior to and during construction would reduce the potential impacts to less than significant.

Alternatives 1 and 2 and Track Option B. Construction activities within and adjacent to Refugio Creek, the North Channel (e.g., creek realignment and restoration, extension of John Muir Parkway), and habitat adjacent to the project boundaries for Track Option B have the potential to harm or harass CRLF if individuals entered the project site during construction. Take of CRLF would be a potentially significant impact.

Mitigation Measure BIO-1: Preconstruction surveys for CRLF would be conducted in the project site approximately two weeks prior to the initiation of construction activities to ensure that CRLF is not actively using the project site as a dispersal corridor. Preconstruction surveys would be conducted by a qualified biologist familiar with all life stages of the frog and would cover all aquatic habitats on the project site suitable for CRLF dispersal. Prior to conducting the

preconstruction surveys, USFWS would be notified of the intent to conduct CRLF preconstruction surveys and the names and qualifications of surveyors. Surveys will not commence until approval is received by USFWS.

If any life stage of CRLF (e.g., egg mass, tadpole, juvenile, or adult) is detected within the project site during surveys, USFWS will be notified regarding the presence of the CRLF. A plan will be developed in consultation with USFWS to relocate the CRLF to the nearest suitable location.

If no CRLF are found in the project site during preconstruction surveys or if CRLF are found and relocated in consultation with USFWS, temporary exclusionary fencing may be installed in Refugio Creek in consultation with USFWS to prevent CRLF from dispersing into the project site from upstream.

Construction personnel would participate in a USFWS-approved worker environmental awareness program. A qualified biologist would inform all construction personnel about the life history of CRLF and its potential presence in the project area and explain the state and federal laws pertaining to protecting this species and its habitat. Construction personnel would be informed of the presence of a biological monitor and receive instruction regarding reporting requirements if a CRLF is found during construction.

A biological monitor would be present during all construction activities within Refugio Creek. The biological monitor will have the authority to stop construction activities if a CRLF is found within the construction area. If a CRLF is found in the project site during construction, work will immediately cease in the vicinity of the CRLF and USFWS will be notified. At the approval of USFWS, the monitor will relocate the CRLF to a suitable location outside of the construction area. If relocation of the CRLF is not permitted, construction activities in the vicinity of the frog will cease until it has passively dispersed away from the construction area.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to CRLF to less than significant.

Impact BIO-2: Construction of the proposed project could potentially result in "take" through harm or harassment of vernal pool fairy shrimp (VPFS).

Numerous unvegetated ponded depressions occurring within the UPRR ROW and elsewhere within ruderal habitats in the ESL provide potential habitat for fairy shrimp species. However, VPFS are not expected to occur in the project site because it is outside of their known range and because the habitat on-site is marginal. In order to determine presence/absence of federally-listed vernal pool branchiopods, USFWS protocol presence/absence surveys were conducted during the wet season in the southern half of the ESL in winter of 2003/2004 and in the northern half of the ESL in winter 2006/2007. An unlisted species of fairy shrimp (versatile fairy shrimp; *Branchinecta lindahli*) was found in many of the unvegetated season pools during those surveys (Vollmar 2007). HDR commenced wet season surveys of the entire ESL in winter 2009/2010 and has also found versatile fairy shrimp in several seasonally ponded features. No other fairy shrimp have been found in the ESL during any surveys.

Alternatives 1 and 2 and Track Option B. VPFS are not expected to occur in the project site and no impacts to VPFS are anticipated. However, if VPFS are found during wet season surveys in 2009/2010, they could be harmed by construction activities. Take of VPFS would be a potentially significant impact.

Mitigation Measure BIO-2: Fairy shrimp surveys will be completed in winter 2009/2010 within suitable habitats for VPFS. If VPFS are detected during surveys, the USFWS will be notified and appropriate avoidance and/or mitigation measures will be implemented prior to commencement of construction within or adjacent to VPFS occupied habitat. If no VPFS are found, no further mitigation would be necessary.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to VPFS to less than significant.

Impact BIO-3: Construction of the proposed project could potentially result in "take" through harm or harassment of California clapper rail.

California clapper rail is not expected to occur in or adjacent to the project site, including areas adjacent to the project boundaries associated with Track Option B, because these areas are isolated from other marshes with established California clapper rail populations. The project site is not likely to be colonized except after years of exceptionally high recruitment when other higher quality marshes are at carrying capacity. A protocol-level survey conducted in 2007 did not detect any California clapper rails at or adjacent to the project site (WWA 2007). However, there is a low potential that the project site may be colonized in any given year.

Alternatives 1 and 2 and Track Option B. If the project site and areas adjacent to the project boundaries associated with Track Option B were colonized by California clapper rail prior to the commencement of construction, construction activities could result in harassment of nesting birds and potentially cause abandonment of the young or forced fledging. This would be considered a potentially significant impact.

Mitigation Measure BIO-3: If construction begins during the breeding season (January 15 to April 15), a USFWS approved biologist will conduct a preconstruction survey of California cordgrass tidal marsh habitat for California clapper rail prior to any construction activities occurring within 500 feet of those habitats. The survey will include searching all accessible California cordgrass tidal marsh habitats in and within 500 feet of the project site for California clapper rail. The surveys shall be conducted within two weeks prior to the commencement of construction activities. If California clapper rail is not found, no further avoidance and minimization measures are necessary. If California clapper rail is found, the biologist will note whether or not a nest was observed and record the behavior of the bird(s) (e.g., exhibiting courtship/nesting behavior, foraging, etc.). If California clapper rail is observed nesting or is determined by the biologist to be potentially intending to utilize the habitat for nesting, construction activities will be delayed within 500 feet of the California cordgrass tidal marsh where the bird(s) is found, and USFWS will be notified of the finding. Work will not commence within 500 feet of California cordgrass tidal marsh occupied by California clapper rail until USFWS is consulted regarding appropriate avoidance measures and permission is granted by USFWS to commence work.

Preconstruction survey(s) will be re-conducted as specified above if a lapse in construction activities of two weeks or more occurs at any time during the breeding season such that no more than two weeks will have elapsed between the last survey and the commencement of construction activities.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to California clapper rail to less than significant.

Impact BIO-4: Construction of the proposed project could potentially result in "take" through harm or harassment of salt marsh harvest mouse.

Salt marsh harvest mouse is not expected to occur in or adjacent to the project site because the tidal marsh habitat in and adjacent to the project site is expected to be unsuitable to support a viable salt marsh harvest mouse population. However, presence/absence surveys for salt marsh harvest mouse have not been conducted and there is a low potential that salt marsh harvest mouse could occur in the pickleweed tidal marsh habitat in and adjacent to the ESL.

Alternatives 1 and 2 and Track Option B. Activities associated with construction of the station building and railroad realignment for Alternative 1 would potentially impact salt marsh harvest mouse if it occurred within the impacted pickleweed tidal marsh. This would be considered a potentially significant impact.

Mitigation Measure BIO-4: A USFWS approved biologist will conduct a preconstruction survey of the northern coastal salt marsh habitat in the project site prior to any construction activities occurring within 500 feet of those habitats. If salt marsh harvest mice are found in or adjacent to the project site during preconstruction surveys, USFWS will be notified of the finding and consultation will be initiated. Construction activities within 500 feet of the northern coastal salt marsh will be delayed until consultation has been completed with USFWS.

If no salt marsh harvest mice are found during preconstruction surveys, salt marsh harvest mouse exclusion fencing will be installed around the perimeter of the northern coastal salt marsh to prevent salt marsh harvest mice from entering the project site and being harmed by construction activities. Location and design specifications for the proposed exclusion fencing will be submitted to USFWS for review and approval. A USFWS approved biologist will monitor installation of the fencing in order to ensure that the fencing is installed appropriately to ensure total exclusion of the salt marsh harvest mouse as well as to ensure that no individuals are harmed during installation.

A USFWS approved biological monitor will be present during construction activities within and immediately adjacent to the northern coastal salt marsh habitat. The biological monitor will have the authority to stop construction activities if a salt marsh harvest mouse is found within the construction area. If a salt marsh harvest mouse is found in the project site during construction, work will immediately cease in the vicinity and USFWS will be notified.

Construction personnel would participate in a USFWS-approved worker environmental awareness program. A qualified biologist would inform all construction personnel about the life history of salt marsh harvest mouse and its potential presence in the project area and explain the state and federal laws pertaining to protecting this species and its habitat. Construction

personnel would be informed of the presence of a biological monitor and receive instruction regarding reporting requirements if a salt marsh harvest mouse is found during construction.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to salt marsh harvest mouse to less than significant.

Potential Impacts to State-Listed Threatened or Endangered Wildlife Species

Impact BIO-5: Construction of the proposed project could potentially result in "take" through harm or harassment of California black rail.

California black rail is not expected to occur in or adjacent to the project site because the northern coastal marsh within and adjacent to the project site is of a relatively small acreage and isolated; however, other habitat elements are present. A 2007 protocol-level survey did not detect any black rails (WWA 2007) within the ESL; however, there is some chance that pickleweed tidal marsh or pickleweed brackish marsh in or adjacent to the project site may be occupied by California black rail in some years. Although the species was observed in areas immediately south of the southern-end of the project boundary for Track Option B and could nest in the nearby tidal marsh, potential nesting habitat is separated from this area by a row of trees, the Bay Trail, an unused road, and an actively used railroad right-of-way. Given these factors it is unlikely that the species would occur in this area.

Based on aerial photography, no habitat for this species is present in the northern-end of the project boundary for Track Option B and is assumed that the species does not occupy this portion of the project. Studies are underway to ground-truth aerial photography and support environmental permits prior to construction.

Alternatives 1 and 2 and Track Option B. Construction activities could potentially impact California black rail if it occupied northern coastal marsh habitat or tidal marsh in and adjacent to the project site and areas immediately adjacent to the project boundaries for Track Option B prior to construction. This would be considered a potentially significant impact.

Mitigation Measure BIO-5: If construction begins during the breeding season (February 1 to August 31), a CDFG approved biologist will conduct a preconstruction survey of pickleweed tidal marsh habitat for California black rail prior to any construction activities occurring within 500 feet of those habitats. The survey will be conducted according to CDFG guidelines and will include searching all accessible pickleweed tidal marsh habitats in and within 500 feet of the project site for California black rail. The surveys shall be conducted within two weeks prior to the commencement of construction activities.

If California black rail is not found, no further avoidance and minimization measures would be necessary. If California black rail is found, the biologist will note whether or not a nest was observed and record the behavior of the bird(s) (e.g., exhibiting courtship/nesting behavior, foraging, etc.). If California black rail is observed nesting or is determined by the biologist to be potentially intending to utilize the habitat for nesting, construction activities will be delayed within 500 feet of the pickleweed tidal marsh where the bird(s) is found and CDFG will be notified of the finding. Work will not commence within 500 feet of pickleweed tidal marsh

occupied by California black rail until CDFG is consulted regarding appropriate avoidance measures and permission is granted by CDFG to commence work.

Preconstruction survey(s) will be re-conducted as specified above if a lapse in construction activities of two weeks or more occurs at any time during the breeding season such that no more than two weeks will have elapsed between the last survey and the commencement of construction activities.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to California black rail to less than significant.

Potential Impacts to Other Sensitive Wildlife Species

Impact BIO-6: Construction of the proposed project could potentially result in disturbance of sensitive bat species, including pallid bat and hoary bat.

While unlikely, sensitive bat species have the potential to forage within the project site or use the large culverts under the railroad tracks or the trees within the willow riparian habitat for roosting.

Alternatives 1 and 2 and Track Option B. Construction activities associated with realignment of Refugio Creek outfall into San Pablo Bay or construction activities within willow riparian habitats could potentially disturb roosting bats. This would be considered a potentially significant impact.

Mitigation Measure BIO-6: Preconstruction bat surveys shall be conducted to inspect inside culverts under the railroad tracks and trees within the willow riparian habitat. If no roosting bats are found, no further mitigation would be necessary. If bats are detected within a roost at the time of construction, excluding any bats from roosts will be accomplished by a bat specialist prior to the onset of any construction activities. Exclusionary devices, such as plastic sheeting, plastic or wire mesh, can be used to allow for bats to exit but not re-enter any occupied roosts. Expanding foam and plywood sheets can be used to prevent bats from entering unoccupied roosts.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to sensitive bats to less than significant.

Impact BIO-7: Construction of the proposed project could potentially impact San Pablo vole and/or salt marsh wandering shrew

Marginal habitat for San Pablo vole and salt marsh wandering shrew occurs within the tidal marsh habitat within the project site.

Alternatives 1 and 2 and Track Option B. If these species were to occur within the project site, they could be impacted by construction activities in and within 500 feet of tidal marsh habitat. This would be considered a potentially significant impact.

Mitigation Measure BIO-7: Preconstruction surveys for San Pablo vole and salt marsh wandering shrew will be conducted simultaneously with salt marsh harvest mouse surveys. If

these species are detected, CDFG will be contacted regarding appropriate measures to relocate them out of the work area or protect occupied habitat in conjunction with salt marsh harvest mouse avoidance measures. Exclusionary fencing installed for salt marsh harvest mouse would also prevent these species from entering the project site. The salt marsh harvest mouse biological monitor will also report the presence of any San Pablo voles or salt marsh wandering shrews observed during construction activities to CDFG, and appropriate avoidance measures will be implemented prior to commencement of construction activities adjacent to occupied habitat.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to San Pablo vole and salt marsh wandering shrew to less than significant.

Impact BIO-8: Construction of the proposed project could potentially result in disturbance to other sensitive bird species (Cooper's hawk, tricolored blackbird, northern harrier, white-tailed kite, saltmarsh common yellowthroat, San Pablo song sparrow, Alameda song sparrow, osprey, burrowing owl) and migratory birds during the nesting season.

San Pablo song sparrow nests have been documented in and adjacent to the project site along Hercules Point. Great egrets, great blue heron, white-tailed kite, osprey, and Alameda song-sparrow have been observed either foraging and/or displaying nesting behavior in areas south of the southern-end of the project boundary for Track Option B. Several other migratory bird species were observed in the project site and could potentially begin nesting in the project site prior to construction.

Alternatives 1 and 2 and Track Option B. If sensitive bird species began nesting in or adjacent to the project site prior to commencement of construction, work related activities could result in harm or harassment of nesting birds, such as abandonment of the nest by the adult birds or forced fledging. This would be considered a potentially significant impact.

Mitigation Measure BIO-8: If feasible, ground disturbing activities (e.g., clearing and grubbing) in and within 500 feet of suitable nesting habitat for these species should commence outside of the breeding season (September 1 to January 14). If birds began nesting in and within 500 feet of the project site after construction commenced, it could be assumed that they were not disturbed by construction activities.

If ground disturbing activities (e.g., clearing and grubbing) begin during the breeding season (January 15 to August 31), a qualified biologist will conduct a nesting bird survey in and within 500 feet of the project site for Cooper's hawk, tricolored blackbird, northern harrier, white-tailed kite, saltmarsh common yellowthroat, San Pablo song sparrow, Alameda song sparrow, osprey, burrowing owl, and other migratory birds and nesting birds. The pre-construction surveys shall be conducted within two weeks prior to the commencement of construction activities. If no nesting birds are found, then no further avoidance and minimization measures are necessary. If nesting birds are found, the locations of the nests and/or nesting territories will be mapped and appropriate avoidance measures will be determined in consultation with CDFG to protect the nesting birds during construction.

Preconstruction survey(s) will be re-conducted as specified above if a lapse in construction activities of two weeks or more occurs at any time during the breeding season such that no more than two weeks will have elapsed between the last survey and the commencement of construction activities.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to nesting birds to less than significant.

Potential Impacts to Sensitive Natural Communities

Impact BIO-9: Construction of the proposed project would result in impacts to Northern Coastal Salt Marsh habitat, Coastal Brackish Marsh habitat and brackish stream habitat.

Construction of the proposed project is expected to impact Northern Coastal Salt Marsh and Coastal Brackish Marsh habitats, which are considered sensitive natural communities and are also waters of the U.S. regulated by the USACE and USEPA under Section 10/404 of the CWA. Realignment of the lower portion of Refugio Creek to its new outfall location into San Pablo Bay is expected to impact disturbed Coastal Brackish Marsh habitat and brackish stream habitat occurring within the banks of the creek, as well as Northern Coastal Salt Marsh bayward of the railroad tracks. Upstream, restoration of Refugio Creek within the project site will impact Coastal Brackish Marsh. A restoration plan is currently being prepared for Refugio Creek. Restoration efforts are expected to result in no net loss of brackish marsh habitat and brackish stream habitat within Refugio Creek. Additionally, restoration and mitigation work at the Chelsea Wetlands would temporarily impact Northern Coastal Salt Marsh habitat, Coastal Brackish Marsh habitat and brackish stream habitat. However, restoration efforts will more than offset temporary impacts to habitats. Construction of the John Muir Parkway Bridge will impact a small portion of Coastal Brackish Marsh Habitat. Construction of the train station building and realignment of railroad tracks will impact small portions of Northern Coastal Salt Marsh habitat.

Alternative 1 and Track Option B. Construction of station building is expected to impact approximately 0.10 acres of Northern Coastal Salt Marsh habitat.

Construction of the Bay Trail, John Muir Parkway, Bayfront Boulevard, Bayfront Bridge, Transit Loop, and Transit Loop Bridge will permanently impact 0.08 acres of Coastal Brackish Marsh habitat (i.e., pickleweed brackish marsh).

Construction of the Bay Trail, John Muir Parkway, Bayfront Boulevard, and Bayfront Bridge, will permanently impact 0.06 acres of brackish stream habitat.

Restoration of Refugio Creek will temporarily impact 0.52 acres of Northern Coastal Salt Marsh habitat. Restoration of the North Channel and Refugio Creek will temporarily impact 0.68 acres of Coastal Brackish Marsh habitat. Approximately 0.47 acres of brackish stream habitat will temporarily be impacted with the restoration of Refugio Creek.

Alternative 2 and Track Option B. Construction of the station building is expected to impact approximately 0.01 acres of Northern Coastal Salt Marsh habitat.

Construction of the Bay Trail, John Muir Parkway, Bayfront Boulevard, and Bayfront Bridge will permanently impact 0.07 acres of Coastal Brackish Marsh habitat.

Construction of the Bay Trail, John Muir Parkway, Bayfront Boulevard, and Bayfront Bridge, will permanently impact 0.05 acres of brackish stream habitat.

Restoration of Refugio Creek will temporarily impact 0.52 acres of Northern Coastal Salt Marsh habitat. Restoration of the North Channel and Refugio Creek will temporarily impact 0.68 acres of Coastal Brackish Marsh habitat. Approximately 0.47 acres of brackish stream habitat will temporarily be impacted with the restoration of Refugio Creek.

Mitigation Measure BIO-9: Temporary orange fencing will be erected around the perimeter of Northern Coastal Salt Marsh and Coastal Brackish Marsh habitats that will not be impacted by construction activities; delineating them as environmentally sensitive areas. Environmentally sensitive area fencing will be used that does not prohibit the potential movement of sensitive wildlife species, including, but not limited to the salt marsh harvest mouse, the San Pablo vole, the salt marsh wandering shrew, the California clapper rail, and the California black rail into or out of these marsh habitats. Signs will be placed on the fencing clearly stating that it is a sensitive habitat and that it is to be avoided during construction.

All construction personnel will receive training notifying them of the environmentally sensitive areas on the project site and the potential for these areas to support special-status species.

Construction personnel and equipment will not be allowed to enter the environmentally sensitive areas on the project site. Storage of materials and equipment will not be allowed within 100 feet of environmentally sensitive areas.

Prior to commencement of construction activities that have the potential to impact the Northern Coastal Salt Marsh and Coastal Brackish Marsh, a permit will be obtained from the USACE and the BCDC for fill and/or disturbance of this habitat. All permit conditions will be followed. Suitable compensatory mitigation for impacts to Northern Coastal Salt Marsh and Coastal Brackish Marsh will be determined in conjunction with the USACE and BCDC and implemented to ensure no net loss of Northern Coastal Salt Marsh occurs.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to Northern Coastal Salt Marsh, Coastal Brackish Marsh, and brackish stream habitats to less than significant.

Impact BIO-10: Construction of the proposed project could potentially result in loss of eelgrass and/or widgeongrass beds.

Alternatives 1 and 2. Eelgrass surveys within the ESL and vicinity were completed in 2007 (WWR 2007b) and in 2010 (HDR 2010c), and no eelgrass or widgeongrass beds were found. However, eelgrass and widgeongrass beds expand and contract seasonally and populations could establish in the project site prior to construction and be impacted by dredging activities. Impacts to these special aquatic sites would be a potentially significant impact.

Mitigation Measure BIO-10: A valid preconstruction eelgrass survey will be completed during the period of active growth of eelgrass (typically March through October). The preconstruction survey will be completed prior to the beginning of construction and shall be valid until the next period of active growth. If any eelgrass is identified in the project area, post-construction eelgrass surveys will be conducted to determine if any eelgrass was adversely impacted. The survey will be prepared in consultation with CDFG and/or NMFS. If any eelgrass has been impacted, the impacted eelgrass will be mitigated for in consultation with CDFG and/or NMFS (e.g., at a ratio of 1.2:1).

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to eelgrass and/or widgeongrass beds to less than significant.

Impact BIO-11: Construction of the proposed project could potentially result in loss of intertidal mudflats.

Dredging for the construction of the new outlet and channel for Refugio Creek would impact intertidal mudflats. Impacts to this special aquatic site would be a potentially significant impact.

Alternative 1. Restoration of Refugio Creek will result in a temporary loss of 5.05 acres of intertidal mudflat.

Alternative 2. Restoration of Refugio Creek will result in a temporary loss of 5.05 acres of intertidal mudflat.

Mitigation Measure BIO-11: A permit will be obtained from the USACE and the BCDC prior to impacting the intertidal mudflats. All permit conditions will be followed. Suitable compensatory mitigation will be determined in conjunction with the USACE and BCDC and implemented in order to replace and/or enhance the functions and values lost due to impacting special aquatic sites during implementation of the proposed project.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to intertidal mudflats to less than significant.

Invasive Species

Impact BIO-12: Construction of the proposed project could potentially result in the spread of invasive species.

Alternatives 1 and 2 and Track Option B. The upland habitats on the project site are currently dominated by non-native invasive species. These species are abundant in disturbed habitats in the region. No mitigation is necessary for nonnative upland species. However, there is a potential that non-native cordgrass or other non-native species could be introduced to the project site as a result of construction disturbance to salt marsh and intertidal mudflats. If non-native cordgrass was introduced to the project site, it could spread and potentially competitively displace or hybridize with the existing native cordgrass. Additionally, any aquatic habitats disturbed by construction could become rapidly colonized by non-native species. This would be a potentially significant impact.

Mitigation Measure BIO-12: In order to prevent the introduction of non-native cordgrass and/or other non-native aquatic plant species to the project site, the following measures will be implemented:

- All construction equipment to be utilized in or adjacent to the intertidal mudflats and salt marsh habitats shall be thoroughly cleaned to remove dirt and weed seeds prior to being transported or driven to or from the project site.
- If any borrow soil or other stockpiled material (e.g., rock slope protection) to be placed in or adjacent to the intertidal mudflats and salt marsh habitats is transported to the project site from an offsite location, it shall be inspected for the presence of noxious weeds or invasive plants.
- If noxious weeds or invasive plants are present in imported materials, the contractor shall remove approximately five inches of the surface of the material from the borrow site before transporting to the project site.
- Before removal, this material will be chemically or mechanically treated to kill the existing noxious weeds and invasive plants, and will not be used for the project without approval.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts associated with the spread of non-native species to less than significant.

Fisheries and Aquatic Resources

Potential construction-related impacts assessed include those associated with: (1) the use of access roads and staging areas; (2) construction of facilities, roads, and bridges associated with the Hercules ITC; (3) realignment and restoration of Refugio Creek; and (4) construction of Hercules Point Pedestrian Bridge.

The potential for construction-related impacts to affect fish and aquatic resources is dependent on the potential for project activities to directly affect individuals and/or remove, damage, or alter onsite habitat conditions within and adjacent to the construction footprint. Evaluations of potential impacts were based on several considerations, including construction timing, physical habitat disturbance, potential for physical injury, hazardous spills, sedimentation and turbidity, entrainment, vibration and pressure waves, predation risk, and the life stage periodicity and habitat utilization of evaluated species in the project area.

Impact BIO-13: Dredging activities could impact marine mammals

Alternatives 1 and 2. Several species of marine mammals may frequent the sub-tidal and intertidal regions of the project area, foraging on migratory fish species and utilizing sandy shores or mudflats. In-water construction and dredging activities may disrupt foraging by marine mammals by decreasing visibility. However, because marine mammals often feed in deep, low-light environments, the potential impacts of localized turbidity plumes during dredging are not expected to be significant. Dredging activities may disrupt foraging by removing benthic prey species such as fishes which are fed on by seals or amphipods which are fed on by gray whales. However, this impact is not expected to be significant due to the localized nature of the dredging

impacts and the relatively large feeding ranges of marine mammals in the Bay. In addition, there are no known marine mammal haul-out sites within or adjacent to the Project Area.

Mitigation Measure BIO-13: Implementation of **Mitigation Measure WR-1** and the following measures will be followed during dredging in San Pablo Bay to reduce turbidity.

In-water construction and dredging activities will occur during the window of June through November, to minimize effects on listed species and their habitat.

Sampling and testing for contaminants will be conducted in potential dredging locations in San Pablo Bay prior to the onset of dredging activities (per USEPA and USACE requirements). If sediments to be dredged are contaminated such that their resuspension may adversely affect listed species or their habitat, NMFS and CDFG will be consulted.

Bankward slopes of the dredged area will be slanted to acceptable side slopes (e.g., 3:1) to prevent sloughing.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to marine mammals to less than significant.

Impact BIO-14: Construction and dredging activities could result in the modification or disturbance of special aquatic sites including eelgrass beds, mudflats, and tidal marshes that provide fish habitat.

Alternatives 1 and 2. Construction activities could modify and disturb aquatic habitats including tidal marshes and mudflats. However, the tidal marsh habitat present in the project area consists of highly fragmented, poorly developed patches. The limited quantity and quality of the existing nearshore wetlands are not anticipated to provide a significant resource for fish in the project area and have little potential to provide habitat for special-status fish species. . Aquatic surveys conducted during spring 2007 indicate the presence of intertidal and shallow subtidal mudflats, which may provide shallow-water habitat for juvenile fishes. Aquatic surveys conducted in 2007 indicate no presence of eelgrass beds in the immediate project area (WWR 2007a).

Mudflats

Construction of the pilings for the north building of the Hercules ITC and the railroad bridge may directly remove small amounts of mudflat habitat along San Pablo Bay. However, these areas are small relative to the amount of soft bottom habitat locally and throughout the Bay. While small amounts of soft bottom habitat would be removed by each pier, hard substrate habitat would be added in the form of piles. The surface area for attachment of organisms would exceed the loss of soft bottom habitat, providing hard substrate habitat benefits. Any new riprap placed on the Bay-side of the train tracks would incorporate native vegetation in its design. It is not anticipated that any additional riprap would be placed outside of the UPRR ROW.

The proposed north building of the Hercules ITC may extend over the intertidal mudflats of San Pablo Bay, which may result in shading of potential juvenile fish foraging and rearing habitat in San Pablo Bay. However, the area of shallow water habitat shaded during high tide is expected to be negligible compared to the amount of shallow water habitat present in the vicinity and in San Pablo Bay.

Tidal Marsh – Refugio Creek

Grading the new proposed Refugio Creek channel will involve removing the two 90 degree bends and the three 72 inch culverts that currently convey flow underneath the access road, upstream of the existing railroad bridge. These culverts currently restrict flood events and cause overtopping of water onto the access road and the railroad. The new invert of the proposed channel will be lowered to allow for greater tidal influence in Refugio Creek. The new Refugio Creek channel from the Transit Loop Bridge upstream for approximately 400 feet will be planted with riparian and tidal marsh species, such that the new channel will provide for an equal or greater amount of tidal marsh habitat than the existing channel. This restored channel section includes a meandering low flow channel with a bottom width of 20 feet, a depth of 3.5 feet, and 1:1 sloped sides. The floodplain is approximately 105 feet wide with a 2 to 3 percent slope towards the low flow channel.

Tidal Marsh – San Pablo Bay The proposed restoration of Refugio Creek includes the restoration of the creek channel and relocation of the creek mouth into San Pablo Bay. Currently, the channel, upon exiting into San Pablo Bay, is redirected by a shelf of mud and debris and makes another 90 degree turn to the northeast before discharging past tidal marsh and mudflat. Relocation of the channel mouth will effectively remove the 90 degree turns creating a more natural channel. The new mouth for Refugio Creek will drain out to a patch of existing tidal marsh habitat in San Pablo Bay. As a result, a segment of tidal marsh habitat in San Pablo Bay will be lost due to the excavation of the new mouth. Additionally, as the new channel establishes an equilibrium, additional tidal marsh may eventually be degraded or lost over time from due to the flows of Refugio Creek . A Mitigation and Monitoring Plan (MMRP) will be prepared for this project in coordination with the USACE, CDFG, and responsible agencies as appropriate. Changes and/or loss of tidal marsh habitat will be monitored and mitigated for under the adaptive management program identified in the MMRP. There is currently a void of tidal marsh habitat in the immediate vicinity of the existing Refugio Creek channel in San Pablo Bay. This area may be suitable for restoration by establishing appropriate grade levels and planting native tidal marsh species. New plantings and any loss in tidal marsh due to the new Refugio Creek outflows will be monitored over time to ensure no net loss in tidal marsh habitat. Mitigation and restoration of tidal marsh habitats will be coordinated with the responsible resource agencies.

Mitigation Measure BIO-14: As described above, the proposed Refugio Creek channel will incorporate restored tidal marsh and riparian habitat, including suitable bank slopes for vegetation growth. The new channel is anticipated to provide more juvenile fish habitat over time, relative to existing conditions.

Any tidal marsh habitat that is degraded or lost due to relocating the mouth of Refugio Creek will be mitigated for by planting tidal marsh vegetation in San Pablo Bay, in the vicinity of

where Refugio Creek currently flows out into San Pablo Bay. Tidal marsh habitat will be monitored over time to ensure no net loss in tidal marsh habitat. Wetland restoration will be coordinated with the responsible agencies as part of the wetland permitting required under Section 404 of the CWA.

Although eelgrass surveys within the ESL and vicinity were completed in 2007, and no eelgrass was found (WWR 2007b), valid preconstruction eelgrass surveys will be completed (see **Mitigation Measure BIO-10**).

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to aquatic fish habitats to less than significant.

Impact BIO-15: Construction and dredging activities may temporarily increase sedimentation and turbidity in Refugio Creek and San Pablo Bay.

Alternatives 1 and 2 and Track Option B. Activities associated with access, staging, storage, and disposal, in addition to activities associated with construction of the facilities associated with the Hercules ITC (e.g., railroad bridge, Bayfront Bridge, Transit Loop Bridge, Station building) and Refugio Creek grading activities have the potential to contribute sediment and increase turbidity in waters within Refugio Creek and San Pablo Bay above those levels generally found under existing conditions. In addition, dredging activities in San Pablo Bay have the potential to increase turbidity in San Pablo Bay.

Although many fish species potentially present are highly migratory and capable of moving freely throughout the project area, a sudden localized increase in turbidity may potentially affect some fishes by temporarily disrupting normal behaviors that are essential to growth and survival such as feeding, sheltering, and migrating (NMFS 2003b). Behavioral avoidance of turbid waters may be one of the most important effects of suspended sediments on salmonids (Birtwell et al. 1984; DeVore et al. 1980; Scannell 1988). Additional turbidity-related effects associated with behavioral alteration include disruption of feeding behaviors, which increases the likelihood that individual fish would face increased competition for food and space, and experience reduced growth rates or possibly weight loss (NMFS 2003b).

Grading activities in Refugio Creek and construction of the railroad bridge, Transit Loop Bridge, and Bayfront Bridge will be conducted subsequent to installing a cofferdam at the mouth of Refugio Creek and dewatering Refugio Creek. Therefore, the potential for construction activities to increase sedimentation or turbidity within Refugio Creek and San Pablo Bay will be minimized.

During any dredging activities in San Pablo Bay, dissolved oxygen concentrations in the water column could potentially be reduced if the suspended dredged material contains high concentrations of oxygen-demanding substances (e.g., hydrogen sulfide) (USACE 2004). The reduction of dissolved oxygen during dredging is reportedly minimal (1 to 2 parts per million (ppm)) and transitory in surface waters, but can be more severe in bottom waters (reduction of up to 6 ppm for 4 to 8 minutes) (USACE 2004). Most estuarine organisms are capable of tolerating low dissolved oxygen conditions for such short time periods, and reduced dissolved oxygen concentrations generally would be expected to be localized and short term, with minimal

potential impacts (U.S. Navy 1990 as cited in USACE 2004). In addition, the motile nature of fish enables them to typically avoid areas of high turbidity and thus potential impacts are generally expected to be minimal.

In-water construction and dredging activities in San Pablo Bay will be conducted during the work window of June through November to minimize potentially significant impacts to anadromous salmonids and longfin smelt. Impacts to other fish species also will be minimized by limiting the timing of dredging in San Pablo Bay to June through November.

The implementation of impact avoidance measures including preparation and implementation of a SWPPP and associated BMPs, and utilization of a silt curtain during dredging activities, is expected to minimize sedimentation and turbidity resulting from construction and dredging activities to below levels that would significantly impact special-status fish species and their habitat in San Pablo Bay. In addition, grading activities associated with the proposed Refugio Creek channel and construction of the proposed railroad bridge, Bayfront Bridge, and Transit Loop Bridge will be conducted "in the dry" prior to diverting Refugio Creek flow through the new proposed channel, and therefore, no notable increases in sedimentation or turbidity would be expected to occur downstream or in San Pablo Bay during these activities.

Mitigation: Implementation of **Mitigation Measures BIO-13, WR-1,** and **WR-2** will reduce potential impacts to fish and other aquatic species to less than significant. No additional measures will be required.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts as a result of sedimentation or turbidity to less than significant.

Impact BIO-16: Construction activities may potentially result in a chemical spill in Refugio Creek or San Pablo Bay.

Alternatives 1 and 2 and Track Option B. Hazardous materials and chemicals in the form of gasoline, engine oil, lubricants, or other fluids used during construction activities could potentially enter Refugio Creek or San Pablo Bay as a result of seepage or accidental spills. Accidental discharge of hazardous materials and chemicals could potentially affect fish and aquatic resources that may be present in the immediate vicinity and downcurrent of the construction area by increasing physiological stress or direct mortality, and altering primary and secondary production.

Mitigation Measure BIO-16: Implementation of a Spill Prevention and Response Plan designed to minimize the potential for chemical spills and seepage, would reduce the potential impact to a less than significant level. Additionally, all maintenance materials (i.e., oils, grease, lubricants, antifreeze, and similar materials) will be stored at off-site areas. If these materials are required during construction activities, then they will be placed in a designated area at a minimum of 100 feet away from Refugio Creek and San Pablo Bay. Regular maintenance of construction vehicles and equipment will also be performed to ensure they are in working order throughout the construction period. On-site vehicle maintenance will only be allowed within maintained staging areas that are away from sensitive resource areas.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential for a chemical spill to less than significant.

Impact BIO-17: Dredging activities could result in the entrainment of special-status fish and aquatic species.

Alternatives 1 and 2. Dredging within San Pablo Bay mudflats in areas with depths less than 20 feet may pose an entrainment risk to smaller juvenile fish species, such as salmon and steelhead (USACE 2004). However, juvenile salmonids rearing in the Bay are likely to be sufficiently mobile such that they can generally avoid entrainment from dredging activities (USACE 2004).

Mitigation Measure BIO-17: Dredging activities in San Pablo Bay will be conducted during the work window of June through November to minimize potentially significant impacts to anadromous salmonids and longfin smelt. This work window also will minimize potential impacts to other fish and aquatic species by minimizing the timing of dredging to June through November.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential for entrainment of fish to less than significant.

Impact BIO-18: Vibration and pressure waves resulting from pile driving could impact special-status fish and aquatic species and marine mammals.

Alternatives 1 and 2 and Track Option B. During pile driving activities for constructing the north building of the Hercules ITC, the potential exists for vibration and pressure waves to be generated in San Pablo Bay, potentially affecting fish and marine mammal species in the project area. However, because pile driving will occur "in the dry" within a cofferdam (or "in the dry" during low tide), the noise levels are not expected to reach a level that would startle or disrupt fishes or marine mammals to the point of causing non-volitional movement out of their preferred habitat. Because all pile driving activities will occur out of water, the noise levels under water will be much lower than those created in the air.

Mitigation Measure BIO-18: Pile driving will be conducted "in the dry," minimizing any potential impacts to fishes and marine mammals to less than significant levels. Avoidance and minimization measures to be employed to reduce underwater noise levels to less than significant levels will be developed in consultation with NMFS, but may include some or all of the following:

- Use of a cofferdam;
- Use of a vibratory pile driver when feasible;
- Use of a percussion hammer;
- Use of a cushioning block between the hammer head and pile;
- Driving piles during slack tides while currents are comparatively slower;

- If marine mammals are observed within 1,000 feet of the project, allowing them to completely exit the project area before pile driving resumes;
- Restricting pile driving to the June to November 30 work window to protect anadromous salmonids and longfin smelt; and
- Use of a qualified biologist to monitor pile installation to ensure that the sound minimizing techniques are effective in maintaining sound waves below established thresholds.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts from pile driving to less than significant.

Impact BIO-19: Dredging activities could result in resuspension of contaminants.

Alternatives 1 and 2. Metal and organic chemical contamination is widespread in San Francisco Bay sediments due to river run-off and municipal/ industrial discharges. Contaminants of particular concern in the Bay include silver, copper, selenium, mercury, cadmium, PCBs, DDT and its metabolites, pesticides, **polycyclic aromatic hydrocarbons**, and tributyltin (USACE 2004). Dredging of contaminated sediments does present the potential for release of contaminants to the water column, and for the uptake of contaminants by organisms contacting resuspended material (USACE 2004). However, most contaminants are tightly bound in the sediments and are not easily released during short-term resuspension (USACE 2004). Dredging activities under the proposed project may resuspend contaminants in San Pablo Bay if contamination is present.

Mitigation Measure BIO-19: Sampling and testing for contaminants will be conducted in potential construction/dredging locations in San Pablo Bay prior to the onset of dredging activities.

Dredging activities in San Pablo Bay will be conducted during the work window of June through November to minimize potentially significant impacts to anadromous salmonids and longfin smelt. This work window also will minimize potential impacts to other fish and aquatic species by minimizing the time period of dredging to June through November.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential for re-suspension of contaminants to less than significant.

Impact BIO-20: Construction and dredging activities could result in increased predation risk of special-status fish and aquatic species.

Alternatives 1 and 2. Construction activities associated with the proposed project have the potential to increase the risk of predation due to: (1) cofferdam closure and dewatering; (2) noise associated with pile driving activities; (3) increased turbidity above those levels normally found in San Pablo Bay; (4) the potential for water quality contamination due to a hazardous spill or resuspension of contaminants during dredging; and (5) habitat modification or disturbance from construction and dredging activities. Potential impacts associated with these activities that are not directly associated with predation risk are described in other portions of this section.

Dewatering associated with cofferdam closure reportedly may confine fish and expose them to an increased risk of predation (NMFS 2000). Typically, fish salvage operations are utilized when construction activities cause dewatering and confinement. However, fish salvage operations also can disorient and/or injure fish, further increasing the risk of predation following removal and subsequent release from the dewatered and/or confined project area (NMFS 2003b). Disorientation caused by noise associated with pile driving can temporarily disrupt normal fish behaviors, thereby increasing the risk of predation (NMFS 2000; NMFS 2003b). Additionally, construction and dredging activities may increase turbidity, which in turn, could alter normal fish behavior and increase the risk of predation (DeVore et al., 1980; Birtwell et al., 1984; Scannell 1988; NMFS 2003a). However, it also has been reported that increased turbidity could decrease piscine and avian predation on fish.

Cofferdam closure and activities associated with cofferdam closure also could potentially lead to increased predation risk on sensitive fish species. Cushman (1985) reported that cofferdam dewatering could cause harm, injury, and mortality to entrained and stranded individuals by confining them to areas of increased water temperature, decreased dissolved oxygen concentration, and predation. Additionally, fish salvage operations could disorient or injure individuals (NMFS 2003b) such that they face an increased predation risk after release. However, the amount of increased predation resulting from disorientation or injury associated with fish salvage operations is unknown.

The amount of increased predation risk associated with increased turbidity, pile driving, cofferdam dewatering activities and habitat modification is unknown. However, sensitive fish and aquatic resources would only be exposed to increased predation risk for a limited duration during their downstream migration and is not expected to result in long-term population declines.

Mitigation Measure BIO-20: In-water construction activities in San Pablo Bay and dredging activities in San Pablo Bay will be conducted during the work window of June through November to minimize potentially significant impacts to anadromous salmonids and longfin smelt.

CEQA Determination: The implementation of BMPs to minimize sedimentation and turbidity, hazardous spills, and vibration and pressure waves, is expected to indirectly reduce any potentially significant impacts associated with increased predation risk to less than significant.

Impact BIO-21: Dredging activities could impact benthic invertebrates.

Alternatives 1 and 2. Dredging involves the removal of substrate and benthic organisms at the dredging site, resulting in immediate localized effects on bottom life. Aside from the initial physically disruptive effects, the composition and abundance of the benthic community may become altered. Dredging opens the area for recolonization on a new substrate that may resemble the original substrate or be completely different in physical characteristics (USACE 2004). The site may be recolonized by the same organisms that inhabited the area prior to dredging, or opportunistic species that have suitable environmental requirements may occupy the site (Reilly et al. 1992, as cited in USACE 2004). Recolonization of the dredging site can begin quickly, although reestablishment of a more stable benthic community may take several months or years after the dredging has occurred (Oliver et al. 1977, Conner and Simon 1979, as cited in USACE

2004). Communities inhabiting highly variable and easily disrupted environments, such as those found in shallow water, recovered more quickly from dredging operations than communities in less variable environments such as in deep or offshore waters (USACE 2004). Oliver et al. (1977, as cited in USACE 2004) noted two phases of succession after a disturbance. In the first phase, opportunistic species such as some polychaetes would move into a disturbed area; the second phase involved recruitment of organisms associated with undisturbed areas near the disturbed site. Recovery at the disturbed dredging site depends on the type of environment and the speed and success of adult migration or larval recruitment from adjacent undisturbed areas (Hirsch et al. 1978, as cited in USACE 2004). The effects of habitat loss or alteration at the dredge site may extend beyond the boundaries of the dredging operations. However, dredging-induced habitat alterations are minor compared to the large-scale disturbance of benthic habitat in San Francisco Bay from naturally occurring physical forces, such as seasonal and storm-generated waves, and seasonal fluctuations in riverine sediment transport (Reilly et al. 1992, as cited in USACE 2004). The result of these forces is a state of non-equilibrium in benthic species composition, typical of shallow estuaries (USACE 2004).

Prior studies indicate that benthic organisms naturally re-establish in dredged locations relatively quickly on the order of several months and are capable of attaining pre-disturbance levels of biomass and abundance within one to several years. Invertebrates would likely recolonize the dredged areas quickly after dredging activities, as the proposed dredging footprint is small relative to the surrounding sub-tidal environment. Therefore, impacts to benthic organisms are not anticipated to significantly impact benthic invertebrate populations or higher trophic levels within San Pablo Bay.

Loss of benthic invertebrates also may potentially impact the food web and prey availability for foraging fish species and marine mammals, but the potential decrease in prey availability would likely be minimal compared to the prey availability in the vicinity of the project site in San Pablo Bay.

Mitigation: No mitigation is required.

CEQA Determination: Potential impacts to benthic macroinvertebrates would be less than significant.

Impact BIO-22: Dredging activities could result in the spread of non-native invertebrate species.

Alternatives 1 and 2. Surveys indicate minimal presence of nonnative benthic invertebrates in the project area (WWR 2007a). Temporary impacts associated with dredging activities are not likely in result in the spread of nonnative invertebrate benthic species.

Mitigation: No mitigation is required.

CEQA Determination: Potential impacts would be less than significant.

Impact BIO-23: Dredging activities could impact phytoplankton production.

Alternatives 1 and 2. Phytoplankton production accounts for about 50 percent of the total amount of organic matter in the San Francisco Estuary (SFEP 1992b, as cited in USACE 2004). Phytoplankton production is influenced by currents, light availability, and the composition of aquatic organisms (USACE 2004). The organic matter produced in or transported to the Bay is ingested directly by planktonic invertebrates (zooplankton) that digest and metabolize it to carbon dioxide, water, and dissolved nutrients (USACE 2004). There are estimated to be over 200 species of zooplankton in the Estuary, most of which have not been well-studied (USACE 2004). Important species include the opossum shrimp (*Neomysis mercedis*) that ranges from Suisun Bay down into San Pablo Bay during periods of high riverine flow, and the copepod *Eurytemora* that also resides in the northern reaches (USACE 2004). Zooplankton are consumed by larval and juvenile stages of most fish species, by adult fishes such as anchovy, smelt, and shad, and by macro-invertebrates such as bay shrimp (USACE 2004). Because dredging activities may temporarily increase turbidity levels in the vicinity of the dredge site, a temporary reduction in light availability could reduce phytoplankton productivity in the vicinity of the project site. However, due to the small footprint of the dredge site compared to the area of aquatic habitat in San Pablo Bay, the potential reduction in phytoplankton is expected to be highly localized and the sediment plumes are anticipated to settle relatively rapidly out of the upper water column where phytoplankton production is greatest. With implementation of avoidance and minimization measures to minimize turbidity during dredging activities, this impact is anticipated to be less than significant.

Mitigation Measure BIO-23: Temporary impacts to phytoplankton production due to increases in turbidity would be avoided/minimized through the use of construction BMPs to reduce the potential for increases in turbidity (e.g., use of silt curtains or methods to protect from disturbance).

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to phytoplankton production to less than significant.

Impact BIO-24: Dredging activities could impact Pacific herring spawning.

Alternatives 1 and 2. The vegetation features often associated with herring spawning such as eelgrass and algae (e.g., *Gracilaria* spp.) are not present in the project area; there are numerous pilings from an old, abandoned pier present in the vicinity that may be suitable for egg attachment, however, because the site is located north of traditional spawning locations in the central San Francisco Bay and no spawning activities are documented in the project vicinity, the potential impacts associated with dredging are expected to be less than significant.

Mitigation Measure BIO-24: Dredging activities will only occur during the window of June through November, minimizing potential impacts on herring spawning activities.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to herring to less than significant.

Potential Impacts to Wetlands and Other Waters of the U.S.

Impact BIO-25: Construction of the proposed project would result in impacts to wetlands and other waters of the U.S.

Alternatives 1 and 2 and Track Option B. Construction of the proposed project is expected to impact Northern Coastal Salt Marsh (comprising California cordgrass tidal marsh and pickleweed tidal marsh), pickleweed brackish marsh, intertidal mudflat, cattail marsh, seasonal wetland, and freshwater intermittent drainage (**Table 4.9-1**). Northern Coastal Salt Marsh, Coastal Brackish Marsh, eelgrass bed, and intertidal mudflat are sensitive natural communities and are discussed under Impacts BIO-9, -10, and -11.

Restoration of Refugio Creek is expected to cause impacts to cattail marsh, seasonal wetland, and willow riparian woodland. Construction of the promenade is expected to impact seasonal wetlands. Realignment including the construction of Track Option B of railroad tracks is expected to cause impacts to seasonal wetlands.

Construction of the proposed project will require discharges of fill material into waters of the U.S. to construct the station structure and related facilities as well as to realign Refugio Creek, construct the new meandering channel and establish the new mouth of the creek in San Pablo Bay. Materials discharged into waters of the U.S. would be comprised of clean fill, rock and/or concrete and fill may be supported by piles at the structures such as the station building and the bridges. Refugio Creek would be realigned by first dewatering the area using cofferdams (as described in Section 2) and then excavating the new floodplain and a meandering low flow channel. Impacts resulting from each of the project elements are provided in **Table 4.9-2**.

Mitigation Measure BIO-25: Construction activities within wetlands and other waters of the U.S. will be limited to the extent feasible.

Prior to commencement of construction activities that have the potential to impact the wetlands or other waters of the U.S., a permit will be obtained from the USACE and BCDC for fill and/or disturbance of this habitat. All permit conditions will be followed. Suitable compensatory mitigation for impacts to wetlands and other waters of the U.S. will be determined in conjunction with the USACE and implemented to ensure no net loss of wetlands occurs.

Table 4.9-1
Impacts to Jurisdictional Wetlands and Other Waters

Feature	Alternative 1 Impacts (Acres)	Alternative 2 Impacts (Acres)
Wetland Features		
Pickleweed Tidal Marsh	0.194	0.188
Cordgrass Tidal Marsh	0.582	0.669
Pickleweed Brackish Marsh	0.762	0.749
Cattail Marsh	0.411	0.407
Seasonal Wetland	0.430	0.389
Wetland Feature Subtotal	2.379	2.402

Other Waters		
Intertidal Mudflat	5.048	5.222
Brackish Stream	0.533	0.521
Freshwater Intermittent Drainage	0.054	0.054
Other Waters Subtotal	5.635	5.797
Total Acreage of Impacts to Jurisdictional Wetlands and Other Waters	**8.014**	**8.199**
* *Acreage calculations were rounded to the nearest thousandth of an acre.*		

The City proposes to provide compensatory mitigation for impacts to sensitive aquatic communities as a result of the proposed project by creating/restoring wetlands adjacent to Refugio Creek and the North Channel (**Figure 4.9-1 and 4.9-2**) and if necessary to accommodate adequate compensatory mitigation acreage by dedicating a portion of the tidally influenced salt marsh habitat planned for creation/restoration at the Chelsea Wetland Restoration site, which is approximately 0.7 mile south of the site near the mouth of Pinole Creek (**Figure 4.9-3**). All unavoidable impacts to waters of the U.S. will be compensated for through the construction of suitable wetland habitats. It is anticipated that all wetland impacts will be mitigated for through implementation of the project. If additional wetland mitigation is required, the City will coordinate with the responsible agencies to provide additional mitigation at the Chelsea Wetlands or through another mechanism. Impacts resulting from the project and the proposed mitigation is provided in Table 4.9-2.

Track Option B.

Implementation of Track Option B has not been approved by UPRR and other governing bodies; however, if approved, would provide several operation benefits (discussed in Section 2). Construction of Track Option B would likely result in the fill of waters of the U.S., including wetlands, through the placement of ballast and supporting fill for the UPRR corridor. Additionally, construction of Track Option B, would require the expansion of the UPRR crossing of the unnamed drainage located at the northeastern end of the project near the Victoria by the Bay community. The new crossing structure would be designed to avoid and minimize placement of any fill such as footings and abutments into waters of the U.S. Implementation of Track Option B would potentially result in the unavoidable loss of approximate 0.1 acre of brackish marsh, 0.23 acre of seasonal wetland. Impacts associated with Track Option would be avoided to the greatest extent practicable. Unavoidable impacts would be mitigated for through the construction of similar habitats within the project area adjacent to Refugio Creek and the North Channel.

CEQA Determination: Implementation of the proposed mitigation measure would reduce potential impacts to waters of the U.S. to less than significant.

Table 4.9-2
Hercules ITC Project Impacts and Mitigation Summary

Permanent Impacts	Alt 1 Total Impacts (acres)	Alt 2 Total Impacts (acres)	Alt 1 Approx. Volume (cubic yards)	Alt 2 Approx. Volume (cubic yards)	Mitigation Ratio	Alt 1 Mitigation Acreage	Alt 2 Mitigation Acreage	Location of Proposed Potential Mitigation			
								Refugio[1]	North Channel	Bay	Total
Bay Trail	0.051	0.087	<10	<10	3	0.153	0.261	0.261			0.153
Emergency Vehicle Access	0.151	0.403	1,500	3,000	3	0.453	1.209	1.209			0.453
John Muir Parkway, Bayfront Blvd, and Bridge	0.07	0.07	280	280	3	0.21	0.21		0.21		0.21
Promenade	0.026	NA	<10	<10	3	0.078	NA	0.078			0.078
Parking/Facilities	0.0	0.001	<10	<10	3	NA	0.003	0.003			
Railroad	0.249	0.243	<10	<10	3	0.747	0.729	0.747			0.747
Station Building	0.126	0.115	250	250	3	0.378	0.345	0.378		0.105	0.483
Station Platform	0.052	0.052	<10	<10	3	0.156	0.156	0.156			0.156
Transit Loop Drive and Bridge	0.0612	NA	1010	NA	3	0.1836	NA	0.183			0.183
Total	**0.786**	**0.971**	**3090**	**3580**	**NA**	**2.3586**	**2.913**	**3.015**	**0.21**	**0.105**	**3.330**
Temporary Impacts											
North Channel Restoration	**0.219**	**0.219**	--	--	1	0.219	0.219		0.219		**0.219**
Refugio Creek Restoration	**7.009**	**7.009**	2,400	2,400	1	7.009	7.009	1.961		5.048	**7.009**
Total	**7.228**	**7.228**	**2,400**	**2,400**	**NA**	**7.228**	**7.228**	**1.961**	**0.219**	**5.048**	**7.228**

<10: Construction of these project elements will result in minor discharges to small discrete features such as cattail marsh or seasonal wetlands. Estimates of discharges are estimated to be less than 10 cubic yards as they are minor and difficult to quantify.

--Restoration of North Channel will involve expansion of the ponded area and is not anticipated to have fill discharged to complete the restoration/enhancement work.

[1] Values for proposed mitigation include the higher estimate of either Alternative 1 or Alternative 2. Final mitigation will be determined in coordination with regulatory agencies as part of the permitting process.

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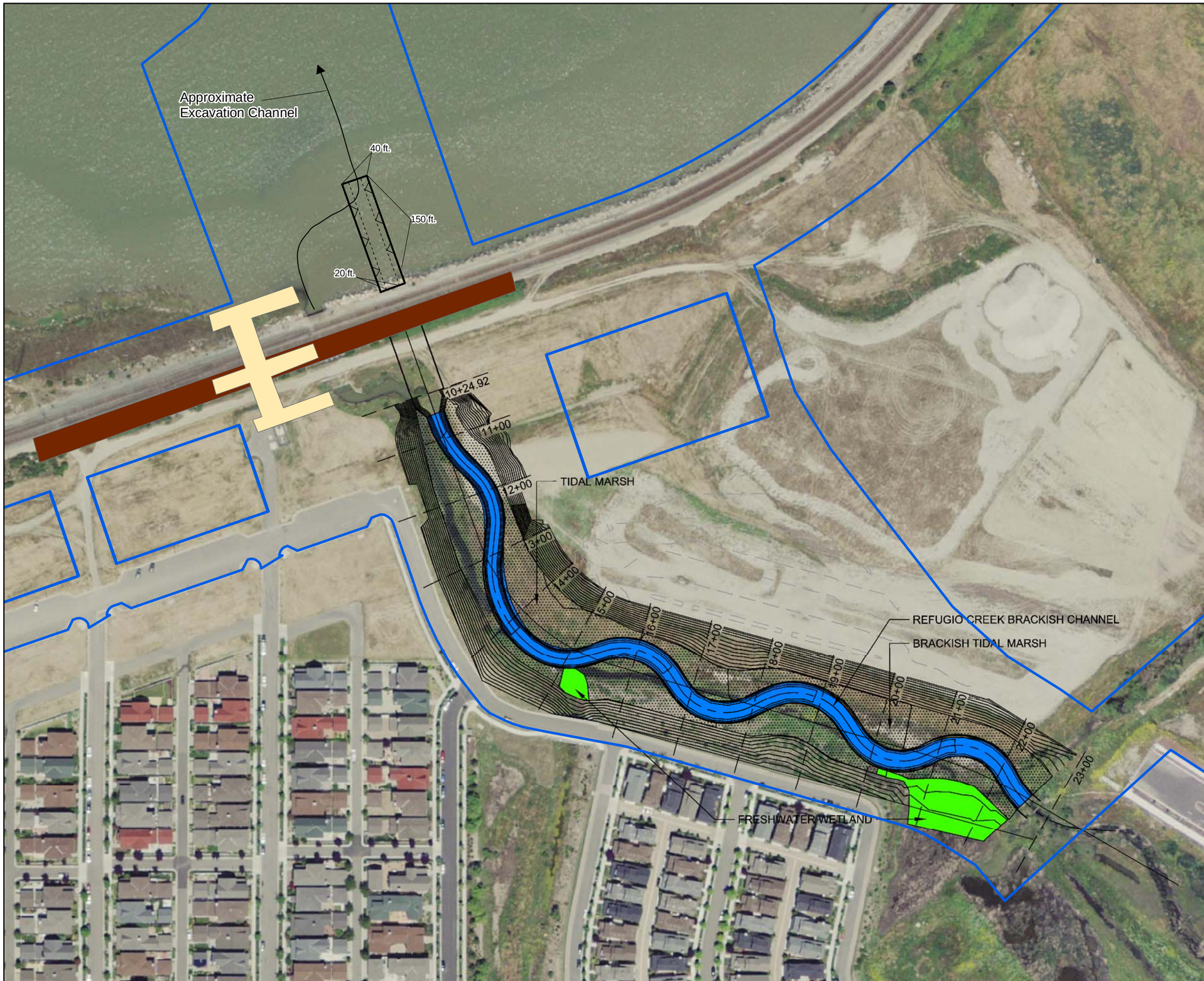

Legend

- Project Boundary
- Station Building
- Station Platform

Refugio Creek Restoration:
Wetland graphic prepared by RDG, 03-2010.

1 in = 150 ft (at tabloid layout)

N

0 12.5 25 50 Meters

0 50 100 200 Feet

Figure 4.9-1: Refugio Wetland Mitigation

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources.
No Warranty is made for its accuracy or completeness. Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey.
Data is State Plane Feet, NAD83 Zone 3

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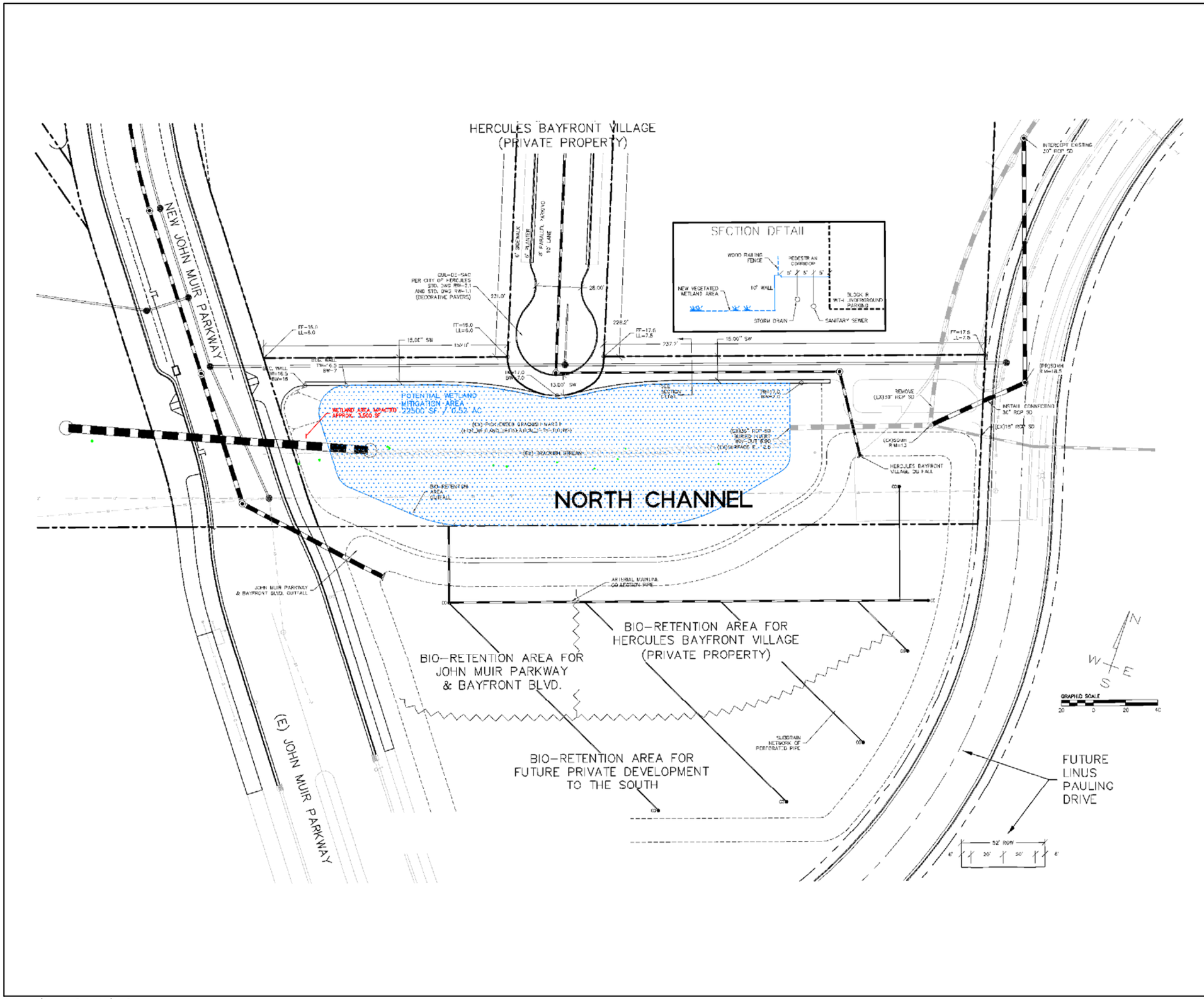

1 in = 60 ft (at tabloid layout)

0 7.5 15 30 Meters

0 30 60 120 Feet

Figure 4.9-2:
North Channel Wetland Mitigation

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources.
No Warranty is made for its accuracy or completeness. Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey.
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Legend

Project Boundary

Chelsea Wetland Mitigation

- Existing Marsh (2.13 acres)
- Habitat Transition Berm (1.75 acres)
- New Tidal Marsh (5.27 acres)
- Tidal Channel (0.66 acres)

1 in = 200 ft (at tabloid layout)

N

0 25 50 100 Meters

0 100 200 400 Feet

Figure 4.9-3: Chelsea Wetlands Restoration Plan

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources.
No Warranty is made for its accuracy or completeness. Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey.
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4.9.4. Cumulative Impacts and Mitigation

Much of the Hercules ITC site is generally degraded resulting from the historic development and remediation of the site. Existing natural communities are relatively small and fragmented. However, loss of these sensitive communities would be considered a significant impact. Other projects in the immediate vicinity would also have the potential to contribute to cumulative impacts to sensitive communities and biological resources.

The HB Project proposes to develop a mixed commercial and residential community at the Hercules Waterfront and adjacent to Refugio Creek. While much of the proposed project area is disturbed ruderal habitat resulting from the remediation activities, development of the site would remove potential foraging habitat for wildlife, may result in impacts to wetlands and other aquatic habitats, increase anthropocentric activity to the waterfront that may disturb wildlife, and potentially contribute secondary or indirect adverse effects to water quality in Refugio Creek and San Pablo Bay. The Hercules ITC and the HB Development, while related and part of the WDMP, are independent projects that are being evaluated under separate environmental review documents. Neither project is dependent upon the other for implementation. An EIR is being prepared for the HB Project (SCH #2009112058) and will be circulated for public review as required under CEQA. Consequently, both projects are being evaluated for the potential impacts respective to project elements in whole so that if either project does not occur, the other project may proceed. Currently, there is no federal involvement for the project and consequently no NEPA document is being prepared. However, a permit may be required from the USACE under Section 404 of the CWA. If a permit is required from the USACE, compliance with NEPA will be required.

Additionally, the City of Hercules Redevelopment Agency (City RDA) and The Red Barn Company (Red Barn) are proposing to construct the “Hercules New Town Center” (HNTC) near the intersection of SR-4 and I-80 in the City. The HNTC would be a new “downtown” area for the City, focused on pedestrian and transit friendly mixed uses, including a mix of residential, commercial, office, and public and quasi-public uses commensurate with the areas central, crossroads location. Development would follow allowable uses and development intensities outlined in the City’s General Plan.

A preliminary determination of waters of the U.S. that covers the project area was completed by WRA in 2008. Based on the results of that preliminary determination, construction of the proposed project would result in the permanent fill of approximately 2.65 acres of jurisdictional wetlands, and 0.026 acre of wetlands that may be considered “isolated” and not jurisdictional under Section 404 of the CWA (WRA 2008). The preliminary determination has not been verified by the USACE. The proposed project would also result in potential effects on CRLF, a federally-threatened species. (pers. comm. Joshua Phillips)

Additionally, WETA’s proposed ferry project discussed in Section 1 (Ferry Project) would also result in potential adverse effects including loss of mudflat and tidal marsh habitat to construct the associated facilities including that ferry channel, turning basin, the ferry pier, and the emergency vehicle access. The dredging and construction activities have the potential to impact fisheries, special aquatic sites, and may temporarily affect water quality and result in noise and vibration effects that would affect marine wildlife.

While no schedule has been formally established for the construction or the start of ferry service, a proposed route to the Hercules/Rodeo area has been approved as a new ferry location as part of the 2003 Program EIR (SCH #2001112048; WTA 2003). Planning and siting for the Hercules ITC to include a bus, train and ferry location has been planned extensively between the City of Hercules and WETA to identify the most appropriate location that would result in the least environmentally damaging practicable alternative. As discussed in Section 2, several locations were evaluated and not brought further for consideration because they did not meet basic requirements of the project especially concerning engineering and safety considerations. The two locations considered allow for the placement of the Hercules ITC at the only section of track that is tangent (i.e., straight) sufficiently to construct the necessary 800 foot platform. Alternative configurations and design alternatives brought forward during preliminary design have allowed the further avoidance and minimization of impacts.

The proposed Ferry Project, when constructed, will result in additional and contribute cumulative to impacts on biological resources. The ferry will require dredging a new channel through the bay to establish the ferry line, the turning basin, and to construct the ferry pier. Based on the preliminary estimates, the ferry terminal would require dredging a channel approximately 7,500 feet long and 100 feet wide in the Bay to deep water to accommodate the ferry vessels' draft. The design side slopes for the dredged channel would be at a 5:1 slope; however, the initial channel construction would be to an approximately 3:1 slope, and the channel sides would be allowed to slough down. The area surrounding the proposed channel is very shallow. A turning basin would be created at the location where the channel meets the floating dock. The channel would be dredged to a depth of 11 feet below MLLW and the turning basin to a depth of 12 feet below MLLW. The total volume of dredged material to be removed for both the channel and the turning basin would be approximately 222,000 cy. Standard dredging environmental control measures, such as the use of silt curtains, would be used during construction to minimize turbidity and reduce potential impacts to sensitive marine habitat.

In addition to the ferry access channel, dredging of a temporary channel for construction access along the length of the proposed pier would produce about 20,000 cy of material, assuming a channel length of about 650 feet and a width of 80 feet, with a depth of 6 feet. The material produced by construction dredging would be stockpiled in an appropriate location or off hauled. Dredge spoil location would be coordinated with permitting agencies prior to initiation of construction. on site next to the pier alignment and tested for the presence of contaminants. Alternatively, pile driving may be carried out from a temporary trestle adjacent to the pier alignment in place of or in addition to access from barges. This pile-driving method would require numerous additional temporary piles, but would reduce or avoid the need for an access channel through the shallow near-shore waters and mud flats (pers. comm. Elizabeth Purl).

Periodic maintenance dredging would also be required. The amount of maintenance dredging needed would depend on current and tidal conditions and boat wake wash effects, and would be determined later, once the project is in operation. The amount of dredged material removed during each maintenance operation would be considerably smaller than that removed during project construction.

Implementation of the Ferry Project will require the compliance with CEQA and NEPA. WETA, the lead agency under CEQA will be preparing an environmental document in coordination with the FTA, the federal lead agency under NEPA. Construction of the Ferry Project will also

require permitting with state and federal agencies including the USACE, San Francisco RWQCB, CDFG, USFWS, NMFS, BCDC and local permitting with the City and Contra Costa County. Additionally, it will be necessary to prepare a Consolidated Dredging-Dredged Material Reuse/Disposal Application to be submitted to the USACE Dredged Material Management Office.

Construction of the Ferry Project would contribute additional impacts to the tidal mudflats and adjacent wetlands. Dredging of the project would also contribute to potential turbidity and impacts to water quality that would affect biological resources. The Hercules ITC project proposes to accommodate elements of the proposed Ferry Project including the construction of the Ferry Plaza (terminal landing facility at the Hercules ITC and to prepare the emergency vehicle access to service the Ferry Plaza). In determining the least environmentally damaging practicable alternative, the Hercules ITC identified design configurations that include accommodating the Hercules Ferry Project so as to identify the least environmentally damaging practicable alternative. Please refer to Section 6 for a discussion of the evaluation of alternatives and the minimization of cumulative impacts to biological resources.

While both the Hercules ITC and the proposed Ferry Project would contribute to similar adverse effects including loss of aquatic habitat, increased potential turbidity and potential impacts to protected flora and fauna, both projects will be required to undergo environmental review and permitting and will be required to mitigate potential impacts. Additionally, as the projects are likely to be phased over time with the construction of the Hercules ITC and the restoration of Refugio Creek occurring before the dredging of the ferry channel, some of the potential cumulative effects such as increased turbidity resulting from the dredging will be diminished.

Surveys conducted in the project area in 2007 and 2010 did not identify any presence of eelgrass beds so the two projects are not anticipated to result in any loss of eelgrass beds (WWR 2007a, HDR 2010c). Additionally, the Hercules ITC includes the restoration of Refugio Creek, a highly degraded natural waterway. This restoration effort will expand the flood plain along Refugio Creek, create new tidal marsh and riparian habitats and improve the ecological value of the area and water quality resulting in a net gain of habitat and natural communities.

All three projects will be required to comply with necessary permitting requirements for impacts to wetlands and sensitive communities and will have to comply with all applicable laws, ordinances and standards. All projects will be required to complete necessary mitigation as part of the environmental review and permitting process including demonstrating that adverse effects including the potential loss of special aquatic sites have been avoided and minimized. In the case of unavoidable impacts, loss of wetlands will be compensated for through the construction of restoration and compensatory mitigation ensuring no net loss of wetlands. With the implementation of mitigation measures and adherence to permitting requirements from regulatory agencies and local standards, the Hercules ITC, the Hercules HB, and the Ferry Project are not likely to result in a significant cumulative impact to biological resources.

Implementation of **Mitigation Measures BIO-1** through **BIO-25** would reduce the potential for the Hercules ITC to contribute to a cumulatively considerable or significant impact.

CEQA Determination: With the implementation of **Mitigation Measures BIO-1** through **BIO-25**, cumulative effects associated with biological resources from other identified development projects are not considered significant.

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4.10. WATER RESOURCES

This section describes the potential impacts that the Hercules ITC could have on water resources, including water quality and flood hazards. This section is organized by construction impacts, operational impacts, and cumulative impacts. The section provides an evaluation of impacts for each alternative and, where applicable, mitigation measures that can be adopted to avoid or minimize these effects.

4.10.1. Significance Criteria

Impacts to hydrology and water quality could have an adverse effect on the environment if they would:

- Result in a substantial adverse impact on water quality;
- Cause a degradation in water quality due to release of contaminated sediments during dredging activities;
- Cause a degradation in water quality from onsite construction of Hercules ITC facilities, roadways, and associated structures;
- Result in a flood hazard to human safety and property due to construction in a floodplain;
- Result in altering the existing drainage pattern of the site or area, including 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;
- Result in altering the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;
- Result in degradation in water quality due to increases in stormwater runoff from paved or regraded areas;
- Result in a substantial depletion of groundwater supplies or interfere substantially with groundwater recharge such that there would a net deficit in aquifer volume or lowering of the local groundwater table level; or
- Cause inundation by seiche, tsunami, or mudflow.

4.10.2. Issues Not Discussed Further

No housing units are proposed for the proposed project; therefore, the project would not place housing within a 100-year flood hazard area as mapped on a FIRM or other flood hazard delineation map, and this issue is not discussed further.

The proposed project is not within an identified groundwater basin, nor in an area that is identified as a significant source of groundwater recharge. Therefore, the proposed project would have no impact on groundwater supplies or groundwater recharge.

The proposed project is located outside of the San Francisco Bay tsunami evacuation area, and therefore, would not be subject to inundation by a tsunami. The project is not located in an area that would be subject to inundation by failure of a levee or dam. Additionally, it is not located near a large body of water that would be capable of creating a seiche, nor is it located near unstable hilly terrain that could cause a mudflow.

4.10.3. Impacts and Mitigation

No-Action Alternative

This alternative would not involve construction or operation of the Hercules ITC or the realignment of Refugio Creek. Therefore, there would be no construction or operation impacts to water resources, and water resources would remain the same as the existing setting.

Action Alternatives

Construction Impacts and Mitigation

Impact WR-1: Dredging of Refugio Creek and San Pablo Bay could impact water quality through mobilization of contaminated sediment.

Contaminated sediments are known to occur near historical sites along the San Pablo Bay shoreline. Disturbance of contaminated sediment could impact water quality.

Alternatives 1 and 2 and Track Option B. Both alternatives would involve realigning and restoring Refugio Creek from San Pablo Bay upstream approximately 1,000 feet to the existing restored creek segment. The realignment would require a new mouth into San Pablo Bay. Within the Refugio Creek corridor area, approximately 16,381 cy of material would be cut and approximately 2,524 cy would be filled to implement the Refugio Creek Restoration component of the project. The creek channel would be continued into San Pablo Bay for approximately 150 feet to provide an initial unobstructed tidal connection. Approximately 400 cy of Bay sediment would be dredged. Excavation would be done during low tide; silt curtains would be installed for work in open water.

Sediment “toxic hot spots,” where sediment dredging could result in the degradation of water quality, have been indentified in San Francisco Bay by the Bay Protection and Toxic Cleanup Program (BPTCP). No known toxic hot spots are located in San Pablo Bay near Hercules; however, unknown contaminated sediment could be present (WTA 2003). Before dredging, proposed bottom sediments would have to be sampled and tested for contamination in accordance with the Dredged Material Management Office (DMMO) guidelines. If impacted sediments are to be dredged, precautions to prevent release of contamination would be taken.

Mitigation Measure WR-1a: Both alternatives will require dredging in San Pablo Bay and Refugio Creek. Prior to dredging, a Sampling and Analysis Plan (SAP) detailing sediment

sampling and analysis will be submitted to the San Francisco Bay DMMO, which includes representatives from the USACE, RWQCB, BCDC, USEPA, and other resource agencies. If the results of the SAP indicate that water quality will not be impacted by dredging, a consolidated Dredging – Dredge Material Reuse/Disposal permit would be issued by the USACE. The permit will cover both Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act and is functionally equivalent to a RWQCB Report of Waste Discharge. If contaminated sediment is encountered, further sediment characterization and a sediment removal plan (including upland disposal or beneficial reuse) will be required to protect water quality.

Mitigation Measure WR-1b: Dredging would result in some suspension of sediments. If impacted sediments are to be dredged in Refugio Creek and/or San Pablo Bay, impacts to water quality could be minimized through the use of the following Best Management Practices (BMPs):

- Use of silt curtains, which prevent suspended sediment from migrating out of the immediate project area;
- Dredging only on low or incoming tide;
- Hydraulic or closed clamshell dredging to reduce the generation of suspended sediments;
- Shunting, which involves pumping of the free water in a sediment holding barge to the bottom of the water body, which reduces turbidity; and
- Employment of an independent, certified, on-board dredging inspector to ensure compliance with permit conditions.

Monitoring will be conducted during dredging to allow for the following:

- Measurement of the efficiency of contaminated sediment removal;
- Determination dredged volumes;
- Measurement of sediment resuspension at the dredge site; and
- Checking performance of barriers and other controls.

These are commonly used BMPS that have been accepted by the RWQCB as significantly reducing the impacts to water quality from sediment resuspension. A CWA Section 401 Water Quality Certification is required from the RWQCB for dredging permits.

Dredging may release heavy metals, pesticides, etc. from the sediments into the Bay and Refugio Creek, Therefore, without sediment characterization data; it is unknown whether the above measures will reduce the water quality impacts to less than significant.

CEQA Determination: This impact is considered significant and unavoidable.

Impact WR-2: Construction of Hercules ITC facilities, roadways, and associated structures could degrade water quality.

Construction activities such as site grading could increase the potential for erosion and uncontrolled runoff of stormwater contaminated with sediments of other pollutants that could affect surface water quality and sedimentation. In addition, inadvertent spills of petroleum products and chemical substances during construction could affect water quality.

Alternatives 1 and 2 and Track Option B. Both alternatives would include the same Hercules ITC facilities and roadways identified in Section 2.0, Alternatives Considered.

Mitigation Measure WR-2: Impacts to surface water from erosion are expected to be minimal during construction. Erosion will be controlled in accordance with an approved Erosion Control Plan. In addition, all construction activities will be performed in accordance with the California National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities, 2009-0009-DWQ (effective July 1, 2010), requiring the implementation of BMPs to control sediment and other pollutants mobilized from construction activities.

BMPs may include, but would not be limited to:

- Excavation and grading activities in areas with steep slopes or directly adjacent to open water shall be scheduled for the dry season only (April 15 to October 15), to the extent possible. This will reduce the chance of severe erosion from intense rainfall and surface runoff.

If excavation occurs during the rainy season, storm runoff from the construction area shall be regulated through a storm water management/erosion control plan that shall include temporary onsite silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work stops due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow would be controlled, such as the temporary silt basins. Sediment basins/traps shall be located and operated to minimize the amount of off-site sediment transport. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location onsite, away from concentrated flows, or removed to an approved disposal site.

Temporary erosion control measures shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, appropriate erosion control measures shall be placed upstream adjacent to the water body.

Erosion protection shall be provided on all cut-and-fill slopes. Revegetation shall be facilitated by mulching, hydroseeding, or other methods and shall be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15).

BMPs selected and implemented for the project shall be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities shall be maintained regularly and cleared of accumulated sediment as necessary. Effective mechanical and structural BMPs that would be implemented at the project site include the following:

- Mechanical storm water filtration measures, including oil and sediment separators or absorbent filter systems such as the Stormceptor® system, can be installed within the storm drainage system to provide filtration of storm water prior to discharge.
- Vegetative strips, high infiltration substrates, and grassy swales can be used where feasible throughout the development to reduce runoff and provide initial storm water treatment.
- Roof drains shall discharge to natural surfaces or swales where possible to avoid excessive concentration and channelization of storm water.
- Permanent energy dissipaters can be included for drainage outlets.
- The water quality detention basins can be designed to provide effective water quality control measures including the following:
    - Maximize detention time for settling of fine particles;
    - Establish maintenance schedules for periodic removal of sedimentation, excessive vegetation, and debris that may clog basin inlets and outlets;
    - Maximize the detention basin elevation to allow the highest amount of infiltration and settling prior to discharge.

Hazardous materials such as fuels and solvents used on the construction sites shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents will be contained in an area of impervious surface with containment capacity equal to the volume of materials stored. A stockpile of spill cleanup materials shall be readily available at all construction sites. Employees shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities.

Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants.

These measures will be developed and described in the SWPPP that is prepared before construction begins. With proper implementation of BMPs, no significant impacts to surface or groundwater quality are anticipated during construction.

CEQA Determination: With implementation of the proposed mitigation measure, the potential impact would be less than significant.

Impact WR-3: Implementation of the project could 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.

The project would involve realigning and restoring Refugio Creek from San Pablo Bay upstream approximately 1,000 feet to the existing restored segment.

Alternatives 1 and 2 and Track Option B. Both alternatives would include realigning and restoring Refugio Creek. The changes in drainage pattern and the potential for erosion and sedimentation would be similar for both alternatives.

Both alternatives would alter drainage patterns by replacing the railroad bridge that carries the UPRR tracks across Refugio Creek and the culverts through which the creek flows beneath the tracks as part of the track reconstruction portion of the proposed project. A new channel and outlet for the creek similar in cross section and length to the existing creek outlet channel would be dredged through the tidal flats. The work associated with the railroad bridge replacement would include removal of the existing railroad bridge and installation of new rip-rap embankment protection at this location and a 2-span railroad bridge. Additionally, work carried out concurrently with the proposed project would include related streambed alteration and replacement of the three existing culvert pipes. New abutments and rip-rap slope protection would also be installed where the new culverts pass through the UPRR embankment. These features would provide long-term stabilization of the creek outfall and banks in the vicinity of the tracks. These features together with the planned restoration of the creek channel to a more natural profile would reduce potential impacts related to streambed and bank alteration.

The additional hardscape surfaces (pavement, parking lots, and structures) proposed for the project site as well as the Refugio Creek streambed alignment with new culverts and proposed dredging would modify existing drainage patterns on the project site, which could result in the erosion of disturbed soil and stormwater discharges.

Mitigation Measure WR-3: Implementation of **Mitigation Measure WR-2** will reduce potential impacts to less than significant. No additional measures will be required.

CEQA Determination: With implementation of the proposed mitigation measure, the potential impact would be less than significant.

Impact WR-4. Implementation of the project could 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 which would result in flooding on- or off-site.

The project would involve realigning and restoring Refugio Creek and as a result flows through the creek would increase from 1,100 to 2,400 cfs in a 100-year flood event.

Alternatives 1 and 2 and Track Option B. Both alternatives would replace the railroad bridge that carries the UPRR tracks across Refugio Creek and the culverts through which the creek flows beneath the tracks. The work associated with the railroad bridge replacement would include removal of the existing railroad bridge and installation of new rip-rap embankment protection at this location. The new 2-span railroad bridge would be located about 100 feet east of the current bridge location. The UPRR tracks would be widened to accommodate the platform width and a third track. The new railroad bridge and culverts constructed to accommodate the increased flow rate would therefore be about 100 feet wider than the existing railroad bridge.

Bridge replacement under the UPRR embankment is required to upgrade the flow capacity of the bridge. The existing railroad bridge and culverts currently act as barriers to flood flows, creating

the potential for local flooding during major storms. Flood control analysis (Balance Hydrologics 2006) found that, as a result of development within the creek's watershed, the flows through Refugio Creek would increase from 1,100 to 2,400 cfs in a 100-year flood event.

An upstream portion of the creek was reconstructed as a habitat restoration project as part of earlier development projects; reconstruction of the remaining section of the creek would be performed at the same time as the track realignment. Work carried out concurrently with the proposed project would include related streambed restoration and replacement of the three existing culvert pipes. The proposed culvert location would result in a streambed alignment that would essentially straighten the creek and remove the two existing 90-degree bends in the creek alignment. New abutments and rip-rap would also be installed where the new culverts pass through the UPRR embankment. A new channel and mouth for the creek similar in cross section and length to the existing creek channel would be dredged through the tidal flats.

With the development of project improvements, the flood flow capacity of the lower reach of Refugio Creek would be increased, and flood risks would be reduced. The project would thus have beneficial impacts related to flooding.

The project would be constructed on an undeveloped but heavily disturbed site. The upland areas have been graded and filled with engineered fill to a depth of several feet, and the shoreline along much of the project site is lined with rip-rap and stone ballast for the rail line. These activities have caused much of the project site to be elevated above the 100-year floodplain (**Figure 4.10-1**). Vegetation currently at the project site consists primarily of non-native grasses and weeds. The vegetation removal would be mitigated by planting new landscaping on the project site and by the restoration and enhancement of the Refugio Creek channel. The increase in impervious surfaces and associated runoff that could contribute to flood risks would be offset by these project elements.

The project would include a temporary surface parking lot that would eventually be replaced by mixed-use buildings with structured parking as part of the buildout of the waterfront area. The proposed rail platform would be elevated several feet above the existing tracks and would be roofed. The project's impervious surfaces would lead to less water infiltration on the project site and would create additional water runoff.

Mitigation Measure WR-4: Implementation of **Mitigation Measure WR-2** will reduce potential impacts to less than significant. No additional measures will be required.

CEQA Determination: With implementation of the proposed mitigation measure, the impact would be less than significant.

Operation Impacts and Mitigation

Impact WR-5: Operations in a floodplain could constitute hazards to human safety and property.

Areas along the Bay shoreline and drainages leading to the Bay are potential floodplains. Building within a floodplain involves risks to life and property.

Alternatives 1 and 2 and Track Option B. Both alternatives would include similar Hercules ITC facilities and roadways identified in Section 2.0, Alternatives Considered. Portions of the project site are within the 100-year floodplain boundary. These include the railroad tracks and the location of the proposed parking structure. Presently, as discussed under Impact WR-3 above, the existing railroad bridge and culverts act as barriers to flood water flow, creating the potential for local flooding during major storms. Railroad bridge replacement under the UPRR embankment will improve the current potential flooding condition. Because the project would place structures within the existing floodplain, the impact is considered potentially significant.

Mitigation Measure WR-5: New facilities should be designed to minimize flooding (through the use of retaining wall, levees, and/or construction on fill). Flood hazard warnings should be posted and flood evacuation plans should be developed. Construction and design should also account for the maximum flood level so that facilities are built above the mark.

CEQA Determination: With implementation of the proposed mitigation measure, the potential impact would be less than significant.

Impact WR-6: Stormwater runoff from the Hercules ITC site and parking could degrade water quality.

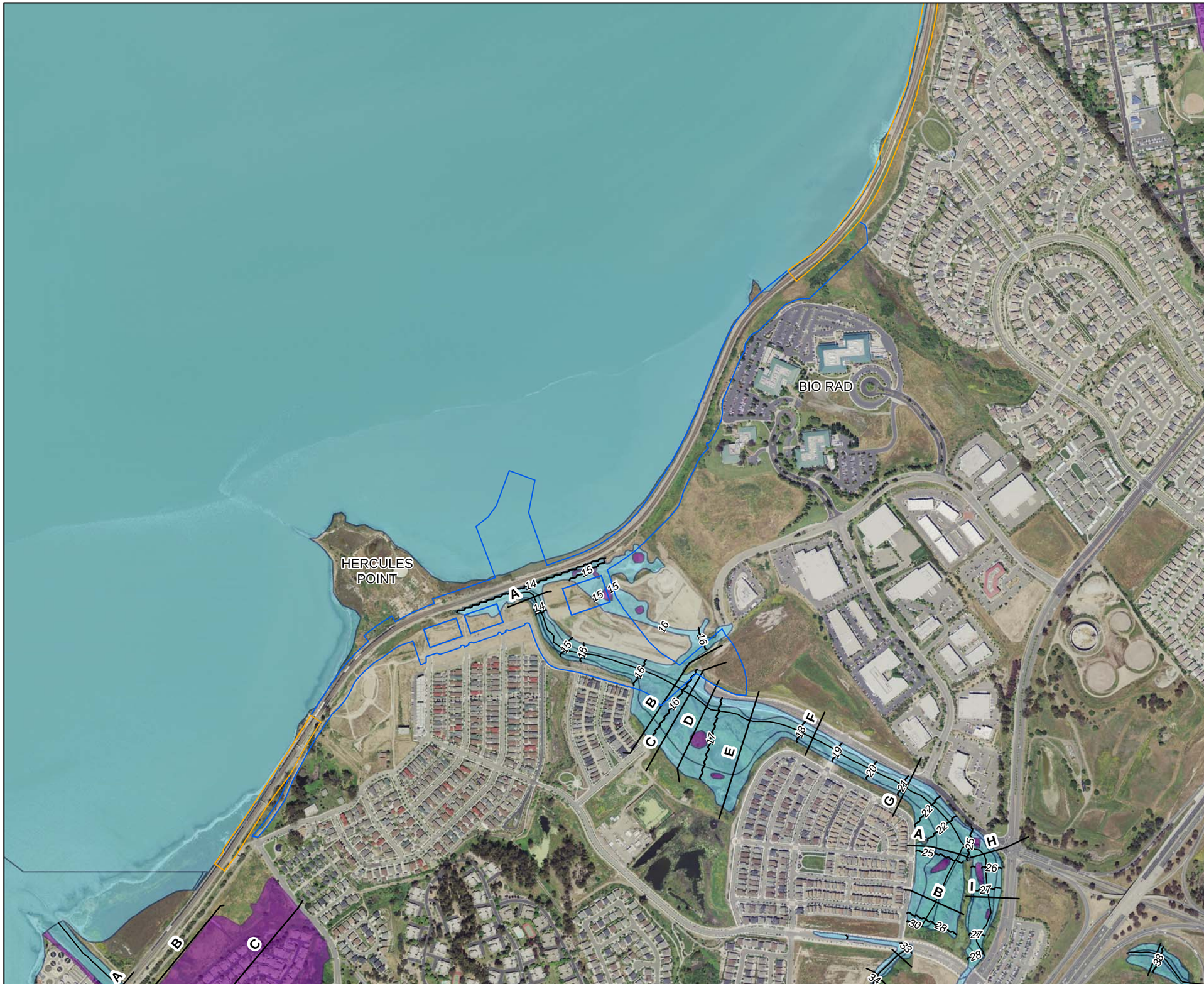
Development of the Hercules ITC would involve paving and construction of buildings. Asphalt, rooftops, concrete surfaces, and other structures would prevent the natural drainage and infiltration of stormwater through the soil. Surface water runoff generated from undeveloped, unpaved areas has greater volume and rate when the site is paved and the capability of surface water infiltration is reduced or eliminated. Increases in impervious surfaces and the resulting increases of surface water runoff volumes and rates can produce considerable changes to downstream hydrology in areas where portions of the drainage system are converted from pervious to impervious surfaces.

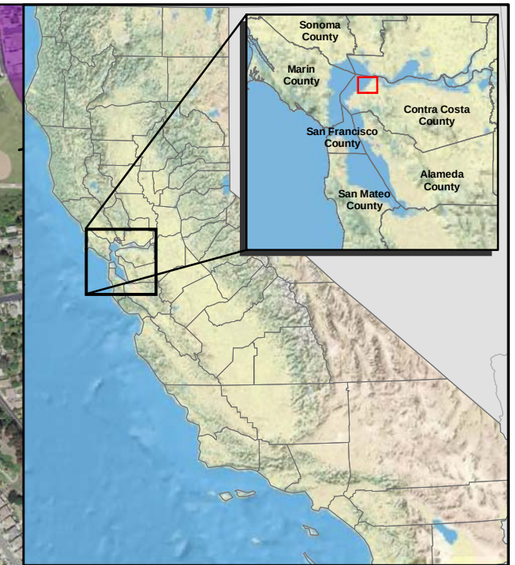
The Hercules ITC would have its facilities designed in accordance with the provisions of the Contra Costa County Clean Water Program, which provides measures for a project to manage increased runoff from increased impervious surfaces. Measures to be implemented may include detention basins, vegetated swales, buffer strips, and/or infiltration basins.

Alternatives 1 and 2. Both alternatives would include the same Hercules ITC facilities and roadways identified in Section 2.0, Alternatives Considered, and therefore, have similar effects.

Mitigation Measure WR-6: Operation of the Hercules ITC will be in conformance with the California NPDES General Permit for Storm Water Discharges Associated with Industrial Activities. In accordance with this permit, a SWPPP would be developed, and BMPS would be implemented to control pollutants in stormwater discharges. Permanent stormwater control measures may include detention basins, vegetated swales, buffer strips, and/or infiltration basins. To eliminate surface runoff from the new parking areas, either gravel or permeable pavement would be used so that rainwater could permeate into underlying soil. With proper implementation of these and other BMPs in the SWPPP, no adverse impacts to water quality are anticipated during the long-term operation of the Hercules ITC.

CEQA Determination: With implementation of the proposed mitigation measure, the potential impact would be less than significant.





Legend

- Track Option B Boundary
- Project Boundary
- Lettered Cross Section
- Base Flood Elevation
- Refugio Creek
- 100 Year (1% Annual Chance) Flood Zone
- 500 Year (0.2% Annual Chance) Flood Zone

N

1 in = 700 ft (at tabloid layout)

0 100 200 400 Meters

0 350 700 1,400 Feet

Figure 4.10-1: FEMA Flood Zones

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources.
No Warranty is made for its accuracy or completeness. Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey.
Data is State Plane Feet, NAD83 Zone 3

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Impact WR-7: Operation of the Hercules ITC under either Alternative 1 or Alternative 2 could result in periodic inundation due to tsunami and/or rising sea level and other climate change effects.

Tsunami-generated waves have the potential to inundate low-lying coastal areas and cause extensive erosion and/or deposition of sediment. Poorly constructed facilities can also be damaged by both the incoming waves and outgoing return flow. By the time a tsunami enters the Bay, its impacts will be dramatically reduced compared to those on the open coast. The tsunami hazard has not yet been mapped in the East Bay. However, if one assumes that there is a 42-foot tsunami at the entrance to the Bay, as stated in the multi-jurisdictional Local Hazard Mitigation Plan (LHMP) (ABAG 2007), the wave height on the opposite bank in the Oakland-Berkeley area will be roughly half (21 feet) and roughly 10% or 4 feet at each end (Alviso in San Jose and the north side of San Pablo Bay). In this situation, the wave height in Hercules could be somewhere between 6 and 18 feet, a significant hazard in the areas of the City adjacent to the Bay including the vicinity of the Hercules ITC. The California OES has funded the mapping of tsunami inundation evacuation planning maps for within San Francisco Bay; however, this mapping is not yet complete. The LHMP will be modified to examine the hazard of tsunamis when the maps are available.

Tsunami-generated waves are associated with seismicity and have a very low probability to occur in general, much less in the San Pablo Bay area. The General Plan and previous environmental studies have concluded that the City of Hercules is highly unlikely to be affected by these hazards because of its distance from the Pacific Ocean.

However, the risk to coastal flooding and erosion has increased dramatically due to climate change. According to the 2009 California Climate Adaptation Strategy (2009 Strategy), projections for sea level rise related to climate change in California have increased (California Natural Resources Agency 2009). The 2009 Strategy uses a projection of a 20 to55-inch increase in sea level by the end of this century. Heberger et al. (2009) have projected 1.4 meters along the Pacific Coast and have looked specifically at the coastal flood risk in San Francisco Bay. Flooding and erosion will also occur due to extreme weather events and storm surges. Based on this information, it is likely that the UPRR will be gradually inundated due to increased sea levels over time (**Figure 4.10-2**). However, other infrastructure and facilities developed under either Alternative 1 or 2 will be located above projected flood elevations and more likely to be affected by occasional storm surge, wave action, and associated erosion.

While the UPRR tracks and waterside facilities are at risk due to location and the projected changes in inundation associated with climate change, the UPRR will be subject to such changes well beyond the boundaries of the project. At some point in the future, the railroad will likely need to be elevated. The Hercules ITC will either continue to operate as a transit center or be used in some other capacity.

Mitigation. No mitigation is required.

CEQA Determination: While the UPRR tracks will ultimately be subject to inundation due to sea level rise and extreme weather events, the UPRR tracks may be elevated and use of the

Hercules ITC can be adapted to meet changing conditions. This is not considered a significant impact.

4.10.4. Cumulative Impacts and Mitigation

If the Hercules Bayfront project is constructed at the same time as the proposed project, there could be cumulative impacts resulting from erosion and uncontrolled runoff of stormwater from both projects. Stormwater may be contaminated with sediments of other pollutants that could affect surface water quality and sedimentation. In addition, inadvertent spills of petroleum products and chemical substances during construction could affect water quality.

CEQA Determination: With the implementation of **Mitigation Measure WR-2**, cumulative effects associated with water resources from other identified development projects are not considered significant.

Project Design Elevations:
Top of Rail Elevation 11.6-ft. above MSL
Platform Elevation 12.4-ft. above MSL
Civic Plaza Elevation 18.0-ft. above MSL

Possible Flood Elevations:
Mean High Tide (MHT) & Mean High Water (MHW) = 3-ft. above Mean Sea Level (MSL)
100-yr Flood Elevation = 7-ft. above MSL
Flood Elevation + 16 in. Sea Level Rise = 8-ft. above MSL
Flood Elevation + 55 in. Sea Level Rise = 11-ft. above MSL

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Figure 4.10-2: Approximate sea level rise with flood elevations

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4.11. GEOLOGY AND SOILS

This section describes the potential impacts that the Hercules ITC could have on geology and soils.

4.11.1. Significance Criteria

The impact of the proposed project on the geology and soils environment would be considered significant if it would exceed any of the following standards of significance:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - 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;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- 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-site or off-side landslides, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined by the California Building Code, creating substantial risks to life or property.

4.11.2. Issues Not Discussed Further

The State of California delineates zones around active faults under the Alquist-Priolo Earthquake Fault Zoning Act. Any development within the zone requires detailed geological investigation to accurately delineate active fault strands such that they can be avoided. Fault rupture beneath engineered structures can, if the fault displacement is large enough, lead to damage and in extreme conditions catastrophic collapse. Even minor fault displacements can cause significant structural damage.

The proposed project is not crossed by any known or previously recognized active faults or earthquake fault zones (Alquist-Priolo Special Study Zones). There would therefore be no known risk related to ground surface rupture by faulting; for this reason, this issue is not discussed further in this section.

4.11.3. Impacts and Mitigation

No-Action Alternative

The No-Action Alternative would not involve construction of the proposed project, and therefore would not have any impacts related to geologic resources.

Action Alternatives

Impact GEO-1: Seismic activity could damage facilities and/or injure people.

Alternatives 1 and 2 and Track Option B. The Bay Area, including Hercules, is one of the most seismically active regions in the United States. Earthquakes and ground shaking in the Bay Area are inevitable but unpredictable and will occur at some point prior to, during, or after the completion of the proposed Hercules ITC project. An earthquake of moderate to high magnitude generated within the San Francisco Bay region, similar to that which has occurred in the past, could cause considerable ground shaking within the project area. Future development within this area would involve construction of facilities in a seismically active zone, and the ground shaking associated with earthquakes would pose potential threats to structures and to persons present at the time of seismic events. Potential impacts during construction include construction slope stability, excavation stability, and subsidence due to dewatering.

Although some structural damage typically is unavoidable, building codes and local construction requirements have been established to protect against building collapse and to minimize injury during seismic events. Structures built to code should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a well-designed and well-constructed structure will not collapse in a major earthquake (WTA 2003).

Compliance with applicable regulations, such as building code requirements, and conformance with the General Plan Safety Element policies listed above, would be required as part of any development project. Using standard construction techniques, chosen in accordance with the results of site-specific geotechnical investigations and in compliance with codes and requirements, structures can be designed and built to withstand the geologic hazards listed above.

Mitigation Measure GEO-1: A site-specific geotechnical investigation shall be required for this project. The project will conform to provisions of current building codes and to the recommendations of the geotechnical investigations performed for the proposed project. Facilities shall be designed and constructed at a minimum to “Essential Structure” standards as well as the seismic design requirements for ground shaking specified in the Uniform Building Code for Seismic Zone 4. Additionally, to satisfy the provisions of the 2007 CBC, these facilities shall be designed to withstand ground motions equating to approximately a 500-year return period (10 percent probability of exceedance in 50 years). For design purposes, site-specific ground motions shall be calculated for the chosen project site.

CEQA Determination: With the implementation of **Mitigation Measure GEO-1**, the potential impact would be less than significant.

Impact GEO-2: The proposed project could result in substantial soil erosion of topsoil.

Alternatives 1 and 2 and Track Option B. The erosion potential is low on the proposed Hercules ITC site because it lies on the valley floor and does not include any steep natural slopes. The channel of Refugio Creek would be altered during project construction by straightening the existing curved channel and creating a new outfall to San Pablo Bay. Construction activities onsite would create new creek banks and expose unvegetated soils, which could erode during storm events. However, stormwater erosion is regulated by the NPDES, which requires the implementation of BMPs for future development on both the alternative sites and any work in the creek channel. A SWPPP would be developed and implemented in accordance with the State's NPDES General Permit for Stormwater Discharges Associated with Construction Activity. The SWPPP would identify the BMPs to be implemented on the construction site. With the required compliance with the NPDES, as well as implementation of **Mitigation Measure WR-2**, the proposed project would not cause significant impacts related to erosion. Potential impacts related to erosion are discussed in greater detail in **Section 4.10, Water Resources, Impact WR-2**.

Impact GEO-3: Liquefaction, landslides, or lateral spreading could damage facilities and/or injure people and structures.

Alternatives 1 and 2 and Track Option B. Onshore areas of the project site typically consist of fill underlain by a natural sand-bar deposit, consisting of interbedded stiff silts and moderately dense sands approximately 10 to 15 feet in thickness. The sand bar is underlain by 'Young Bay Mud' marine estuarine deposits, which are approximately 30 to 35 feet thick. Beneath the Young Bay Mud is a layer of stiffer older marine sediments known as 'Older Bay Mud' approximately 40 to 60 feet thick. The younger and older Bay Mud deposits do not present a significant liquefaction risk. The onshore portions of the site underlain by the sand spit are potentially susceptible to liquefaction.

Liquefaction of soils occurs when loose, cohesionless soils become saturated, temporarily losing shear strength during strong ground shaking. Significant factors that affect soil liquefaction potential are grain-size and distribution, relative density, degree of saturation, the initial stresses acting on the soils, and the characteristics of the earthquake, such as the intensity and duration of the ground shaking. The project site has been mapped within a State of California Liquefaction Hazard Zone. In addition, the site has been mapped by the as an area that may have a high susceptibility to liquefaction (ENGEO 2009). This impact is less than significant with implementation of mitigation.

Mitigation Measure GEO-3: Design-level analyses of the liquefaction hazard shall be required for the project. Specifically, a program of site-specific exploratory borings and accompanying laboratory testing will be required to delineate any potentially liquefiable materials underneath proposed facilities. These geotechnical investigations will also be required for consideration prior to foundation design. Potentially liquefiable deposits will either have to be removed or engineered (dewatered or densified) to reduce their liquefaction potential. This has been

performed with success within areas of liquefaction risk in the Bay Area. For example, densified fill materials in areas of Foster City and Redwood Shores survived the 1989 M_w 6.9 Loma Prieta earthquake without liquefying (Benuska 1990 *as cited in* URS 2003). The commercial and residential developments situated on these areas of engineered fill suffered no major structural damage during the earthquake.

CEQA Determination: With the implementation of **Mitigation Measure GEO-3**, the potential impact would be less than significant.

Impact GEO-4: Subsidence could damage facilities.

Alternatives 1 and 2 and Track Option B. Subsidence is ongoing around the margins of the Bay. Settlement commonly occurs in areas of manmade fill underlain by young Bay Mud through consolidation of the Bay Mud, and consequent subsidence of the overlying materials. Areas of the potential sites that are underlain by bedrock and dense fill have a low susceptibility to subsidence. Areas that are underlain by Bay Mud, estuarine sediments, organic rubbish, or thick organic deposits may be moderately to highly susceptible to subsidence. The young Bay Mud within the project site ranges up to a maximum of about 40 feet thick. Settlement is discussed under liquefaction, above.

Mitigation Measure GEO-4: A number of approaches are available to mitigate total and differential settlement associated with compressible Bay Mud. One or more of these shall be implemented in the design and construction of the proposed Hercules ITC structures, in compliance with the recommendations of the design-level geotechnical report:

- Careful grading design that incorporates anticipated total and differential settlements. This generally requires use of minimal fill thickness wherever practical, careful estimation of future settlements, and proper settlement monitoring during construction.

- Surcharging to eliminate or reduce total and differential settlement. Surcharging can be staged to allow reusing import fills in various areas, depending on the project phasing.

- Use of deep foundations that derive support below the Bay Mud. This generally involves driven concrete piles commonly used for heavy structures.

The project alternative selected should depend on the approach selected, the ability to phase developments and allow settlement to occur prior to construction, and the potential future settlement as identified in the design-level geotechnical report that could adversely impact structures and related site improvements.

CEQA Determination: With the implementation of **Mitigation Measure GEO-4**, the potential impact would be less than significant.

Impact GEO-5: The proposed project alternatives could potentially impact mineral resources.

Alternatives 1 and 2. As described in Section 3.11, no significant mineral deposits have been identified by the California Department of Conservation, Division of Mines and Geology, for the Hercules Area (City of Hercules 2009c). In addition, “MRZ-3 zones” have been mapped at

several locations in the vicinity of the project, including the hilly area north of John Muir Parkway to the west of I-80 in the general vicinity of the Hill Town site, but there is no information to suggest that these areas have extractable minerals of commercial value (California Public Utility Commission; City of Hercules 1998 *as cited in* City of Hercules 2009c). Furthermore, the Bay Area has other available sources for these materials. Therefore, the proposed project would have no significant impact on mineral resources.

Mitigation: No mitigation is required.

CEQA Determination: Less than significant.

4.11.4. Cumulative Impacts and Mitigation

If the Hercules Bayfront project is constructed at the same time as the proposed project, there could be cumulative impacts resulting from topsoil erosion, resulting from stormwater runoff. Potential cumulative impacts related to erosion are discussed in greater detail in **Section 4.10, Water Resources.**

CEQA Determination: With the implementation of **Mitigation Measure WR-2**, cumulative effects associated with geology and soils from other identified development projects are not considered significant.

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4.12. HAZARDOUS MATERIALS

This section provides an overview of the presence of hazardous materials within the project area, the potential for impacts during construction activities for the proposed project, and the regulatory setting applicable to environmental protection and health and safety. Issues related to public health and safety includes the transport, use, and storage of hazardous materials and disposal of hazardous wastes.

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility.

The CCR defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either: (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed. Hazardous wastes are defined in a similar manner. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal.

This section presents the potential impacts and mitigation measures that have been identified for the proposed project and the potential hazardous materials associated with construction and operation of the project alternatives.

4.12.1. Methodology

The methodology for analyzing impacts related to hazards and hazardous materials include identifying general types of hazardous materials and techniques that are likely to be used during construction and operation of the proposed project. The analysis in this section focuses on the use, generation, disposal, transport, risk of upset, or management of hazardous or potentially hazardous materials on the project site. Level of significance criteria assume that the construction and operation of the proposed project would comply with all applicable federal, state, and local laws and regulations, including the General Plan policies and objectives described in **Section 3.12**, **Hazardous Materials**.

4.12.2. Significance Criteria

The following environmental significance criteria are based on criteria developed in accordance with the requirements of CEQA, NEPA, and all applicable state and federal laws. Based on these criteria, a project would generally be considered to have a significant environmental impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- 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, create a significant hazard to the public or the environment;
- 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, result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- 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.

The project site is not located within one-quarter mile of an existing or proposed school, within an airport land use plan area, or within two miles of a public airport or private airstrip. The proposed project would not interfere with an adopted emergency response or evacuation plan. The project site is in a developed area and is not located within or adjacent to wildlands where there could be a risk of wildland fires. Therefore, there would be no safety hazards associated with these issues.

4.12.3. Impact and Mitigation

No-Action Alternative

Under the No-Action Alternative, existing bus services without the construction of a train station and a new bus terminal at the same location would continue. Land-based transit services and roadways would remain in their present state with no new improvements other than those that have been programmed and funded. Therefore, no impacts related to hazardous materials or wastes would result.

Action Alternatives

As described in Section 3.12 Hazardous Materials, implementation of the proposed project would necessitate that the existing gas pipelines be relocated outside of the UPRR ROW. Directional drilling under the creek would be used to relocate the pipelines.

The impacts would be essentially the same for the proposed Action Alternatives 1 and 2. Thus, the potential impacts resulting from these alternatives will be addressed jointly in the discussion below.

The proposed project would include a bus terminal, commuter train access, a new Amtrak station and Capitol Corridor stop, parking for transit passengers, and the roadway/trail/sidewalk infrastructure necessary to support the multimodal transit facility. The transit center would include the construction of a station building with a center platform and a pedestrian bridge spanning the UPRR ROW. Primary access to the transit station from Interstate 80 would be provided through the extension of John Muir Parkway from its current terminus northeast of Tsushima Bridge. The extension of John Muir Parkway would require a new bridge over Refugio Creek. Additionally, construction of the Hercules ITC would require improvements to the UPRR rail line, including a new railroad bridge across Refugio Creek; realignment and straightening of UPRR tracks; and safety improvements, such as grade separation of the track from the Hercules Bayfront development area. Other improvements would include a pedestrian bridge across the UPRR tracks to access the future Hercules Point open space, temporary surface parking to service the Hercules ITC, a creekside park, the completion of the Bay Trail, and the realignment and restoration of Refugio Creek. As described in Section 3.12, Hazardous Materials, implementation of the proposed project would necessitate that the existing gas pipelines be relocated outside of the UPRR ROW. Directional drilling under the creek would be used to relocate the pipelines.

Grading and demolition occurred on the project site between 2002 and 2007. In general, grading included removal and reworking of existing fills and buried subsurface debris, abandonment of pile elements, environmental remediation under the observation of DTSC, and installation of wick drains and placement of surcharge fills imported from various sites.

Implementation of the proposed project includes preparation of a Spill Prevention and Response Plan, described in further detail below, and a SWPPP, which would minimize hazards to construction employees and the environment.

Construction and Operation Impacts and Mitigation

Impact HAZ-1: The proposed project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through the accidental upset or release of hazardous materials.

Alternatives 1 and 2 and Track Option B. The primary hazardous materials concerns related to construction of the proposed project are grading and excavation in potentially contaminated site soils and creek or bay sediments. As described above, site soils have generally been remediated to residential-use standards, with the exception of the Hercules Point area, which is subject to a deed restriction allowing only industrial or commercial uses. A small portion of the project site lies within the deed-restricted (limited to industrial or commercial uses) Hercules Point (OU-3) parcel, and the proposed project uses would be consistent with the deed restriction. During grading and excavation activities for the proposed project, site workers could be exposed to soil contaminants and/or potentially contaminated creek and bay sediments. This is considered a

potentially significant impact. Implementation of **Mitigation Measures HAZ-1a** and **1b** would reduce this impact to less than significant.

During construction of the proposed project, it is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc., would be brought onto the project site. In addition, the proposed project operations may include limited use of fuels and other hazardous materials such as those typically associated with equipment use and servicing. As with any liquid or solid, during handling and transfer from one container to another, the potential for an accidental release exists. Depending on the relative hazard of the material, if a spill of significant quantity were to occur, the accidental release could pose both a hazard to workers and residents, as well as the environment. This is considered a potentially significant impact. Implementation of **Mitigation Measures HAZ-1c** and **1d** would reduce this impact to less than significant.

Additional hazardous materials concerns related to construction of the proposed project include relocation of the existing gas pipelines. The project construction plans propose to relocate these pipelines with minimal disruption to services. Although there is no record of releases associated with the existing gas pipelines within the project area, relocation activities could create a hazard to both workers and residents, as well as the environment, through the accidental upset or release of hazardous materials. This is considered a potentially significant impact. As described in Section 4.13 Utilities, the City and the project designers shall consult with utility providers who have infrastructure in the immediate vicinity of the proposed project sites, and this consultation shall be completed prior to finalizing the project plans and before any ground disturbances occur. In order to avoid construction conflicts, project plans for pipeline relocation shall be designed to the satisfaction of the City and the utility providers and/or pipeline owner(s). These early and ongoing coordination efforts, along with implementation of **Mitigation Measures HAZ-1a, HAZ-1b, HAZ-1c,** and **HAZ-1d**, would reduce this impact to less than significant.

Once the project is developed, it could potentially include the use, storage, release, or disposal of small amounts of hazardous household-type products such as cleaning agents, solvent, paint, oils, pesticides, etc. Such uses of hazardous materials rarely pose a significant threat to the public or the environment. The proposed project would be required to comply with applicable federal, state, and local regulations regarding hazardous waste and materials. Compliance with the applicable regulations would minimize or avoid significant environmental hazards to the public or the environment.

Mitigation Measure HAZ-1a: The construction contractor shall develop a project-specific Health and Safety Plan that includes a project-specific contingency plan for hazardous materials and waste operations. This plan shall be submitted to and approved by the City before construction activities are allowed to proceed. The Health and Safety Plan, applicable to all grading and excavation activities, shall establish policies and procedures to protect workers and the public from potential hazards posed by hazardous wastes. The Health and Safety Plan shall be prepared according to federal and state OSHA regulations.

Mitigation Measure HAZ-1b: If affected or potentially affected soil and/or sediments are encountered during construction activities (grading and excavation), these materials would be excavated, stockpiled, and characterized to evaluate appropriate reuse or disposal alternatives.

Confirmation of materials, sample characterization of stockpile materials using analytical data, and soil reuse/disposal plans would be submitted to the City for review and acceptance.

Mitigation Measure HAZ-1c: The construction contractor shall develop a Spill Prevention and Response Plan and provide copies to all contractors working on the proposed project. At least one copy shall be made available at the project site with the construction manager at all times. The purpose of the Spill Prevention and Response Plan is to provide construction managers, environmental compliance monitors, and regulatory agencies with a detailed description of hazardous materials management, spill prevention, and spill response/cleanup measures associated with the construction of the proposed project.

Mitigation Measure HAZ-1d: Construction contractors and employees shall immediately control the source of any leak and contain any spill using appropriate spill containment and countermeasures. If required by any regulatory agency, contaminated media shall be collected and disposed of at an offsite facility approved to accept such media. In addition, all precautions required by the RWQCB for the project's NPDES General Permit for Stormwater Discharges Associated with Construction Activity would be taken to ensure that no hazardous materials enter the nearby waterways.

CEQA Determination: With implementation of the proposed mitigation measures, the potential impact would be less than significant.

Impact HAZ-2: The proposed project would be located on a site that is included on a list of hazardous materials sites and could, as a result, create a significant hazard to the public or the environment.

Alternatives 1 and 2 and Track Option B. As discussed above, portions of the project site are included on federal and state lists of hazardous materials sites. However, these areas have been certified by the DTSC as having been remediated satisfactorily, generally to residential levels, with the exception of the Hercules Point area, which is subject to a deed restriction allowing only industrial or commercial uses. The risks associated with residual contamination are discussed under Impact HAZ-1 above.

Mitigation: Implementation of **Mitigation Measures HAZ-1a** through **HAZ-1d** will reduce potential impacts to less than significant. No additional measures will be required.

CEQA Determination: With implementation of the proposed mitigation measures, the potential impact would be less than significant.

4.12.4. Cumulative Impacts and Mitigation

If the Hercules Bayfront project is constructed at the same time as the proposed project, there could be cumulative impacts resulting the routine transport, use, or disposal of hazardous materials or through the accidental upset or release of hazardous materials from both projects. Stormwater contaminated with hazardous materials could affect surface and groundwater quality. Accidental releases of hazardous materials into the air could affect public health.

CEQA Determination: With the implementation of **Mitigation Measures HAZ-1a** through **HAZ-1d**, cumulative effects associated with hazardous materials from other identified development projects are not considered significant.

4.13. UTILITIES

This section discusses the potential impacts of the Hercules ITC alternatives on project area public utilities.

4.13.1. Methodology

The analysis in this section focuses on whether the implementation of the proposed project would impact existing public utilities (domestic water, sanitary sewer, storm drainage, electricity, natural gas, and telecommunications) within the vicinity of the proposed project site locations.

Public services were analyzed to determine if implementation of the Hercules ITC alternatives would require additional public utilities or result in the deterioration of existing service levels. The impact analysis combines the discussion of potential short-term construction impacts with long-term requirements of the Hercules ITC alternatives for each public utility evaluated.

4.13.2. Significance Criteria

In accordance with the requirements of CEQA and NEPA and all applicable state and federal environmental laws, the proposed project would have a potentially adverse effect on the environment. The significance criteria listed below are derived from Appendix G of the CEQA Guidelines and the definition of significance in the CEQ Regulations at 40 CFR Section 1508.27. For the purposes of this EIR / EIS, impacts to utilities and energy would be significant if implementation of one of the proposed project alternatives would:

- Exceed wastewater treatment requirements of the applicable RWQCB;
- 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;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significance environmental effects;
- Have insufficient water supplies to serve the project from existing entitlements and resources, with new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs;
- Fail to comply with federal, State, and local statutes and regulations related to solid waste; or

- Require new or expanded electrical or natural gas facilities, the construction of which could cause significant environmental effects.

4.13.3. Issues Not Discussed Further

Full utility services are available to the proposed project. The City of Hercules obtains electric power and natural gas from PG&E and Hercules Municipal Utility. Telecommunications service in the City of Hercules is provided by AT&T. Development of the proposed Hercules ITC would have relatively small electric power, natural gas, and telecommunication demands compared to the capacity of these utilities and could be supplied from the existing power generation, natural gas supply, and telecommunications infrastructure. The Hercules ITC proposes to include glare-resistant photovoltaic cells on the Station Building roof and small–scale Mariah Power wind power turbines for installation at the Station Platform (See Section 2.2.1, Alternative 1). Both of these features would generate some of the electric power needed by the proposed project. The Hercules ITC project thus is not anticipated to require new or expanded electrical, natural gas, or telecommunication utility services for either of the two action alternatives. Extensions of these utilities will be made in accordance with their respective providers' rules and regulations on file with the CPUC at the time the applicant applies for utility services. Any relocation of existing utility facilities would be done at the City's expense. Impacts are anticipated to be less than significant and this topic is not discussed further.

4.13.4. Impacts and Mitigation

No-Action Alternative

Under the No-Action Alternative, the proposed project components detailed in the Project Description would not be implemented. For this reason, the No-Action Alternative would not result in the need for expanded utility infrastructure or service levels, result in a determination from a utility service provider about capacity for the proposed project, or create the need for an increase of public services. Utility infrastructure and service upgrades and expansion are anticipated to occur within the project study area regardless of whether the proposed project is implemented. Therefore, the Hercules ITC alternatives studied in detail would not result in potentially adverse direct or indirect utility impacts.

Action Alternatives

Underground Utilities

Impact UT-1: Construction activities have the potential to adversely impact existing underground utilities.

Alternatives 1 and 2. Underground utilities currently crossing the proposed Hercules ITC site include four optical fiber communication lines, and although not public utilities, two privately-held petroleum transport pipelines that would be disturbed by construction operations. These lines run parallel to the UPRR track along its northern side for the entire distance of the affected project area. The project construction plans include the relocation of these utility lines with minimal disruption of their services, and impacts would therefore be less than significant.

To avoid potential disturbances of any underground utilities that may be presently not known, the City and the project designers shall consult with public utility providers who have infrastructure in the immediate vicinity of the proposed Hercules ITC sites to determine the exact location and depth of utility lines. This consultation shall be completed prior to finalizing the project plans and before any ground disturbances occur.

Mitigation: No mitigation is required.

CEQA Determination: The project design plans include sufficient provisions for the identification and successful relocation of any underground utilities. As such, the construction of either Alternative 1 or 2 would result in less than significant impacts to underground utility systems.

Wastewater Services

Impact UT-2: The proposed project would not exceed wastewater treatment requirements from the applicable Regional Water Quality Control Board, nor would it require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities.

Alternative 1. Wastewater from the proposed project would be primarily the result of the use of public restrooms, cleaning facilities, and maintenance activities. The wastewater produced at the Hercules ITC would consist of typical domestic wastewater constituents and would not be extensive or unusual. The Hercules ITC would connect with existing wastewater lines, which would provide sufficient capacity in the overall system to serve the Hercules ITC and other development in the waterfront area. The washing of trains and transit vehicles would occur offsite at their respective maintenance facilities, and the wastewater would be collected and disposed of offsite and thus not affect the Hercules ITC output. It is not anticipated that Alternative 1 would require wastewater treatment beyond the capacity that is available from the Pinole/Hercules Wastewater Treatment Plant. As the current treatment capacity projections are based upon the proposed Alternative 1 site area being developed with residential and commercial uses, the Hercules ITC would generate considerably less wastewater than planned for by the JPA. The proposed project would not require wastewater treatment beyond the capacity or requirements of the Pinole/Hercules Wastewater Treatment Plant, nor would it require the construction of a new water or wastewater treatment facility. Impact would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 1 of the proposed project would not require wastewater treatment beyond the capacity or requirements of available wastewater treatment facilities and would not require the construction of new wastewater treatment facilities.

Alternative 2. This alternative would include a banquet / conference center that would generate a slightly greater amount of wastewater than Alternative 1. Wastewater would also be generated by the use of the restrooms, cleaning, and other building maintenance activities. The wastewater produced would consist of typical domestic wastewater constituents and would be collected by the same lines that currently serve the HB development to the south of the proposed project site.

Also similar to Alternative 1, this alternative would generate less wastewater than if the project site were developed with the current General Plan residential and commercial land use designations. As discussed above, the proposed project would not require wastewater treatment beyond the capacity or requirements of existing wastewater treatment facilities and would not require the construction of a new water or wastewater treatment facility. The impact associated with Alternative 2 would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 2 of the proposed project would not require wastewater treatment beyond the capacity or requirements of available wastewater treatment facilities and would not require the construction of new wastewater treatment facilities.

Stormwater Services

Impact UT-3: The proposed project would not require or result in the construction of new stormwater drainage facilities or the substantial expansion of existing facilities, the construction of which could cause significance environmental effects.

Alternative 1. Under Alternative 1, the proposed project would introduce pavement and structures that would create new impervious surfaces that would generate stormwater runoff. These areas would include the bus turnaround, the passenger drop-off area, the transit terminal entrance plaza, parking garage complex, and the rail platform. As such, the project design incorporates new drainage connections to the existing storm drain system. Stormwater runoff would then be collected in existing or improved drainages, then released to either percolate into the ground or drain into the Bay through existing drainage systems. Improvements to existing drainage facilities would be implemented through use of filtered drains or other measures, to ensure that the discharge of stormwater drainage into the Bay would not lead to degradation of water quality. Alternative 1 would therefore result in a less than significant impact.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 1 of the proposed project would not require or result in the construction of new storm water drainage facilities or the substantial expansion of existing facilities, resulting in a less-than-significant impact.

Alternative 2. Alternative 2 would also introduce pavement and structures that would create new impervious surfaces that would generate stormwater runoff. These areas would include the bus turnaround, the passenger drop-off area, the transit terminal entrance plaza, the banquet/conference facility and parking garage, and the rail platform. As such, the project design incorporates new drainage connections to the existing storm drain system. Stormwater runoff would then be collected in existing or improved drainages, then released to either percolate into the ground, or drain into the Bay through existing drainage systems. Improvements to existing drainage facilities would be implemented through use of filtered drains or other measures, to ensure that the discharge of stormwater drainage into the Bay would not lead to degradation of water quality. Alternative 2 would therefore result in a less than significant impact.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 1 of the proposed project would not require or result in the construction of new storm water drainage facilities or the substantial expansion of existing facilities, resulting in a less than significant impact.

Water Supply

Impact UT-4: The proposed project would have sufficient water supplies to serve the project from existing entitlements and resources.

Alternative 1. With implementation of the project, anticipated water supply necessary for the maintenance and operation of the Hercules ITC would be minimal. The maintenance of all trains and transit vehicles would take place at their respective off-site maintenance facilities. The proposed Hercules ITC would have a low water demand, as the facility would not include high water demand development, commercial, industrial, or residential uses. The Hercules ITC would require the use of water for the operation of restrooms, facility cleaning, and landscaping activities. The station building would be served by connecting to an existing water line under Bayfront Boulevard, which has sufficient capacity to serve the water demands of the Hercules ITC. No expansion of existing water distribution facilities would be required. As water demand for the Hercules ITC would be minimal, it is not anticipated to exceed the water entitlements for the project site. The impact would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 1 of the proposed project would have sufficient water supplies to serve the project from existing entitlements and resources, and impacts from this alternative would therefore be less than significant.

Alternative 2. Water demand by Alternative 2 of the proposed project would be slightly more than under Alternative 1, as it includes the proposed banquet/conference center. Water would be used in the kitchen for food preparation and clean up. Some water would be required for the occasional events to be held at the proposed banquet/conference center. Water would also be regularly used for the restrooms, facility cleaning, and landscaping activities. Similar to Alternative 1, the Hercules ITC's demand for water is expected to be minor compared to existing entitlements, and impact would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 2 of the proposed project would have sufficient water supplies to serve the project from existing entitlements and resources, and impact of this alternative would therefore be less than significant.

Solid Waste Services

Impact UT-5: The proposed project would comply with all federal, state, and local statutes and regulations related to solid waste. The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Alternative 1. Alternative 1 of the proposed Hercules ITC would generate some solid waste, generally in the form of refuse discarded by transit patrons and wastes produced by maintenance activities. The project is not anticipated to generate large quantities of solid waste, due to the nature of its purpose. Solid waste generated from the proposed Hercules ITC would be picked up and transported to a licensed landfill, consistent with City policies, and all federal, State, and local statutes, and regulations related to solid waste would be complied with. Transit patrons are not anticipated to remain at the Hercules ITC for any longer than they need to and consequently would not generate large quantities of solid waste on site. All solid waste generated by the Hercules ITC would be picked up and transported to a licensed landfill, consistent with City policies, and the project sponsors would comply with all federal, State, and local statutes and other regulations related to the disposal of solid waste. The solid waste generated by the proposed project is not anticipated to exceed any permitted landfill capacities, and impact would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 1 of the proposed project would comply with all federal, State, and local statutes and regulations related to solid waste. The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Impacts would be less than significant.

Alternative 2. Alternative 2 would generate slightly greater quantities of solid waste than Alternative 1, as it include the conference/banquet facilities. The operation of the conference/banquet facilities would contribute in generating slightly more solid waste to the quantities generated under this alternative. Operation of these facilities; however, would be occasional and for limited periods of time, resulting in relatively minor amounts of additional refuse. The total output of this alternative that would also be well within the permitted capacities of the landfills serving the project area. All solid waste generated by the Hercules ITC would be picked up and transported to a licensed landfill, consistent with City policies, and the project sponsor would comply with all federal, State, and local statutes and other regulations related to the disposal of solid waste, resulting in a less than significant impact for Alternative 2.

Mitigation: No mitigation is required.

CEQA Determination: Alternative 2 of the proposed project would comply with all federal, State, and local statutes and regulations related to solid waste. The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Impacts would be less than significant.

4.13.5. Cumulative Impacts and Mitigation

The Hercules ITC would not result in any cumulative adverse impacts to utilities in the project area.

CEQA Determination: Cumulative effects associated with utilities from other identified development projects are not considered significant.

4.14. PUBLIC SERVICES

This section discusses the potential impacts of the Hercules ITC alternatives on project area public services.

4.14.1. Methodology

The analysis in this section focuses on whether the implementation of the proposed project would impact existing public services (fire protection, police protection, public schools, and public libraries) within the vicinity of the proposed project site location.

Public services were analyzed to determine if implementation of the Hercules ITC alternatives would require additional public services or result in the disruption or deterioration of existing service levels. Public service staffing and resources were also evaluated against the size, complexity, and the future public service needs of the project. In this regard, the impact analysis combines the discussion of potential short-term construction impacts with long-term requirements of the Hercules ITC alternatives for each public service evaluated.

4.14.2. Significance Criteria

In accordance with the requirements of CEQA and NEPA and all applicable State and federal environmental laws, the proposed project would have a potentially adverse effect on the environment if it would result in the following:

- Degradation or relocation of existing public services facilities; or
- Substantial adverse physical or environmental impacts that affect service ratios, response times, or other performance objectives for any of the public services: fire protection, police protection, public schools, or public libraries.

4.14.3. Impacts and Mitigation

No-Action Alternative

Under the No-Action Alternative, the proposed Hercules ITC projects detailed in the Project Description would not be implemented. For this reason, the No-Action Alternative would not result in the need for expanded public services or service levels, nor result in a determination from a public service provider about insufficient capacity for the proposed project, or create the need for an increase of public services. New public service facilities, service upgrades, and expansions are anticipated to occur within the project study area regardless of whether the proposed project is implemented.

Action Alternatives

The potential impacts related to provision of public services are related primarily to site operations and general location, and would be essentially the same for both Action Alternatives 1 and 2. Therefore, the impacts anticipated to result from these alternatives are not addressed separately in this discussion.

Emergency Response

Impact PUB SVC-1: Construction traffic and other activities have the potential to adversely disrupt police and fire department emergency response times in the project area.

Alternatives 1 and 2. Underground utilities currently crossing the proposed Hercules ITC site include four optical fiber communication lines, and although not public utilities, two privately-held petroleum transport pipelines that would be disturbed by construction operations. These lines run parallel to the UPRR track along its northern side for the entire distance of the affected project area. The project construction plans include the relocation of these utility lines with minimal disruption of their services, and impact would therefore be less than significant.

To avoid potential disturbances of any underground utilities that may be presently not known, the City and the project designers shall consult with public utility providers who have infrastructure in the immediate vicinity of the proposed Hercules ITC site to determine the exact location and depth of utility lines. This consultation shall be completed prior to finalizing the project plans and before any ground disturbances occur.

Mitigation Measure PUB SVC-1: Prior to the start of construction activities, the City shall consult with the emergency service providers who have jurisdiction in the immediate vicinity of the Hercules ITC site to develop a Construction Emergency Response Access Plan that would identify appropriate routes and access points that would be available to police and fire services to use during the construction phase.

CEQA Determination: Implementation of the Construction Emergency Response Access Plan would serve to prevent potentially significant construction phase-related impacts to police and fire emergency response times to a less than significant level.

Fire Protection

Impact PUB SVC-2: The proposed Hercules ITC project is not anticipated to generate any substantial adverse impacts associated with the introduction of new or altered fire protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives.

Alternatives 1 and 2. Operation of the Hercules ITC project is anticipated to result in only a slightly increased demand for fire and emergency services because of the large numbers of people that are projected to utilize the Hercules ITC. According to the Rodeo-Hercules Fire Protection District, project operations would not negatively affect response times and would not significantly diminish the level of services for fire responders in the project area.

The RHFPD does not anticipate that operation of the proposed project would expose persons to fire hazards, lack of emergency access, or other fire safety issues for which the RHFPD is unable to provide protection on the portion of the site south of the UPRR tracks. The completed project would include a gated emergency at-grade crossing of the UPRR tracks in order to provide emergency vehicle access to Hercules Point and the areas north of the tracks. The RHFPD does not anticipate any need for additional personnel or facilities with the operation of the proposed project, and impacts would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternatives 1 and 2 would result in less than significant impacts to fire response service levels or RHFPD resources. The proposed project would not expose persons to fire hazards, lack of emergency access, or other fire safety issues for which the RHFPD is unable to provide protection.

Law Enforcement

Impact PUB SVC-3: No new police facilities would be required as a result of implementing the project. The Police Department would be able to maintain acceptable service ratios, response times, or other performance objectives, As such, construction or alteration of existing facilities would not be necessary, and impacts of the proposed project with respect to new or physically altered police protection facilities and services would be avoided.

Alternatives 1 and 2. Implementation of the proposed Hercules ITC project and the addition of employees and transit users associated with the proposed project would result in some increase in the potential need for police protection services. Alternative 2 proposes a retail building would be sited in the plaza near the Station Building and the retail building would provide space for a security office or police substation. The City Police Department (Department) estimates that the service calls for the Hercules ITC would be consistent with moderate to large groups of transit passengers arriving and departing throughout the day, along with a stable area resident population, and a large quantity of commuter vehicles parked in the area for multiple hours during working days. These calls would typically consist of minor offenses, such as traffic complaints, parking issues, loitering, and alcohol consumption, as well as more serious crimes such as vehicle burglaries and theft. The Department does not anticipate an increase in the incidents of crimes against persons or substantial reduction in response times as a result of project implementation (City of Hercules; Emergency Operations Division Letter from Bill Goswick to Nelson Oliva and Fred Deltorcho. Safety Concerns and Recommendations for the Transit/Ferry Terminals. June 14, 2008.).

It is anticipated that emergency response training for the Department personal would need to be expanded in order to more effectively patrol the new passenger train station, the transit/bus terminal, the parking facilities, and the surrounding area. Drills would be conducted, which would involve not only Department personnel, but other City employees, as well as the City Emergency Operations Center. As part of these operations, emergency evacuation routes would be determined, planned, and tested in simulated emergency drills to ensure their feasibility.

The Department is continually recruiting for additional police officers, and increased staffing. The Department has already planned for meeting the projected personnel needs of not only the proposed project, but other future developments in Hercules as well. It is anticipated that the established recruiting program would be able to provide for any increased demand for police services that may be needed for the Hercules ITC. No new police facilities would be required to serve the Hercules ITC. Therefore, impacts of the proposed project with respect to new or physically altered police protection facilities and services would be less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternatives 1 and 2 would not generate a significant increased demand for police services and would not require new or altered police facilities in order to serve the Hercules ITC. Impacts of the proposed project are therefore anticipated to be less than significant.

Public Schools

Impact PUB SVC-4: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered public school facilities in order to maintain acceptable service ratios or other performance objectives, the construction of which could cause significant environmental impacts.

Alternatives 1 and 2. No growth in population and development would occur that is not already anticipated and provided for by City planning authorities. The proposed project would not induce residential development that would potentially generate new student enrollment in the WCCUSD or other public school districts in the region. The proposed Hercules ITC project would not generate substantial growth in employment, as relatively few personnel would be required to perform daily operations and maintenance activities at the Hercules ITC. As such, it is not anticipated that project-related employment would attract the number of families with school-aged children to the area that would strain public school resources. It is likely that most of the limited employment generated by the Hercules ITC would be filled either by Hercules residents, or persons that would commute to work and not relocate to the area. Any new students associated with Hercules ITC employees would be accommodated in existing public school facilities and would not require the construction of new facilities, or the physical alteration of existing schools. The proposed project would therefore have less than significant impacts on public schools.

Mitigation: No mitigation is required.

CEQA Determination: Alternatives 1 and 2 would not generate a substantial population increase that would require new or physically altered public school facilities in order to serve the Hercules ITC employees. Impacts of the proposed project are therefore anticipated to be less than significant.

Public Libraries

Impact PUB SVC-5: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered public library facilities in order to maintain acceptable service ratios or other performance objectives, the construction of which could cause significant environmental impacts, nor increase the use of existing public library facilities such that substantial physical deterioration of the facilities would occur or be accelerated.

Alternatives 1 and 2. As discussed under Impact PUB SVC-4 above, the proposed project may indirectly add a minimal number of residents to the area. These new residents may use public library facilities throughout the area. The proposed project's minimal number of employees would not be of sufficient size to result in substantial adverse physical impacts associated with the provision of new or physically altered public library facilities in order to maintain acceptable

service ratios or other performance objectives, the construction of which could cause significant environmental impacts. Likewise, the very limited population growth anticipated to occur as a result of the project would result in an insignificant increase in library usage at the public libraries operated by the City and the Contra Costa County Library system and are not expected to result in substantial physical deterioration to the use of library facilities. Therefore, the project's impacts with respect to this criterion are considered less than significant.

Mitigation: No mitigation is required.

CEQA Determination: Alternatives 1 and 2 would not generate a substantial population increase that would require new or physically altered public library facilities in order to serve the Hercules ITC employees, or cause substantial or significant physical deterioration to occur or be accelerated from the use of library facilities. Impacts of the proposed project are therefore anticipated to be less than significant.

Impact PUB SVC-6: Cumulative impacts could occur on fire protection, enforcement services, public schools, and library facilities.

Alternatives 1 and 2. City-wide growth in combination with the approved development in the waterfront area could result in increased demand for public services in Hercules. The construction and operation of the Hercules ITC would generate a slightly increased demand for fire protection and law enforcement services. The majority of Hercules ITC users are expected to be residents of Hercules and the immediate surrounding area, and the use of the Hercules ITC by commuters during both the a.m. and p.m. daily commute period would not directly cause a significant increase in the City's overall population. The project thus would not lead to a change in response times and/or requirement for construction of new police or fire facilities, libraries, or schools.

Cumulative development in the project area could have a potentially adverse physical impact associated with the provision of new or physically altered public services and facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection or law enforcement services. With the proposed addition of residential and commercial development in the area, an increased demand for these services would result. This could result in potentially adverse impacts related to new building construction or expansion of service. However, the development of the Hercules ITC project would not represent a considerable contribution to the cumulative impact on fire or police protection services. No significant cumulative impacts to the public services or facilities that serve the area are expected.

Mitigation: No mitigation is required.

CEQA Determination: Cumulative impacts on public services and facilities would be within the capabilities of the existing providers. The cumulative impacts of the proposed project are therefore anticipated to be less than significant.

4.14.4. Cumulative Impacts and Mitigation

If the HB project is constructed at the same time as the proposed project, there could be cumulative impacts resulting from disruption of police and fire department emergency response times from both projects.

CEQA Determination: With implementation of **Mitigation Measure PUB SVC-1**, cumulative effects associated with public services from other identified development projects are not considered significant.