

DUMBARTON TRANSIT ORIENTED DEVELOPMENT
SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT
(STATE CLEARINGHOUSE No. 2010042012)

MAY 2011

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1 INTRODUCTION

This Draft Environmental Impact Report (EIR) analyzes the potential effects that may occur on the environment as a result of the adoption and implementation of the proposed Dumbarton Transit Oriented Development (TOD) Specific Plan (project). This document has been prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and its implementing guidelines (CEQA Guidelines) (California Code of Regulations [CCR] Title 14, Section 15000 et seq.).

The proposed project is part of a regional effort to reduce vehicle trips and greenhouse gas emissions, support transit and enhance the quality of life in the region. Although there would be substantial regional benefits to development like this, CEQA requires that the potential impacts be disclosed, with a conservative approach that does not take regional benefits into account. The intention of this Draft EIR is to inform decision makers, public agencies, and the general public about the proposed Dumbarton TOD Specific Plan and its potential effects on the environment. In addition, this Draft EIR identifies the possible measures that would mitigate or avoid the potentially significant environmental effects associated with the project, identifies significant unavoidable impacts associated with the project, and also identifies and evaluates feasible alternatives to the project.

CEQA identifies the public agency with the principal responsibility for carrying out or approving a project as the “lead agency.” The City of Newark (City) is the lead agency for the proposed Dumbarton TOD Specific Plan. The information contained within this Draft EIR will be reviewed and considered by the City prior to its action to approve, disapprove, or modify the proposed project.

1.1 PROJECT HISTORY AND OVERVIEW

In 1999, the City adopted the Newark Area Two Specific Plan, which included the project site. The Newark Area Two Specific Plan envisioned a campus of the Ohlone Community College surrounded by multi-level office and R&D buildings on the current project site. However, after adoption of that Specific Plan, the Community College located elsewhere, and no office or R&D buildings have been built. The 1999 Area Two Specific Plan land use designations for the project site are Public-Institutional and Research and Development.

It is the intent of the City, through the adoption of the proposed Dumbarton TOD Specific Plan, to provide a comprehensive, long-term plan that guides future development in concert with and in response to the needs of the marketplace. The proposed Dumbarton TOD Specific Plan would establish a comprehensive policy

and regulatory framework that provides the necessary elements to guide future development of the approximately 205-acre Specific Plan area. The proposed Specific Plan would establish the allowable land uses, development regulations, design guidelines, necessary infrastructure improvements, and an implementation plan to direct future development and redevelopment of the Dumbarton TOD Specific Plan area. Implementation of the proposed Specific Plan would allow a mix of residential, office, retail, public/quasi-public, and park and open space uses.

The proposed Specific Plan would require the following entitlements:

- ◆ General Plan Amendment
- ◆ Specific Plan Adoption
- ◆ Zoning Regulations

The implementing development-level proposals consistent with the Specific Plan would require the following entitlements:

- ◆ Subdivision Maps
- ◆ Use Permits
- ◆ Design Review

1.2 EIR SCOPE, ISSUES, CONCERNS

The scope of this Draft EIR was established by the City after considering comments from public agencies and the community regarding the project. No Initial Study was prepared for the proposed project since it was clear that an EIR would be prepared. The City published a Notice of Preparation (NOP) on March 31, 2010. The NOP was sent to responsible agencies and a list of persons known to be interested in the project. The NOP comment period extended from March 31 to April 30, 2010. Nine letters were received in response to the NOP. The NOP and written comments received from public agencies and interested parties are included in Appendix A (NOP).

Based on the scoping process, the issues addressed in this EIR are as follows:

- ◆ Aesthetics
- ◆ Air Quality
- ◆ Biological Resources
- ◆ Cultural Resources

- ◆ Greenhouse Gas Emissions
- ◆ Hazards and Hazardous Materials
- ◆ Hydrology, Drainage, and Water Quality
- ◆ Land Use and Planning
- ◆ Noise
- ◆ Population and Housing
- ◆ Public Services and Utilities
- ◆ Recreation
- ◆ Traffic

Mineral resources issues and agriculture/forest resources issues were excluded from the EIR through the scoping process because it was determined based on substantial evidence in the record that the project would have no impacts in these areas. A brief discussion of the issues addressed in the EIR and those excluded is included in Chapter 2 (Executive Summary).

This EIR has been prepared at the program-level under CEQA Guidelines Section 15168 to assess and document the environmental impacts of the Dumbarton TOD Specific Plan. Subsequent activities undertaken pursuant to the Specific Plan will be examined in the light of this EIR to determine whether any additional environmental document must be prepared (14 CCR 15168[c].) Under Government Code section 65457, any residential development project, including any subdivision or zoning change, that is undertaken to implement and is consistent with the Dumbarton TOD Specific Plan is exempt from further CEQA analysis, unless an event specified in Public Resources Code Section 21166 occurs, in which case a Supplemental EIR or other CEQA document may be required.

1.3 ENVIRONMENTAL REVIEW PROCESS

In accordance with CEQA, a good-faith effort has been made during the preparation of this Draft EIR to contact all affected agencies, organizations and persons who may have an interest in this project.

This Draft EIR, with an accompanying Notice of Completion (NOC), is being circulated to the State Clearinghouse, trustee agencies, responsible agencies, other government agencies and interested members of the public for a 45-day review period as required by CEQA. The review period for this Draft EIR is between May 18 and July 1, 2011. During this period, public agencies and members of the public may provide written comments on the analysis and content of the Draft EIR. In

reviewing a Draft EIR, readers should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and on ways in which the significant effects of the project might be avoided or mitigated.

Comments on the Draft EIR may be submitted in writing to:

Terrence Grindall, Community Development Director
Community Development Department
City of Newark
37101 Newark Boulevard
Newark, CA 94560
terrence.grindall@newark.org

Following the close of the public comment period, a Final Environmental Impact Report (FEIR) will be prepared to respond to all substantive comments related to environmental issues surrounding the project. The FEIR will be available prior to Planning Commission and City Council public hearings to consider this EIR and the project.

Once the City Council certifies the FEIR, the Council will also consider the project itself, which may be approved or denied. If the project is approved, the Council may require mitigation measures specified in this EIR as conditions of project approval. Alternatively, the Council could require other mitigation measures deemed to be effective mitigations for the identified impacts, or it could find that the mitigation measures cannot be feasibly implemented. For any identified significant impacts for which no mitigation measure is feasible, or where mitigation would not reduce the impact to a less than significant level, the Council will be required to adopt a finding that the impacts are considered acceptable because specific overriding considerations indicate that the project's benefits outweigh the impacts in question.

1.4 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- ◆ Chapter 1: Introduction provides an introduction and overview of the document.
- ◆ Chapter 2: Executive Summary provides a brief summary of the proposed actions and their consequences, including the significant environmental impacts from the proposed project, describes recommended mitigation

measures, indicates the level of significance of impacts before and after mitigation, and identifies alternatives that would reduce or avoid the significant impacts. The summary also identifies areas of controversy and issues to be resolved.

- ◆ Chapter 3: Project Description describes the proposed project in detail, including the project location, surrounding uses, project characteristics, objectives, and required and/or desired permits and approvals.
- ◆ Chapter 4: Environmental Analysis provides an analysis of the potential environmental impacts of the proposed project and presents recommended mitigation measures to reduce their significance.
- ◆ Chapter 5: Cumulative and Growth Inducing Impacts describes the cumulative and growth-inducing impacts resulting from implementation of the project.
- ◆ Chapter 6: Alternatives considers three alternatives to the proposed project, including the CEQA-required “No Project Alternative.”
- ◆ Chapter 7: Other CEQA Considerations briefly explains the relationship of the project to other environmental issues included under CEQA’s purview.
- ◆ Chapter 8: Report Preparation Personnel identifies the preparers of the Draft EIR.
- ◆ Chapter 9: References lists sources of information used in the preparation of the EIR.
- ◆ Appendices include the NOP for the EIR, comments received in response to the NOP and the City’s scoping activities, and background technical studies.

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2 EXECUTIVE SUMMARY

2.1 INTRODUCTION

This summary presents an overview of the analysis contained in Chapter 4: Environmental Analysis. The California Environmental Quality Act (CEQA) requires that this chapter summarize the following: 1) areas of controversy; 2) significant impacts; 3) unavoidable significant impacts; 4) implementation of mitigation measures; and, 5) alternatives to the project.

2.2 PROJECT UNDER REVIEW

The proposed Dumbarton Transit Oriented Development (TOD) Specific Plan (project) would provide a comprehensive policy and regulatory framework to guide future development and redevelopment within the approximately 205-acre Dumbarton TOD Specific Plan area. The proposed Specific Plan would establish the allowable land uses, development regulations, design guidelines, necessary infrastructure improvements, and an implementation plan to direct future development and redevelopment of the Dumbarton TOD Specific Plan area. Implementation of the proposed Specific Plan would allow a mix of residential, office, retail, public/quasi-public, and park and open space uses to develop in close proximity to planned regional public transit.

Table 2-1 (Land Use Summary) provides a summary of the proposed land uses and the maximum development that would be permitted under the Dumbarton TOD Specific Plan at project buildout.

TABLE 2-1 LAND USE SUMMARY

Land Use/Zoning Designation	Total
Maximum Residential Units	2,500 units
Low Density Residential (LDR)	16.8 acres
Medium Density Residential (MDR)	67.9 acres
Medium High Density Residential (MHDR)	59.3 acres
High Density Residential (HDR)	5.0 acres
Retail (R)	5.0 acres
Commercial (C)	7.2 acres

TABLE 2-1 **LAND USE SUMMARY**

Transit Station (TS)	6.1 acres (including parking areas)
Parks and Open Space (POS)	16.3 acres (including parkland provided through the City's Parks Ordinance)
Miscellaneous (M)	23.1 acres
TOTAL	206.7 acres

Source: Dumbarton TOD Specific Plan, March 2011

Note : Acreages are rounded to the nearest tenth of an acre and subject to change based upon final engineering.

The proposed Specific Plan would require the following entitlements:

- ◆ General Plan Amendment
- ◆ Specific Plan Adoption
- ◆ Zoning Ordinance Amendments

The implementing development-level proposals consistent with the Specific Plan would require the following entitlements:

- ◆ Subdivision Maps
- ◆ Use Permits (only if required by Zoning Ordinance)

The project has the following objectives:

- ◆ Implement the City's objectives and long-term programmatic planning for the Specific Plan area as set forth in the General Plan and the 1999 Specific Plan;
- ◆ Establish a zoning-level framework to guide future development projects within the Specific Plan consistent with the General Plan;
- ◆ Implement strategies to ensure success for the Specific Plan area developers, homebuilders, and the City of Newark;
- ◆ Guide the development of a sustainable community that includes a variety of residential, retail, employment generating, and park and recreational opportunities in close proximity to each other;
- ◆ Provide for a mix of housing opportunities at a range of densities from single-family detached to multi-family housing to meet the varied housing needs of the community;

- ◆ Effectuate the City's General Plan goals, policies, and programs that require a mix of housing types at a range of densities and for a range of income levels, including but not limited to the following:
 - “Provide housing opportunities for households with a wide range of incomes.” (Housing Element Goal 2 (Housing Element, p. 62.))
 - “Provide zoning districts that provide standards for multi-use development as well as for unique combinations of similar uses, such as single- with multi-family uses.” (Land Use Element Goal 3, Program 9 (General Plan, p. 3-8).)
 - “Maintain a desirable quality of life in the community through preservation of a small town, neighborhood atmosphere and the promotion of balanced land uses.” (Land Use Element Goal 1 (General Plan, p. 3-5).)
- ◆ Create compact, connected, safe, and walkable neighborhoods with convenient access to a future, planned transit station along the DRC, to existing employment centers, including Silicon Valley, to parks and open space, and to commercial services;
- ◆ Provide a sufficient number of residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station if and when the DRC Project is implemented or alternative transit service is established;
- ◆ Encourage the development of a predominantly vacant area of land for its highest and best use;
- ◆ Guide the development of a new community with a distinct identity, architectural style and sense of place while being compatible with existing neighborhoods; and
- ◆ Create a mix of land uses that will contribute to the local economy, employment base and fiscal health of the City.

2.3 AREAS OF CONTROVERSY

The scoping period for this Draft EIR was March 31 to April 30, 2010, during which interested agencies and the public were requested to submit comments about the proposed project. Nine letters were received in response to the Notice of Preparation (NOP). The NOP and written comments received from public agencies and interested parties are included in Appendix A (NOP). This EIR assesses all relevant scoping comments regarding the project. There are no other known areas of particular controversy.

2.4 SIGNIFICANT IMPACTS

Under CEQA, a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance.

The following summarizes the proposed project's *potentially significant* impacts *prior* to implementation of mitigation measures:

- ◆ Aesthetics – No potentially significant aesthetic impacts were identified.
- ◆ Air Quality – Construction of future development allowed under the Dumbarton TOD Specific Plan would increase the short-term emission of air pollutants that could exceed established air quality standards.
- ◆ Biological Resources – Implementation of the Dumbarton TOD Specific Plan could result in the loss of habitat for several special status plant and animal species; disturbance to special status animal species; or, the death of individual adult and young special status animal species. In addition, future development within the Specific Plan area would likely result in impacts to waters of the State/U.S. Protected trees could also be removed as a result of future development activities within the Specific Plan area. Finally, implementation of individual projects within the Specific Plan area would contribute to a cumulative loss of plant communities/wildlife habitats (ruderal grassland, areas of wetland vegetation, and “waters of the US and State”), common and special status plant and animal species, and protected trees.
- ◆ Cultural Resources – Construction activities associated with future development allowed by the Dumbarton TOD Specific Plan area could damage or destroy potentially significant unknown cultural resources, including historic, archaeological, or paleontological resources, and/or human remains. In addition, the project could cumulatively contribute to the damage or destruction of cultural resources.
- ◆ Cultural Resources – Construction activities associated with future development allowed by the Dumbarton TOD Specific Plan area could damage or destroy potentially significant unknown cultural resources, including historic, archaeological, or paleontological resources, and/or human remains. In addition, the project could cumulatively contribute to the damage or destruction of cultural resources.
- ◆ Geology and Soils – Future development within the Specific Plan area could experience structural damage from seismic-related ground shaking and

secondary events, such as liquefaction or landslides and pose a threat to the safety of people present within the area at the time. In addition, soils within the Specific Plan area could result in subsidence or differential settlement, or be subject to expansion and contraction. These conditions could create structural damage. Construction activities associated with future development have the potential to increase soil erosion.

- ◆ Greenhouse Gas Emissions – The project could generate a significant amount of greenhouse gas emissions without the incorporation of certain design features to mitigate such emissions.
- ◆ Hazards and Hazardous Materials – The public and/or environment could accidentally be exposed to hazardous materials during construction and operation of future development allowed by the Specific Plan.
- ◆ Hydrology, Drainage, and Water Quality – Proposed drainage could create the potential for hydromodification and result in offsite erosion. In addition, stormwater runoff associated with future development projects could exceed the conveyance and capacity of proposed receiving facilities or the receiving facilities may not be in adequate condition to receive stormwater runoff from proposed drainage sheds and on or offsite flooding could occur. Future storm drainage lines may not have sufficient room to cross over the Hetch Hetchy Aqueduct. Cumulative impacts on hydrology and water quality would result from incremental changes that degrade water quality or contribute to drainage and flooding problems within and immediately adjacent to the Specific Plan area and downstream at San Francisco Bay outfalls.
- ◆ Land Use and Planning – No potentially significant land use and planning impacts were identified.
- ◆ Noise – Construction activities associated with future development facilitated by the Specific Plan would expose adjacent sensitive receptors to sporadic high noise and vibration levels. Additionally, future residents would also be exposed to sporadic high noise and vibration levels as the Specific Plan area builds out. Structures could also be damaged as a result of construction-related vibration. Future residential uses adjacent to the DRC project could experience train noise in excess of standards established for residential uses. Finally, traffic from the proposed project would increase noise levels along surrounding roadways and would contribute to cumulative increases in noise.
- ◆ Population and Housing – No potentially significant population and housing impacts were identified.
- ◆ Public Services and Utilities – The proposed project could result in potential impacts to wastewater service and facilities. The existing sewer pipelines may not be sized to accommodate buildout of the Dumbarton TOD Specific Plan

area. In addition, dual 33-inch sewage force mains under the Specific Plan area would likely require structural upgrades or relocation as a result of future development proposed by the Specific Plan. A 14-inch gravity sewer line in Enterprise Drive may require structural upgrades as a result of future development associated with the Specific Plan.

- ◆ Recreation – The construction of proposed recreational facilities could result in temporary increases in air emissions, dust, noise, and erosion from a variety of construction activities, including excavation, grading, vehicle travel on unpaved surfaces, and vehicle and equipment exhaust.
- ◆ Traffic – The addition of project traffic to the existing roadway network would cause operations to degrade from an acceptable Level of Service (LOS) (i.e. LOS C or better) to unacceptable LOS D, E or F, or it would exacerbate unacceptable level of operations by increasing the average intersection delay by four or more seconds at the following four intersections:

1. Willow Street/Thornton Avenue,
2. Cedar Boulevard/Thornton Avenue,
3. Willow Street/Enterprise Drive, and
4. Cherry Street/Mowry Avenue.

In addition, the Willow Street/Enterprise Drive intersection also meets peak-hour signal warrants during the AM and PM peak hours. No feasible mitigation is available for the intersection of Cedar Boulevard/Thornton Avenue and this impact would be significant and unavoidable.

The project's increased demand for transit service may not be met by Dumbarton Rail Corridor (DRC) project, as the future of the DRC project is uncertain as of the publication of this Draft EIR and improved bus service to the Specific Plan area cannot be guaranteed, as it is under Alameda County (AC) Transit's jurisdiction. Thus, this impact would be significant and unavoidable.

The addition of project traffic to future year 2035 (cumulative) conditions would cause intersection LOS to degrade from acceptable to unacceptable or exacerbate operations by increasing the average delay by four or more seconds at the following ten intersections:

1. SR-84 EB Ramps/Thornton Avenue,
2. Gateway Boulevard/Thornton Avenue,

3. Willow Street/Thornton Avenue,
4. Cherry Street/Thornton Avenue,
5. Newark Boulevard/Thornton Avenue,
6. Cedar Boulevard/Thornton Avenue,
7. Willow Street/Enterprise Drive,
8. Cherry Street/Central Avenue,
9. Cherry Street/Mowry Avenue, and
10. I-880 NB Ramps/Mowry Avenue.

No feasible mitigation is possible at five of these intersections (SR-84 Eastbound Ramps/Thornton Ave, Cherry St/Thornton Ave, Newark Blvd/Thornton Ave, Cedar Blvd/Thornton Ave, and Cherry St/Central Ave) and impacts would be significant and unavoidable. The Willow Street/Enterprise Drive intersection also meets peak-hour signal warrants during the AM and PM peak hours.

The addition of project traffic to future year 2035 conditions would degrade operations on the following five roadway segments:

1. I-880, from SR 84 Eastbound to Thornton Avenue;
2. I-880, from Mowry Avenue to Stevenson Boulevard;
3. Thornton Avenue, from Willow Street to Spruce Street;
4. Thornton Avenue, from Spruce Street to Cherry Street; and,
5. Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps.

Due to the number of affected properties and financial implications, along with the fact that the project cannot legally be conditioned upon the construction of improvements over land over which neither the applicant or the City has control, roadway segment impacts are considered significant and unavoidable. Mitigation measure 4.14-8 would require project applicants to pay all transportation-related fees in accordance with the latest adopted fee schedule at the time permits are sought. However, since the fee programs would not fully fund all the mitigation necessary, the impact to regional roadway segments is considered significant and unavoidable.

As shown in Table 2-1, all but four of the significant impacts in these areas would be reduced to a less than significant level if the mitigation measures recommended in this report are implemented. These impacts, which are all traffic impacts, are discussed below in Section 2.6: Unavoidable Significant Impacts.

2.5 MITIGATION MEASURES

This Draft EIR suggests mitigation measures that would reduce the impacts identified above to less than significant levels, as summarized in Table 2-1 at the end of this chapter. The mitigation measures in this Draft EIR will form the basis of a mitigation monitoring and reporting program to be implemented in accordance with State law.

2.6 UNAVOIDABLE SIGNIFICANT IMPACTS

The proposed project would have four significant and unavoidable impacts related to traffic.

- ◆ The addition of project traffic to existing conditions would cause the intersection LOS at Cedar Boulevard/Thornton Ave to degrade from acceptable to unacceptable during the PM peak hour and exacerbate operations by increasing the average delay by four or more seconds during the AM peak hour.
- ◆ The project's increased demand for transit service may not be met by Dumbarton Rail Corridor (DRC) project, as the future of the DRC project is uncertain as of the publication of this Draft EIR and improved bus service to the Specific Plan area cannot be guaranteed, as it is under Alameda County (AC) Transit's jurisdiction.
- ◆ The addition of project traffic to future year 2035 conditions would cause intersection LOS to degrade from acceptable to unacceptable or exacerbate operations by increasing the average delay by four or more seconds at the following five intersections: SR-84 Eastbound Ramps/Thornton Ave, Cherry St/Thornton Ave, Newark Blvd/Thornton Ave, Cedar Blvd/Thornton Ave, and Cherry St/Central Ave.
- ◆ The addition of project traffic to future year 2035 conditions would degrade operations on the following five roadway segments:
 1. I-880, from SR 84 Eastbound to Thornton Avenue;
 2. I-880, from Mowry Avenue to Stevenson Boulevard;
 3. Thornton Avenue, from Willow Street to Spruce Street;
 4. Thornton Avenue, from Spruce Street to Cherry Street; and,
 5. Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps.

2.7 ALTERNATIVES TO THE PROJECT

This Draft EIR analyzes three alternatives to the proposed project.

2.7.1 ALTERNATIVE 1: NO PROJECT/NO BUILD (STATUS QUO)

Under the No Project/No Build (Status Quo) Alternative (Alternative 1), the development and redevelopment which would be established by the Specific Plan, namely, a mix of residential, office, retail, public/quasi-public, and park and open space uses would not occur. The General Plan would not be amended, the Dumbarton TOD Specific Plan would not be adopted, and the site would not be rezoned. The zoning designations for the land comprising the Specific Plan area would remain a combination of High Technology Park District, Limited Industrial District and General Industrial District. Therefore, under Alternative 1, there would be no immediate physical or operational changes within the Specific Plan area and, thus, the existing conditions would remain unchanged. None of the Project Objectives associated with the Specific Plan would be achieved by Alternative 1, including the creation of a mix of housing (as set forth in the General Plan) and employment opportunities, all within walking distance of the future, planned DRC transit station.

2.7.2 ALTERNATIVE 2: HIGH DENSITY RESIDENTIAL

Under the High Density Residential Alternative (Alternative 2), development would be concentrated around the space provided for the future DRC transit station. The mix of residential, office, retail, public/quasi-public, and park and open space uses would remain the same, along with the maximum of 2,500 residential units. However, housing would consist of high density (60 units/acre) development on approximately 42 acres, rather than a variety of residential housing types on approximately 147.2 acres. The acreage proposed for office, retail, and public/quasi-public uses would remain the same with approximately 35,000 square feet of retail use and 195,000 square feet of office use. Under Alternative 2, the amount of park and open space uses would increase from 16.31 acres to 121.5 acres. Thus, substantially less area of the Specific Plan area would be developed with housing; however, the same number of units would be construction.

This alternative assumes that there would be a transfer of development rights for those properties that would provide additional open space and parks.

2.7.3 ALTERNATIVE 3: MEDIUM HIGH DENSITY RESIDENTIAL

Under the Medium High Density Residential Alternative (Alternative 3), residential development would be concentrated away from sensitive biological resources. The mix of residential, office, retail, public/quasi-public, and park and open space uses would remain the same, along with the maximum of 2,500 residential units. However, housing types would consist of medium high density (30 units/acre) development on approximately 83 acres, rather than a variety of residential types on approximately 147.2 acres. The acreage proposed for office, retail, and public/quasi-public uses would remain the same and approximately 35,000 square feet of retail use and 195,000 square feet office use would be developed.

Under Alternative 3, the remainder of the Specific Plan area (not developed for residential, office and retail uses) would be rezoned from the current industrial/R&D/office zoning to park and open space; the amount of park and protected open space uses would therefore increase from 16.31 acres to approximately 80.5 acres. Thus, substantially less of the Specific Plan area would be developed with housing.

This alternative assumes that there would be a transfer of development rights for those properties that would provide additional open space and parks.

2.7.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives. Alternative 1: No Project/No Build would be the environmentally superior alternative as the significant and unavoidable impacts related to transportation and circulation, as well as impacts associated with air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hydrology, drainage and water quality, noise, and public services and utilities would be avoided. Among the other alternatives, Alternative 2: High Density Residential and Alternative 3 Medium High Density Residential would equally be considered the environmentally superior alternatives, as both alternatives would reduce impacts related to: aesthetics, air quality, biological resources, cultural resources, greenhouse gas emissions, hydrology, drainage, and water quality, public services and utilities, population and housing, recreation, and noise. Neither of the two alternatives are anticipated to entirely eliminate the significant and unavoidable

transportation impacts and neither alternative would achieve several of the Project Objectives of the proposed project while creating similar or increased impacts in areas of aesthetics, geology and soils, hazards and hazardous materials, land use and planning and traffic.

The proposed project would achieve each of the Project Objectives while creating similar or decreased impacts as compared to all of the Project Alternatives considered herein, with the exception of Alternative 1, assuming no development occurs under existing zoning.

2.8 SUMMARY TABLE

Table 2-2 (Summary of Impacts and Mitigation), which begins on the following page, provides a summary of the potentially significant impacts identified in this EIR for the proposed project, the level of significance before mitigation, proposed mitigation measures, and the level of significance after mitigation.

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TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<i>Aesthetics</i>			
Impact 4.1-1: The proposed project would alter the existing visual character of the Specific Plan area from primarily vacant disturbed land to urban development, which would change existing views to and from the surrounding area.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.1-2: The proposed project would alter the existing visual character of the Specific Plan area, but would not degrade scenic resources within a State scenic highway or impact a scenic vista.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.1-3: The proposed Specific Plan would introduce new sources of light and glare.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.1-4: Future development of the project area allowed by the Dumbarton TOD Specific Plan could have a cumulatively considerable contribution to the degradation of visual character and contribute to increased light and glare.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
<i>Air Quality</i>			
Impact 4.2-1: Short-term construction activities associated with the proposed project could result in significant air pollutant emissions.	Potentially Significant Impact	Mitigation Measure 4.2-1a and Mitigation Measure 4.2-1b would require that dust control measures are implemented during construction activities prior to issuance of any Grading Permit.	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-2: Long-term operation of the proposed project would not result in significant air pollutant emissions.	Potentially Significant Impact	Mitigation Measure 4.2-2. Prior to building permit issuance, the project applicant shall demonstrate to the City of Newark Community Development Director that emissions from the Dumbarton Transit Station would not exceed BAAQMD health risk criteria at the high/mixed-use residential, medium/high density residential, medium density residential parcels located within 1,000 feet. If health risks are determined for any sensitive receptors located within 1,000 feet of the Dumbarton Transit Station, the project applicant shall demonstrate that a filtered air supply system is installed in residential units, that air intakes are located away from the freeway and that the applicant implements a plan to ensure on-going maintenance of the ventilation and filtration systems.	Less Than Significant Impact
Impact 4.2-3: Development associated with the proposed project would be consistent with regional plans.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.2-4: Implementation of the proposed project and related cumulative projects would not result in significant air quality impacts.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
<i>Biological Resources</i>			
4.3-1: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on the salt marsh harvest mouse.		Mitigation Measure 4.3-1: In order to avoid potentially impacting the salt marsh harvest mouse, prior to any site grading or development, a federal and state permitted salt marsh harvest mouse biologist shall conduct a “Habitat Assessment” to determine if the parcel where work is proposed provides suitable habitat for the salt marsh harvest mouse. The exception would be the Torian property where this would be unnecessary because it has already been studied. If a qualified, CDFG and USFWS permitted salt marsh harvest mouse biologist renders a conclusion that no impacts to the salt marsh harvest mouse would occur from development of the project site, the standards of care dictated by CEQA will be met and no further action shall be warranted. However, if the permitted biologist believes the project could impact the salt marsh harvest mouse or if the biologist that prepares the assessment does not hold current permits from CDFG and USFWS that allow work with the	

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>salt marsh harvest mouse, then the Habitat Assessment prepared for the project site parcels would need to be submitted to USFWS and CDFG for their review and comment. If the non-permitted biologist determines that habitat conditions are not suitable for the salt marsh harvest mouse, and the USFWS and CDFG (the regulatory agencies with jurisdictional authority over this listed species) concur with these findings in writing via a letter or email, then no further regard for the salt marsh harvest mouse would be necessary.</p> <p>However, if a permitted biologist determines that the project site's habitat conditions are suitable for the salt marsh harvest mouse, and the project applicant wishes to pursue development of the parcel, the Habitat Assessment shall be submitted to the USFWS and CDFG and these agencies will be contacted to determine if they will allow a live-trapping study on the parcel to determine this mouse's presence or absence.</p> <p>In addition to implementation of preconstruction measures, it shall be necessary to preserve/acquire suitable habitat for the salt marsh harvest mouse at a minimum 1:1 mitigation ratio.</p> <p>Preconstruction measures shall be implemented if a permitted biologist determines that suitable habitat is present and the USFWS and CDFG concur with the determination and do not allow live trapping to determine the mouse's presence/absence, but require vegetation stripping to remove suitable habitat conditions.</p>	

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Impact 4.3-2: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on nesting raptors.</p>	<p>Potentially Significant Impact</p>	<p>Mitigation Measure 4.3-2: In order to avoid impacts on nesting raptors, a nesting survey shall be conducted on individual project site parcels prior to commencing with earth-moving or construction work if this work would occur during raptor nesting season.</p> <p>If nesting raptors are identified during the surveys, orange construction fence shall be installed to establish a 300-foot radius around the nest unless a qualified biologist determines that a lesser distance will adequately protect the nest (refer to discussion below for more detail).</p> <p>If the buffer is reduced, the qualified raptor biologist shall remain onsite to monitor the raptors' behavior during heavy construction in order to ensure that the reduced buffer doesn't result in take of eggs or nestlings. No construction or earth-moving activity shall occur within the established buffer until it is determined by a qualified raptor biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 1. This date may be earlier or later, and would have to be determined by a qualified raptor biologist. If a qualified biologist is not hired to monitor the nesting raptors then the full 300-foot buffers shall be maintained in place from February 1 through the month of August. The buffer may be removed and work may proceed as otherwise planned within the buffer on September 1.</p>	<p>Less Than Significant Impact</p>

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.3-3: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on the western burrowing owl.	Potentially Significant Impact	<p>Mitigation Measure 4.3-3: Western burrowing owl surveys shall be conducted by a qualified western burrowing owl biologist 90 days prior to construction of any project within the project site and again 30 days prior to construction of a project to ensure there are no impacts on burrowing owls in accordance with the methodologies prescribed by CDFG in their 1995 Staff Report on Burrowing Owl Mitigation, which are more likely to be accepted by CDFG. If burrowing owls are detected on the site during the breeding season (peak of the breeding season is April 15 through July 15), and appear to be engaged in nesting behavior, a fenced 250-foot buffer shall be required between the nest site(s) (i.e., the active burrow(s)) and any earth-moving activity or other disturbance in the project area. This 250-foot buffer could be decreased to 160 feet once it is determined by a qualified burrowing owl biologist that the young have fledged (that is, left the nest). Typically, the young fledge by August 31. This date may be earlier than August 31, or later, and would have to be determined by a qualified burrowing owl biologist. If burrowing owls were found on the project site, a qualified biologist shall delineate the extent of burrowing owl habitat on the site and prepare a Mitigation Plan in consultation with CDFG for review and approval by the City that shall identify the mitigation site and any activities proposed to enhance the site.</p> <p>Monitoring and management of any lands identified for mitigation purposes shall be the responsibility of the applicant for at least five years. An annual report shall be prepared for submittal to CDFG and the City by December 31 of each monitoring year. Contingency measures for any anticipated problems should be identified in the plan.</p>	Less Than Significant Impact
Impact 4.3-4: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on the tricolored blackbird, saltmarsh common yellowthroat, and other nesting passerine birds.	Potentially Significant Impact	Mitigation Measure 4.3-4: In order to avoid impacts on nesting passerines, a nesting survey shall be conducted on individual project site parcels and within 100 feet of the parcel being developed prior to commencing initial earth-moving or construction work on that parcel if this work would occur during the passerine nesting season, that is, between March 1 and September 1. The nesting surveys shall	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>be completed approximately 15 days prior to commencing work. If special-status birds are identified nesting on or near the project site, a 100-foot radius around all identified active nests shall be demarcated with orange construction fencing to establish a non-disturbance buffer. If an active nest is found offsite, the intersecting portion of the buffer that is onsite shall be fenced. No construction or earth-moving activity shall occur within this 100-foot staked buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones.</p> <p>If common (that is, not special-status) birds, for example, red-winged blackbird, are identified nesting on or adjacent to the project site, a non-disturbance buffer of 75 feet shall be established or as otherwise prescribed by a qualified ornithologist. The buffer shall be demarcated with orange construction fencing. Disturbance around an active nest shall be postponed until it is determined by the qualified wildlife biologist that the young have fledged and have attained sufficient flight skills to leave the area.</p> <p>Typically, most birds in the region of the project site are expected to complete nesting by August 1. However, in the region many species can complete nesting by the end of June or in early to mid-July. Regardless, nesting buffers shall be maintained until August 1 unless a qualified wildlife biologist determines that young have fledged and are independent of their nests at an earlier date. If buffers are removed prior to August 1st, the biologist conducting the nesting surveys shall prepare a report that provides details about the nesting outcome and the removal of buffers. This report shall be submitted to the City project planner prior to the time that buffers are removed if the date is before August 1.</p>	

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Impact 4.3-5: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on special-status plant species.</p>	<p>Potentially Significant Impact</p>	<p>Mitigation Measure 4.3-5: Prior to City approval of any specific development, special-status plant surveys shall be conducted in appropriate habitats during the appropriate period in which the species are most identifiable in compliance with all CDFG (2000), USFWS (1996), and CNPS (2001) published survey guidelines. Project construction shall not be initiated until all special-status plant surveys are completed and subsequent mitigation, if necessary, is implemented.</p> <p>If special-status plant species are found during surveys, those individuals or populations shall be avoided to the maximum degree possible. If avoidance is not possible while otherwise obtaining the project's objectives, then other suitable measures and mitigation shall be developed in consultation with the agencies that are responsible for protection of that plant species based on its protection status.</p>	<p>Less Than Significant Impact</p>

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.3-6: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on wetlands and waters of the State/U.S.	Potentially Significant Impact	<p>Mitigation Measure 4.3-6: Wetland mitigation shall, to the extent not already completed, require a wetland delineation conducted according to the 1987 USACE Wetland Delineation Manual (U.S. Army Corps of Engineers 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Coast Region (Corps 2008) prior to City approval of any specific development proposal. This delineation shall be submitted to the USACE for verification. Once that map is “verified,” the full extent of waters of the U.S./State would be known and the extent of impacts on regulated areas ascertained.</p> <p>Authorization from the Corps and the RWQCB (for example, a Nationwide Permit and a Certification of Water Quality) shall be obtained as necessary/required by these agencies prior to filling any waters of the U.S./State on the project site.</p> <p>As approved by the USACE and the RWQCB, the project sponsor may purchase mitigation credits from an approved mitigation bank or an approved in-lieu fee mitigation entity at a minimum 1:1 ratio. As an alternative to the purchase of credits in a mitigation bank, wetlands may be created onsite and, if so, shall have an equal or higher functional value than those wetlands affected by the project (known as in-kind replacement).</p> <p>Impacts shall also be minimized by the use of Best Management Practices (BMPs) to protect preserved waters of the U.S./State and to ensure that water quality standards are not compromised in preserved wetlands and other waters within the watershed.</p>	Less Than Significant Impact
Impact 4.3-7: Future development of the project site allowed by the Dumbarton TOD Specific Plan would have a less than significant impact on wildlife corridors.	Less Than Significant Impact	No mitigation measures required.	Less Than Significant Impact
Impact 4.3-8: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a	Potentially Significant Impact	Mitigation Measure 4.3-8: A tree permit shall be obtained from the City prior to the removal of any tree protected by City ordinance on project site parcels. To offset impacts	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
potentially significant adverse impact on protected trees.		<p>resulting from the removal of these trees, replacement trees shall be planted in designated open space areas on the subject parcel. Tree replacement shall be at a 1:1 ratio (that is, for each tree removed, one tree shall be planted as a replacement). Replacement trees shall be native California species that are native to the Newark area.</p> <p>A Tree Management Plan shall be prepared for any project on any project site parcel where tree removal occurs. Preparation of this plan and subsequent planting and monitoring shall be a condition of project approval and shall be tied to a security bond or cash deposit posted by the developer with the City to pay for any remedial work that might need to occur, if the prior effort fails.</p>	
Impact 4.3-9: Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a cumulatively considerable contribution to the loss of vegetation and wildlife resources.	Potentially Significant Impact	Implement Mitigation Measures 4.3-1 through 4.3-8.	Less Than Significant Impact
<i>Cultural Resources</i>			
Impact 4.4-1: Project implementation may cause a substantial adverse change to an unknown historical or archaeological resource, or result in the damage or destruction of unknown paleontological resources or human remains.	Potentially Significant Impact	<p>Mitigation Measure 4.4-1a. Prior to the issuance of grading permits for future development allowed within the Dumbarton TOD Specific Plan area, project sponsors shall retain qualified archaeologists meeting the Secretary of the Interior's Professional Qualification Standards to train the construction crew on the mechanisms used to identify cultural resources and to caution them on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts or human remains from the project sites.</p> <p>If subsurface deposits believed to be cultural or human in origin are discovered during the construction of future development projects within the Dumbarton TOD Specific Plan area, then all work shall halt within a 200-foot radius of the discovery and they shall be evaluated by a professional archaeologist. If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project sponsor shall</p>	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.4-2: Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable cultural resource impacts.	Potentially Significant Impact	<p>arrange for either: 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, data recovery as mitigation.</p>	Less Than Significant Impact
		<p>If human remains of any kind are found during construction activities, all activities shall cease immediately and the Alameda County Coroner shall be notified as required by State law (Section 7050.5 of the Health and Safety Code). If the coroner determines the remains to be of Native American origin, he or she shall notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the most likely descendant(s) (MLD) to be consulted regarding treatment and/or reburial of the remains.</p>	
		<p>Mitigation Measure 4.4-1b. Prior to approval of Tentative Subdivision Maps for any development within the Dumbarton TOD Specific Plan area that would directly affect any existing buildings or structures or the Union Pacific Railroad corridor, or is proposed within 100 meters (328 feet) of any existing buildings or structures or the Union Pacific Railroad corridor, the resource shall be evaluated for inclusion in the National Register by a qualified professional archaeologist familiar with the architecture and history of Alameda County.</p> <p>If the building or structure is considered eligible for inclusion in the National Register, then the project sponsor shall submit a study prepared by a qualified historian or architectural historian to determine whether the proposed project would materially alter in an adverse manner those physical characteristics of the known historical resource that conveys its historical significance.</p>	
<i>Geology and Soils</i>	Potentially Significant Impact	Mitigation Measure 4.5-1: Future developers within the	Less Than Significant Impact
Impact 4.5-1: The proposed project			

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
could expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death as a result of seismic-related ground shaking, liquefaction, or landslides.	Significant Impact	Specific Plan area shall have a design-level geotechnical engineering investigation performed for their individual property or properties prior to its (their) development. The mitigation measures specified by the design-level geotechnical engineering investigations shall become conditions to the issuance of grading permits for such individual property.	
Impact 4.5-2: Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in substantial soil erosion or the loss of topsoil.	Potentially Significant Impact	Implement Mitigation Measure 4.5-1 and 4.8-3.	Less Than Significant Impact
Impact 4.5-3: Future development within the Dumbarton TOD Specific Plan area could be located on a geologic formation unit or soil that is unstable, or that would become unstable as a result of construction and potentially result in subsidence or differential settlement.	Potentially Significant Impact	Implement Mitigation Measure 4.5-1.	Less Than Significant Impact
Impact 4.5-4: The proposed project could be located on expansive soil, as defined in table 18-1-b of the California Building Code (2004), creating substantial risks to life or property.	Potentially Significant Impact	Implement Mitigation Measure 4.5-1.	Less Than Significant Impact
Impact 4.5-6: Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable seismic or soils hazards.	Potentially Significant Impact	Implement Mitigation Measure 4.5-1 and 4.8-3.	Less Than Significant Impact
<i>Greenhouse Gases</i>			
Impact 4.6-1: Greenhouse gas emissions generated by the project would not have a significant impact on the environment.	Potentially Significant Impact	Mitigation Measure 4.6-1: The Specific Plan shall include energy (e.g. increase energy efficiency beyond Title 24 requirements, plant shade trees) and transportation design features (e.g. provide secure bike parking, provide free or preferential parking for carpool, vanpool, low emission vehicles, and car share vehicles). These features shall be incorporated into the Specific Plan and future buildings to ensure consistency with adopted Statewide plans and	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		programs. The project applicant shall demonstrate the incorporation of project design features prior to the issuance of building permits.	
Impact 4.6-2: Implementation of the proposed project would not conflict with an applicable greenhouse gas reduction plan, policy, or regulation.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.6.3: Greenhouse gas emissions resulting from development associated with implementation of the proposed project would not impact greenhouse gas levels on a cumulatively considerable basis.	Potentially Significant Impact	Implement of Mitigation Measure 4.6-1.	Less Than Significant Impact
<i>Hazards and Hazardous Materials</i>			
Impact 4.7-1: The sites that are included on a list of hazardous materials sites compiled pursuant to government code section 65962.5 and, as a result, could create a significant hazard to the public or the environment.	Potentially Significant Impact	<p>Mitigation Measure 4.7-1a: Prior to the issuance of a building permit for an individual property within the Specific Plan area with residual environmental contamination, the agency with primary regulatory oversight of environmental conditions at such property ("Oversight Agency") shall have determined that the proposed land use for that property, including proposed development features and design, does not present an unacceptable risk to human health, including if applicable through the use of institutional controls, site specific mitigation measures, a risk management plan, and deed restrictions based upon applicable risk-based cleanup standards.</p> <p>Mitigation Measure 4.7-1b: Prior to grading permit issuance, areas to be graded shall be cleared of debris, significant vegetation, pre-existing abandoned utilities, buried structures, and asphalt concrete.</p> <p>Mitigation Measure 4.7-1c: Prior to the import of a soil to a particular property within the Specific Plan area as part of that property's site development, such soils shall be sampled for toxic or hazardous materials.</p> <p>Mitigation Measure 4.7-1d: Areas containing Naturally Occurring Asbestos (NOA) within the Dumbarton TOD</p>	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Specific Plan area shall be confirmed prior to grading permit issuance. Prior to grading or construction of a particular property containing NOA, an application from the Bay Area Air Quality Management District shall be required for projects over one-acre in size. Mitigation Measure 4.7-1e: On those properties where NOA is known to occur, measures to protect human health shall be incorporated.	
Impact 4.7-2: The proposed project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.7-3: The proposed project may create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment.	Potentially Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.7-4: The proposed project may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.7-5: Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable impacts associated with hazards and hazardous materials.	Potentially Significant Impact	Implement Mitigation Measures 4.7-1a through 4.7-1e	Less Than Significant Impact
<i>Hydrology, Drainage and Water Quality</i>			
Impact 4.8-1: The proposed project could violate water quality standards or waste discharge requirements.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.8-2: The proposed project would not substantially deplete	Less Than Significant	No mitigation measures required.	Not Applicable

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	Impact		
Impact 4.8-3: The proposed project would substantially alter the existing drainage pattern of the site or area, which could result in substantial erosion or siltation on or offsite.	Potentially Significant Impact	Implement Mitigation Measure 4.8-4a	Less Than Significant Impact
Impact 4.8-4: The proposed project could substantially alter the existing drainage pattern of the site or area, which could substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite.	Potentially Significant Impact	<p>Mitigation Measure 4.8-4a: Plans submitted for grading permits shall include a detailed hydrology reports. The reports shall include calculations regarding the anticipated volume of stormwater runoff generated by the proposed development, and shall demonstrate that adequate stormwater conveyance and capacity is available in the existing facilities selected depending on the location of the proposed development (i.e., the Line F-1 channel, the City’s existing outfall into the Line F-1 channel, the existing human-created tidal channel that is tributary to Newark Slough, and existing City facilities in Willow Street). The hydrology reports shall be subject to review and approval by the City Engineer.</p> <p>If the hydrology reports determine that the existing facilities do not have adequate stormwater conveyance and capacity to serve the proposed development, then the project applicant shall develop a detailed stormwater detention plan for the retention/detention of stormwater runoff on the project site in accordance with the City standards and the Alameda County Flood Control and Water Conservation District.</p> <p>Mitigation Measure 4.8-4b: Plans submitted for Tentative Maps for future projects within the Specific Plan area and scope of their EIR requiring storm drainage lines that cross the Hetch Hetchy Pipeline shall include measures to ensure that there is sufficient room for future storm drainage lines to pass over Hetch Hetchy Pipeline (i.e., placement of additional fill).</p>	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.8-5: The proposed project could create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant Impact	Implement Mitigation Measure 4.8-4a.	Less Than Significant Impact
Impact 4.8-6: The proposed project could place housing within a 100-year flood hazard area, or place within a 100-year flood hazard area structures which could impede or redirect flood flows.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.8-7: The proposed project could expose people or structures to a significant risk of loss, injury or death involving flooding, including as a result of the failure of a levee or dam.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.8-8: The proposed project could be exposed to inundation by tsunami, seiche, and mudflow.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.8-9: Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable hydrology and water quality impacts	Potentially Significant Impact	Implement of Mitigation Measures 4.8-4a and 4.8-4b.	Less Than Significant Impact
<i>Land Use</i>			
Impact 4.9-1: The Specific Plan would not disrupt or divide an established community within the City of Newark.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.9-2: The proposed Specific Plan would not result in a conflict with the City's General Plan land use strategy, the Bay Area Regional Smart Growth Strategy/Regional Livability Footprint Project, the San Francisco Bay Trail Plan or San Francisco Bay Plan.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.9-4: Future development of the project area allowed by the Dumbarton TOD Specific Plan could result in potential land use conflicts.	Less Than Significant Impact	No mitigation measures required.	Not Applicable

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<i>Noise</i>			
Impact 4.10-1: Construction related activities could result in temporary noise impacts to nearby noise sensitive receivers.	Potentially Significant Impact	Impact 4.10-1a: To reduce noise impacts due to construction, project applicants shall require construction contractors to implement a site-specific noise reduction program, subject to City review and approval that should be implemented through demolition, grading, and/or construction. Mitigation Measure 4.10-1b: Prior to the issuance of each grading permit, project applicants shall submit to the City Building Inspection Division a list of measures to respond to and track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction.	Less Than Significant Impact
Impact 4.10-2: Development associated with implementation of the proposed project could result in temporary vibration impacts to nearby sensitive receptors during grading and construction activities.	Potentially Significant Impact	Mitigation Measure 4.10-2: If pile driving is required for building construction, construction contractors shall incorporate measures to reduce noise and vibration.	Less Than Significant Impact
Impact 4.10-3: Implementation of the proposed project would not result in an increase in onsite ambient noise levels due to operational noise impacts.	Potentially Significant Impact	Mitigation Measure 4.10-3: Prior to building permit issuance, an Acoustical Assessment shall be prepared for the high/mixed-use residential, medium/high density residential, medium density residential parcels located north of Enterprise Drive (within approximately 600 feet of the Dumbarton transit corridor) to demonstrate that the exterior and interior noise levels are consistent with the City's land use compatibility standards and Title 25, Section 1092 of the California Code of Regulations.	Less Than Significant Impact
Impact 4.10-4: Traffic generated by the proposed project could significantly contribute to existing traffic noise in the area or exceed the City's established standards.	Potentially Significant Impact	Mitigation Measure 4.10-4: Prior to building permit issuance, the project applicant shall coordinate with the City's Public Works Director to change the posted speed limit along Willow Street (between Thornton Avenue and Central Avenue) to 25 miles per hour. Implementation of this measure shall be indicated on all project plans and specifications.	Less Than Significant Impact
Impact 4.10.5: Implementation of the proposed project and other related	Potentially Significant	Implement of Mitigation Measure 4.10-4.	Less Than Significant Impact

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
cumulative projects could result in cumulatively considerable noise impacts.	Impact		
<i>Population and Housing</i>			
Impact 4.11-1: The proposed project would directly induce population growth in the City through new housing and businesses.	Less Than Significant Impact	No mitigation measures required.	Less Than Significant Impact
Impact 4.11-2: The proposed project would directly induce population growth in the City through new housing and businesses that could be cumulatively considerable.	Less Than Significant Impact	No mitigation measures required.	Less Than Significant Impact
<i>Public Services and Utilities</i>			
Impact 4.12-1: The public service needs of the proposed project would not result in substantial adverse impacts.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.12-2: The proposed project could result in a determination by the wastewater treatment provider that it has inadequate capacity to provide for the project's projected demand in addition to the provider's existing commitments.	Potentially Significant Impact	Mitigation Measure 4.12-2: Prior to approval of a tentative map within the Dumbarton TOD Specific Plan area, additional necessary improvements, if any, beyond those already included in the USD Master Plan and updated fee program, shall be determined regarding proposed new connections (from such tentative map development) and then-existing or proposed wastewater facilities. Such improvements shall be installed prior to issuance of a building permit and shall be consistent with requirements in the Sewer Master Plan (anticipated to be available in June 2011).	Less Than Significant Impact
Impact 4.12-3: Sufficient water supplies are available to serve the proposed project from existing entitlements and resources. No new or expanded entitlements would be required.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.12-4: The landfill that would serve the proposed project has sufficient permitted capacity to accommodate the project's solid waste disposal needs. The project would comply with Federal, State and local statutes and regulations related	Less Than Significant Impact	No mitigation measures required.	Not Applicable

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
to solid waste.			
Impact 4.12-5: The Dumbarton TOD Specific Plan in conjunction with other cumulative projects would increase the demand for public services and utilities.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
<i>Recreation</i>			
Impact 4.13-1: The proposed project could increase the use of existing neighborhood and regional parks or other recreational facilities.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.13-2: The proposed project would include the construction of recreational facilities that might have an adverse effect on the environment.	Potentially Significant Impact	Implement Mitigation Measure 4.2-1a and 4.2-1b in Section 4.2 (Air Quality) and Mitigation Measure 4.10-1a, 4.10-1b, and 4.10-2 in Section 4.10 (Noise).	Less Than Significant Impact
Impact 4.13-3: Future development of the project site allowed by the Dumbarton TOD Specific Plan could cumulatively contribute to increased demand for recreational facilities, and impacts associated with the construction or expansion of recreational facilities.	Potentially Significant Impact	Implement Mitigation Measure 4.2-1a and 4.2-1b in Section 4.2 (Air Quality) and Mitigation Measure 4.10-1a, 4.10-1b, and 4.10-2 in Section 4.10 (Noise).	Less Than Significant Impact
<i>Traffic</i>			
Impact 4.14-1: The proposed project would increase traffic and have a significant impact at four intersections.	Potentially Significant Impact	<p>Mitigation Measure 4.14-1: Willow Street/Thornton Avenue: A right turn overlap phase to the northbound approach on Willow Street shall be provided. Additionally, a U-turn restriction for the westbound left turn movement on Thornton Avenue shall be posted.</p> <p>Cedar Boulevard/Thornton Avenue: An additional westbound left turn lane from Thornton Avenue to Cedar Boulevard shall be provided. However, due to the limited right-of-way available along Thornton Avenue and potential secondary impacts (such as increased pedestrian crossing distances), this is not feasible.</p> <p>Willow Street/Enterprise Drive: Two options for mitigation at this intersection are proposed by the Specific Plan,</p>	Less Than Significant Impact, except at the intersection of Cedar Boulevard/Thornton Avenue, which is Significant and Unavoidable.

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>including a roundabout or signalization of the intersection. One of the two options shall be implemented.</p> <p>Cherry Street/Mowry Avenue: Mitigation measures were identified at this intersection as part of the Area 3 and 4 Environmental Impact Report. The measures proposed included the addition of a second left-turn lane on the westbound approach, and resulting in realignment of the east and westbound approaches and modification to the traffic signal. These improvements are not sufficient to mitigate the project's impact; additionally, right-of-way to widen this approach may be needed. Therefore, other mitigation measures were identified, as described below.</p> <p>The westbound approach of the intersection of Cherry Street/Mowry Avenue shall be modified to include a right turn and a through-right turn lane. This improvement would require modification of the traffic signal and removal of the existing pork chop island.</p>	
Impact 4.14-2: The proposed project would create demand for public transit lines serving the area.	Potentially Significant Impact	Mitigation Measure 4.14-2: The City shall coordinate with AC Transit to improve bus service to the Specific Plan area to lessen the impact of vehicular traffic on the local and regional roadways.	Less Than Significant Impact
Impact 4.14-3: The proposed project would increase pedestrian activity within the Specific Plan area, and to/from the surrounding roadway network.	Less Than Significant Impact	No mitigation measures required.	Not Applicable
Impact 4.14-4: The proposed project would increase bicycle activity with the Specific Plan area, and to/from the surrounding roadway network. The project would add additional bike lanes, bike routes, and a connection to the existing Bay Trail.	Less Than Significant Impact	No mitigation measures required.	Less Than Significant Impact
Impact 4.14-5: Traffic generated by the proposed project would cause unacceptable operations at the Enterprise Drive/Willow Street intersection.	Potentially Significant Impact	Implementation of Mitigation Measure 4.14-1.	Not Applicable.

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p>Impact 4.14-6: The proposed project would increase cumulative traffic volumes and have a potentially significant cumulative impact on ten intersections.</p>	<p>Potentially Significant Impact</p>	<p>Mitigation Measure 4.14-6: SR 84 Eastbound Ramps/Thornton Avenue: An additional eastbound right turn lane on the SR 84 Eastbound Off-Ramp at the intersection of SR 84 Eastbound Ramps/Thornton Avenue shall be provided. However, this intersection is outside of the City’s jurisdiction. SR 84 is a Caltrans-controlled facility, and implementation of this mitigation measure cannot be guaranteed. Therefore, this impact is considered significant and unavoidable.</p> <p>Gateway Boulevard/Thornton Avenue: The northbound right turn lane on Thornton Avenue at the intersection of Gateway Boulevard/Thornton Avenue shall be restriped to provide a shared through-right turn lane. The existing north leg has three receiving lanes to make this improvement feasible.</p> <p>Willow Street/Thornton Avenue: The intersection of Willow Street/Thornton Avenue shall have a right turn overlap phase to the northbound approach on Willow Street.</p> <p>Cherry Street/Thornton Avenue: The intersection of Cherry Street/Thornton Avenue shall have an additional eastbound right turn lane on Thornton Avenue. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owner on the southwest corner of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.</p> <p>Newark Boulevard/Thornton Avenue: The intersection of Newark Boulevard/Thornton Avenue shall have an additional northbound left turn lane on Newark Boulevard to accommodate the heavy left turn movement. While no project traffic is added directly to this movement, the addition of this lane would improve overall intersection</p>	<p>Less Than Significant Impact with the exception of Eastbound Ramps/Thornton Avenue; Cherry Avenue/Thornton Avenue; Newark Avenue/Thornton Avenue; Cedar Boulevard/Thornton Avenue; and Cherry Street/Central Avenue, which would be Significant and Unavoidable.</p>

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>operations. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owners on the southeast and southwest corners of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.</p>	
		<p>Cedar Boulevard/Thornton Avenue: The intersection of Cedar Boulevard/Thornton Avenue shall have an additional westbound left turn lane on Thornton Avenue to accommodate the high left turn demand. While no project traffic is added directly to this movement, the addition of this lane would improve overall intersection operations. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owners on the northeast and southeast corners of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.</p>	
		<p>Willow Street/Enterprise Drive: Two options for mitigation at this intersection are proposed, including a roundabout or signalization of the intersection. One of the two options shall be implemented. The proposed mitigation measures would allow the intersection to operate at LOS C or better during both the AM and PM peak-hour. While a single-lane roundabout would operate acceptably with the proposed traffic volumes, right-turn bypass lanes may be provided to/from the west leg to connect to the four-lane section of Enterprise Drive west of the intersection.</p>	
		<p>Cherry Street/Central Avenue: The intersection of Cherry</p>	

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Street/Central Avenue shall have an additional eastbound right turn lane on Central Avenue. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owner on the southwest corner of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.</p> <p>Cherry Street/Mowry Avenue: Mitigation measures were identified at this intersection as part of the Area 3 and 4 Environmental Impact Report. The measures proposed included the addition of a second left-turn lane on the westbound approach, and resulting in realignment of the east and westbound approaches and modification to the traffic signal. The operations of the intersection were tested with these mitigation measures; these improvements are not sufficient to mitigate the project's impact; additionally, right-of-way to widen this approach may be needed. Therefore, other mitigation measures were identified, as described below.</p> <p>The westbound approach at the intersection of Cherry Street/Mowry Avenue shall be restriped to include a right turn and a through-right turn lane. The proposed mitigation measures would allow the intersection to operate at LOS E during the AM peak-hour and LOS F with improved delay during the PM peak-hour.</p>	
Impact 4.14-7: Traffic generated by the proposed project would contribute to unacceptable operations at the Enterprise Drive/Willow Street intersection under Cumulative Conditions.	Potentially Significant Impact	Implement Mitigation Measure 4.14-6.	Less Than Significant Impact
Impact 4.14-8: The proposed project would increase traffic on regional	Potentially Significant	Mitigation Measure 4.14-8: Prior to issuance of building permits for a Specific Plan use, the applicant shall pay all	Significant and Unavoidable Impact to the following roadway segments: I-880, from SR 84

TABLE 2-2 SUMMARY OF IMPACTS AND MITIGATION

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
roadways in the project vicinity.	Impact	applicable transportation-related fees in accordance with the latest adopted fee schedule at the time permits are sought. Such fees shall include, but not be limited to, the City of Newark Capital Facilities Fee for Transportation, and the ACTC Regional Transportation Impact Fee. Payment of these fees would partially mitigate the impacts of the Specific Plan; however, since the fee programs would not fully fund all the mitigation necessary, the impact to regional roadway segments is considered significant and unavoidable.	Eastbound to Thornton Avenue; I-880, from Mowry Avenue to Stevenson Boulevard; Thornton Avenue, from Willow Street to Spruce Street; Thorton Avenue, from Spruce Street to Cherry Street; and, Thorton Avenue, from Cedar Boulevard to I-880 Southbound Ramps.

3 PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW

The proposed project is the planning, development, construction and operation of those below-described uses occurring pursuant to the proposed Dumbarton Transit Oriented Development (TOD) Specific Plan (project), and its related General Plan amendment and zoning regulations (collectively referred to in this EIR as the project). The Dumbarton TOD Specific Plan would guide future development and redevelopment of an approximately 205-acre area generally located at the western edge of the City of Newark (City) and south/southwest of the Dumbarton Rail Corridor (DRC). Implementation of the proposed Specific Plan would allow a mix of residential, office, retail, park and recreational open space uses in close proximity to planned future transit service along the DRC. At the same time, the project is not dependent in any way upon proposed DRC transit service, which is a separate project undergoing environmental review by other public agencies.

3.2 PROJECT LOCATION

The Dumbarton TOD Specific Plan area is located in the City of Newark within the southern portion of Alameda County (County). The City is located approximately 15 miles north of San Jose, ten miles east of Palo Alto and 30 miles southeast of San Francisco. Figure 3-1 (Regional Location Map) illustrates the regional context of the Specific Plan area. As shown in Figure 3-2 (Project Location), the Specific Plan area is located at the western edge of the City and is generally bounded by Southern Pacific Railroad tracks to the north, existing on-going salt production and harvesting facilities to the south and west, an Alameda County Flood Control canal to the south and Willow Street and industrial and residential uses to the east.

3.3 PROJECT SETTING

3.3.1 PROPERTY OWNERSHIP

There are eight private land owners within the Specific Plan area, shown on Table 3-1, as well as several public right-of-way easements. Table 3-1 breaks down private property ownership within the Specific Plan area by Assessor's Parcel Number (APN) and shows the estimated acreage owned (estimate based on APN maps). Figure 3-3 (Property Ownership Map) illustrates private property ownership within the Specific Plan area.

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Source: Dahlin Group (2010)

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TABLE 3-1 PROPERTY OWNERSHIP

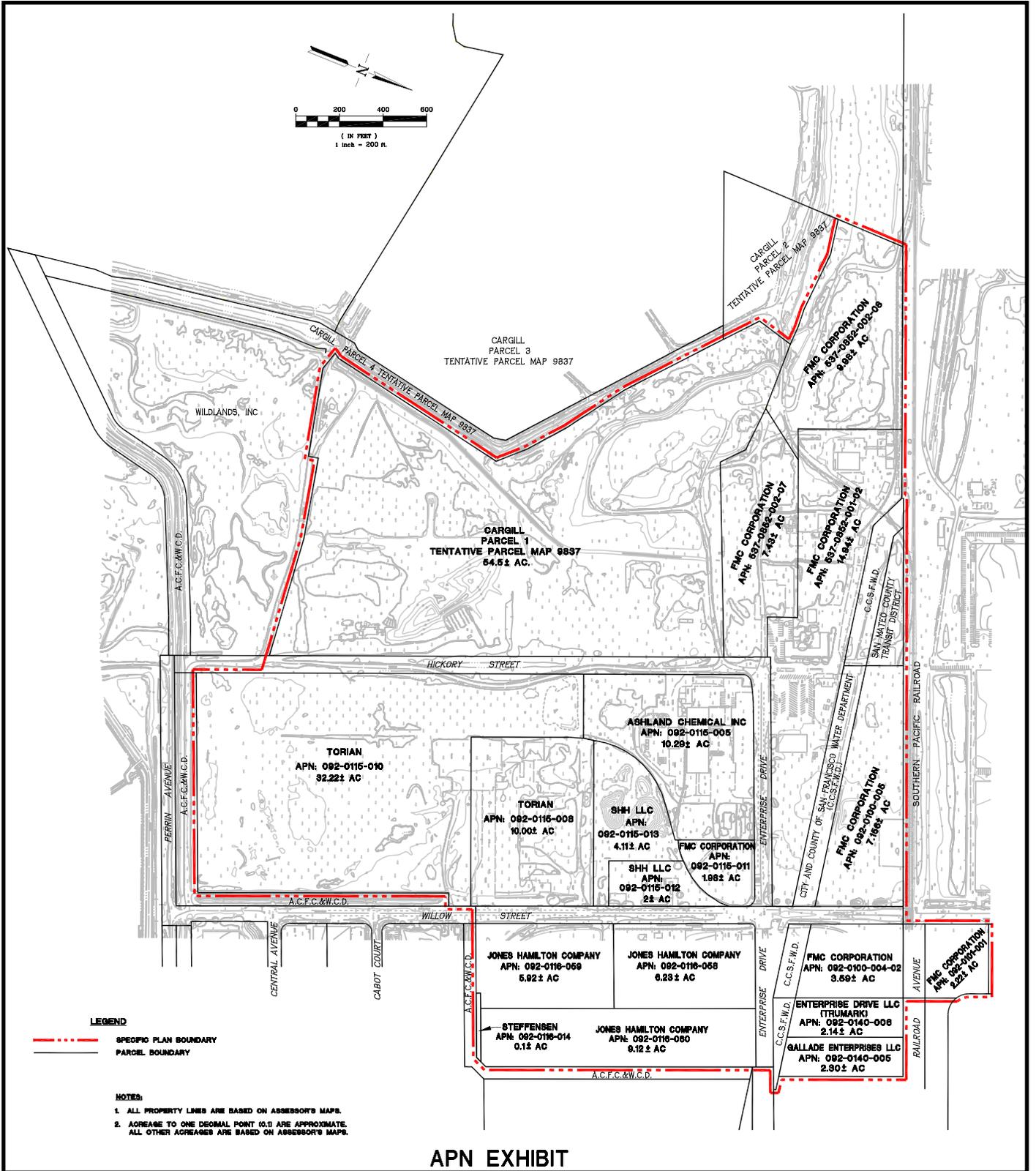
Property Owner	Assessor's Parcel Number(s)	Total Acreage Owned
Ashland Inc.	092-0115-005	10.29
Cargill	Parcel 1 of Parcel Map 9837	54.5
Enterprise Drive LLC (Trumark Commercial)	092-0140-008	2.14
FMC Corporation	092-0100-004-02	47.26
	092-0100-005	
	092-0101-001	
	092-0115-011	
	537-0852-001-02	
Gallade Enterprises LLC	537-0852-002-07	2.30
	537-0852-002-08	
	092-0140-005	
Jones Hamilton Company	092-0116-058	21.27
	092-0116-059	
	092-0116-060	
SHH LLC	092-0115-012	6.11
	092-0115-013	
Torian	092-0115-008	42.22
	092-0115-010	
Total		186.09^a

a The remaining 20 acres of the Specific Plan area consists of public right-of-way and the Hetch Hetchy Pipeline.

3.3.2 SITE HISTORY

For over 80 years, the Dumbarton TOD Specific Plan area primarily contained a variety of industrial facilities and operations, including the expansion and addition of several new companies during World War II, although substantial portions of the Specific Plan area were never developed. Industrial operations were largely discontinued by the 1990s, leaving the Specific Plan area mostly vacant and underutilized. In 1999, the City approved a Specific Plan to create a new campus for Ohlone College and to rezone the area for light industrial uses, including for research and development (R&D). However, Ohlone College settled on a different location for its campus and companies have not chosen to establish operations in the area.

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Source: City of Newark (2010)

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3.3.3 SITE CHARACTERISTICS

OVERVIEW

The approximately 205-acre Dumbarton TOD Specific Plan area is currently primarily vacant and unused with the exception of a chemical blending and distribution facility located in the northeastern corner, a storage area for base-rock and tractor trailers used in construction projects located in the northeastern portion, and a dog training facility and a police firing range located in the south central portion. In general, the Specific Plan area is characterized by large, open, expansive, weedy fields that contain remnants of the former industrial development that previously existed in the area. Most of the Specific Plan area is enclosed by fencing and access is restricted. Within the Specific Plan area, Hickory Street, which runs north to south, is currently an unpaved, unimproved public right-of-way. Central Avenue currently terminates at Willow Street from the east and does not yet further extend into the Specific Plan Area. Enterprise Drive, which runs east to west between Willow and Hickory Streets, and Willow Street, which runs north to south between Enterprise Drive and Central Avenue, are City-owned and paved roadways.

The Specific Plan area is located at the western edge of the City and is generally bounded by Southern Pacific Railroad tracks to the north/northwest, salt production facilities located to the south and west, and Willow Street and industrial and residential uses to the east.

Topography

The topography of the Specific Plan area is generally flat with elevations ranging from approximately four to 15 feet above mean sea level (MSL). However, there are some isolated bedrock outcroppings and stockpiles where elevations are as high as approximately 40 feet above MSL.

Biotic Habitats

The majority of the Specific Plan area consists of disturbed land with ruderal vegetation (weedy plant species). Common ruderal species within the Specific Plan area include prickly lettuce (*Lactuca serriola*), sweet fennel (*Foeniculum vulgare*), short-podded mustard (*Hirschfeldia incana*), common vetch (*Vicia sativa*), milk thistle (*Silybum marianum*), common knotweed (*Polygonum aviculare*), and horseweed (*Conyza canadensis*). In addition, the Specific Plan area contains a variety of sparsely

interspersed non-native trees consisting of ornamental fig (*Ficus* sp.), Mexican fan palm (*Washingtonia robusta*), London plane (*Platanus acerifolia*), eucalyptus (*Eucalyptus* sp.), Peruvian pepper (*Schinus molle*), and pine (*Pinus* sp.). Common animal species expected to inhabit the ruderal habitat within the Specific Plan area include western scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*) and Brewer's blackbird (*Euphagus cyanocephalus*). The biological resources of the Plan area are described in detail in Chapter 4.3.

Rights-of-Way and Utility Easements

The Specific Plan area contains several rights-of-way and transportation and utilities easements. The northern portion of the Specific Plan area is underlain by the Hetch Hetchy Pipeline, which travels from east to west. The City and County of San Francisco owns the Hetch Hetchy Pipeline, and the San Francisco Public Utilities Commission (SFPUC) maintains a 110-foot right-of-way and tight control over crossings and other uses within this right-of-way. The DRC runs in an east/west direction generally along the northern edge of the Specific Plan area, almost parallel to the Hetch Hetchy Pipeline. The DRC has a 100-foot wide right-of-way owned by the San Mateo County Transit District. The East Bay Dischargers Authority (EBDA) owns and operates two 36-inch sanitary sewer force mains serving the City of Newark that run through the Specific Plan area within a 30-foot wide easement, partially within the Hickory Street right-of-way. The Alameda County Flood Control F-1 Canal flows from east to west along the Specific Plan area's southern boundary, providing the main drainage outlet to the San Francisco Bay for a large part of the City of Newark. A tributary to this canal, the F-6 ditch generally flows from north to south along the Specific Plan area's easterly boundary and runs north along the west side of Willow Street for a distance of about 1,300 feet. Pacific Gas and Electric (PG&E) transmission lines traverse the Specific Plan area from north to south and PG&E maintains a 25-foot wide easement underneath the lines and surrounding the towers that support the high-voltage lines.

ASHLAND INC. PROPERTY

The Ashland Inc. property occupies approximately 10.29 acres located southeast of the terminus of Enterprise Drive (8610 Enterprise Drive). The Ashland property is generally flat and has a gentle slope downward toward the southern rear portion of the property. The surface elevation ranges from approximately nine to 11 feet above MSL. Ashland operated a chemical packaging and distribution facility on the property from 1973 until 2000. Currently, the property is vacant, enclosed by

fencing and predominantly covered with concrete and asphalt paving. Soil and shallow groundwater under the property have been impacted with chemicals of concern (COCs) and groundwater monitoring wells are located on the property. Current activities consist of site risk assessments, quarterly groundwater level measuring, and semi-annual groundwater sampling.

CARGILL PROPERTY

Cargill's approximately 54.5-acre property is located on the western portion of the Specific Plan area. Although the property is predominantly flat with surface elevations ranging from about eight to ten feet above MSL, it has two relatively small bedrock outcroppings approximately 30 to 35 feet above MSL. Historically, the property has mostly been undeveloped, however, some portions of the property have been in use for years.

From 1929 to approximately 1969, FMC and its predecessor Westvaco, leased a portion of the property from Leslie Salt (Cargill purchased Leslie Salt in 1979). This portion, formerly known as the Leslie Salt/FMC Magnesia Waste Pile site, was remediated pursuant to a Department of Toxic Substance Control (DTSC) Remedial Action Order. In 1991, the Department of Health Services (DHS), the predecessor of DTSC, issued a Certification of Completion of remediation. The City issued case closure for the site in 2002.

Between 1969 and 1995, the Newark Sportsman's Club leased approximately 18 acres of land to operate a recreational outdoor shooting range. That use, which left surficial and shallow deposits of lead shot and clay pigeon debris, was voluntarily cleaned up beginning in 1994, under Regional Water Quality Control Board (RWQCB) Order #94-096. The RWQCB certified case closure in 2004.

In addition, from 1975 to the present, the City Police Department has leased a portion of property to operate a pistol range. A Phase II Soil and Groundwater investigation performed for the City indicated lead concentrations in shallow soils in the berm area. Given the shallow nature of the materials, excavation and removal of the upper three feet of soil (approximately 405 tons) was identified as the most effective and economical remedial method. Upon cessation of use as a pistol range, the City will be responsible for remedial actions at this site.

One of two hills on the western side of the property is an outcropping of serpentine bedrock that contains naturally occurring asbestos (NOA). These naturally occurring materials are not regulated as a hazard if left in place. However, at such time as the site is to be modified or developed, all earthmoving and

trenching in the area of the rock outcrop should be performed in compliance with regulatory requirements then in effect.

ENTERPRISE DRIVE LLC (TRUMARK COMMERCIAL) PROPERTY

The approximately 2.14-acre Enterprise Drive LLC (Trumark Commercial) property is located at 8375 Enterprise Drive in the northeastern portion of the Specific Plan area. The Enterprise Drive LLC property is a level, vacant lot with ruderal vegetation that is enclosed by fencing. It is approximately ten to 15 feet above MSL with a gentle slope to the southwest towards San Francisco Bay. There is a Hetch Hetchy Pipeline with a 110-foot right-of-way owned by the SFPUC in southern portion of property. The chemical blending and distribution facility located on the adjacent Gallade property uses a portion of the Enterprise Drive LLC property for parking and storage. Groundwater underneath the property and site soils have been impacted with COCs from past uses associated with the adjacent Gallade property. There is a groundwater monitoring well on the property and current activities consist of groundwater monitoring.

FMC CORPORATION PROPERTY

FMC's property consists of approximately 47.3 acres of land generally located south of the railroad tracks bordering the northern portion of the Specific Plan area at 8787 Enterprise Drive. The relatively flat FMC property is approximately 11 feet above MSL. The majority of site is enclosed by fencing.

Chemical manufacturing related industrial uses occurred at the FMC property from 1929 through 2002. However, approximately eight acres of the property located near the intersection of Willow Street and Enterprise Drive have never been developed or actively used. This land consists of APNs 092-0100-004-02, 092-0101-001, and 92-0115-011 (refer to Figure 3-3). Features left-over from past industrial uses on the site consist of storage, office, and warehouse buildings, fencing, and paved parking areas. Other site features consist of asphalt caps over impacted soil and a groundwater extraction and treatment system. PG&E towers and high voltage power lines and an associated 25-foot wide easement traverse the western portion of the property from north to south. A portion of the Hetch Hetchy Pipeline is underneath the northeastern portion of the property and has a 110-foot right-of-way owned by the SFPUC. Currently, there are limited personnel stationed onsite in the office building to provide security. Other current onsite activities consist of semi-annual groundwater monitoring and operation and maintenance of the groundwater extraction and treatment system

GALLADE ENTERPRISES LLC PROPERTY

The approximately 2.3-acre Gallade property is located at 8333 Enterprise Drive in the northeast corner of the Specific Plan area. The level Gallade property has an elevation of approximately 11 feet above MSL. The property is currently developed with three structures (an office and two warehouses) and a parking area. The majority of the site is either covered by buildings or paving, although a small portion contains ruderal habitat. A portion of the Hetch Hetchy Pipeline located underneath the property adjacent to the southern boundary. Gallade Chemical, Inc. currently uses the site for the storage, blending, packaging, and distribution of virgin chemical products. Past uses contaminated onsite soils and groundwater, as well as groundwater downgradient (westward) of the property with COCs. Groundwater, soil-vapor, and ambient air monitoring is conducted semiannually onsite and at nearby properties.

JONES-HAMILTON COMPANY PROPERTY

The approximately 21.27-acre Jones-Hamilton property is located at 8400 Enterprise Drive in the northeastern portion of the Specific Plan area, southeast of the intersection of Enterprise Drive and Willow Street. From 1956 to 2001, Jones-Hamilton operated a chemical manufacturing, blending and packaging facility at the property. Currently, the eastern half of the property is undeveloped and the western half is paved with either asphalt or concrete. Onsite soils and groundwater beneath the property have been impacted with COCs. A slurry wall and an asphalt cap encapsulate onsite impacted soils located on the southwestern portion of the site. In addition, extraction wells are present to create an inward gradient. Current onsite activities consist of groundwater monitoring.

SHH LLC PROPERTY

The SHH LLC property covers approximately 6.11 acres in the northeastern portion of the Specific Plan area at 37445 Willow Street. The SHH LLC property is level with a surface elevation of approximately nine to 11 feet above MSL. Foster Chemical Company manufactured, packaged and distributed chemicals at the site from 1975 to 1987. Prior to that time, the land had been leased for a period of time by the E.J. Lavino Brick Company for the storage of bricks. Currently, the site consists of predominantly vacant unpaved land although a 6,000-square-foot warehouse is onsite. Current activities consist of the storage of reclaimed asphalt, concrete debris, and gravel used to manufacture base-rock for construction projects and empty tractor trailers. In addition, groundwater monitoring is currently conducted on a semi-annual basis. Onsite soils and shallow zone groundwater have been impacted with COCs.

TORIAN PROPERTY

The Torian property consists of approximately 42.22 acres located in the southeastern portion of the Specific Plan area at 37555 Willow Street. A variety of industrial businesses occupied the site over the years including a brick manufacturer, a trucking firm, an automotive and van conversion facility, and a fiberglass fabrication business. A construction company also used a portion of the site for equipment storage.

The majority of the Torian property is vacant land. Features associated with past industrial uses, such as building foundations, concrete pads, and asphalt surfaces remain in the northern portion of the property. In addition, there are concrete-lined vaults and tunnels beneath the building foundations. Fill and waste materials have been imported and deposited in many areas of the site.

Some motor oil, pesticides, and metals were detected in onsite soils and groundwater underneath the site has been contaminated with metals as well as with COCs.

3.3.4 CITY OF NEWARK LAND USE REGULATIONS

CITY OF NEWARK GENERAL PLAN

The City of Newark General Plan (General Plan) Land Use Element, completed in June 1992, designated the majority of the land comprising the current Specific Plan area Limited Industrial and General Industrial. The FMC property (APN 092-0101-001), lying north of the Southern Pacific Railroad tracks and east of Willow Street, was designated Low Density Residential. A General Plan Amendment would be adopted prior to the adoption of the Dumbarton TOD Specific Plan to redesignate the Specific Plan area to be consistent with the proposed development plan.

1999 AREA TWO SPECIFIC PLAN

In 1999, the City adopted the Newark Area Two Specific Plan (1999 Specific Plan), which included all of the land comprising the project site west of Willow Street, as well as land which is not part of the project site to the north, south and east.¹ The

¹ The land comprising the project site east of Willow Street, namely, the Jones-Hamilton Company property, the Trumark Commercial property, and FMC APN 092-0101-001, was not included in the 1999 Specific Plan.

1999 Specific Plan envisioned a campus of the Ohlone Community College surrounded by multi-level office and R&D buildings on the current project site. To that end, the 1999 Specific Plan changed the land use designation under the General Plan for all land within its planning area, including the land comprising the current project site west of Willow Street, to a combination of Special Industries and Limited Industrial. The zoning designations for the 1999 Specific Plan area were in turn changed to High Technology Park and Limited Industrial. However, after adoption of the 1999 Specific Plan, the Community College located elsewhere, and no office or R&D buildings have been built.

CITY OF NEWARK ZONING

The zoning designations for the land comprising the project site are currently a combination of High Technology Park District, Limited Industrial District and General Industrial District. Most of the land within the project site received its current zoning designation as part of the 1999 Specific Plan discussed above; those portions of the project site which were not included as part of the 1999 Specific Plan, namely, all land east of Willow Street, were zoned separately. However, new zoning regulations reflecting the distribution of uses set forth in the Dumbarton TOD Specific Plan will be contained within the Dumbarton TOD Specific Plan.

3.4 SURROUNDING LAND USES

A variety of commercial/industrial, residential, and open space uses surround the Dumbarton TOD Specific Plan area. Commercial/industrial uses are generally located north and east/southeast; residential uses are to the northeast; open space uses are located to the north and existing, on-going salt production and harvesting operations are located to the west and south.

3.4.1 NORTH

As noted previously, the DRC borders the majority of the Specific Plan area to the north and connects to the Dumbarton Cutoff train bridge, which crosses the San Francisco Bay west of the Specific Plan area. The bridge was built by the Southern Pacific Railroad around 1910, was the first crossing of the San Francisco Bay and carried freight trains from 1910 to 1982.

The DRC/Dumbarton Cutoff bridge is also the alignment for the proposed Dumbarton Rail Corridor Project (DRC Project). The DRC Project would establish new commuter rail service along the DRC, connecting the Peninsula with the East Bay and offering transit links to Caltrain, the Altamont Express, Amtrak's

Capitol Corridor and BART, as well as East Bay bus systems, at a multi-modal transit center in Union City. The DRC Project involves the reconstruction of the rail corridor, including track improvements, a new moveable rail bridge, four stations, and a centralized traffic control system. One of the four transit stations for the DRC Project is proposed to be located in Newark, at the northern end of the project site and within walking distance of residential, commercial and retail uses envisioned by the Specific Plan.

The Dumbarton TOD Specific Plan would create a new community of uses adjacent to the DRC. The DRC Project is a separate project that was initiated by the San Mateo County Transportation Authority (Samtrans) in 1991 and is being processed and considered by a number of other public transportation agencies, including Samtrans, Caltrans and the Metropolitan Transportation Commission. If implemented, the DRC Project would be funded and constructed by other public agencies, and the land required for the transit station would be acquired by another public agency. The project is undergoing separate environmental review pursuant to the requirements of the California Environmental Quality Act (CEQA). The DRC Project is not a part of the Dumbarton TOD Specific Plan and the Specific Plan is not dependent in any way upon implementation of the DRC Project. The DRC Project is not fully funded and, while conventional bus service or a bus rapid transit system has been proposed within the DRC as an interim or permanent alternative, no transit service along the DRC is fully funded or programmed at present.

Immediately north of the DRC is a small commercial/industrial park; directly west of the commercial/industrial park is open space with levees and several sloughs, ditches, and canals, as well as the above ground segment of the Hetch Hetchy Pipeline; residential neighborhoods are located to the northeast (residential neighborhoods border the Specific Plan area on the north and east and extend further northeast). Further northwest is the Don Edwards San Francisco Bay National Wildlife Refuge, which consists of approximately 30,000 acres of open bay, salt pond, salt marsh, mudflat, vernal pool, and upland habitats located along the southern margins of San Francisco Bay. The refuge is part of the Pacific Flyway, a major migratory route for North American birds. The Coyote Hills Regional Park is located further north of the Don Edwards San Francisco Bay National Wildlife Refuge. It is comprised of nearly 978 acres of marshland and rolling grassland covered hills along the eastern shore of San Francisco Bay. The San Francisco Bay Trail is developed on top of the levees to the north of the Specific Plan area, just north of the DRC. Though the trail currently has a number of gaps, it is ultimately envisioned as a continuous and fully interconnected 400-

mile trail network that will encircle San Francisco Bay and San Pablo Bay. In the immediate vicinity, the existing Bay Trail Plans call for it to be extended along Thornton Avenue, run down Willow Street, and continue along Central Avenue to the east. Also north of the Specific Plan area is the proposed approximately 54-acre Newark Slough Mitigation Bank.

3.4.2 SOUTH

The approximately 26-acre Plummer Creek Mitigation Bank is located directly south of the Specific Plan area. This area consists of undeveloped land owned by Wildlands, Inc. that is used for compensatory tidal marsh and seasonal wetland mitigation. Plummer Creek and the Alameda County Flood Control F-1 Canal flow through the Plummer Creek Mitigation Bank. Commercial Cargill salt production and harvesting operations surround the mitigation bank to the south, southwest, and southeast.

3.4.3 EAST

As noted above, mostly single-family residential neighborhoods border the Specific Plan area to the east. Just south of those neighborhoods, to the east and southeast of the Specific Plan area, the area is developed with industrial and light-industrial buildings that are primarily single-story, concrete tilt-up construction. Many of these buildings are currently vacant. Further east within this industrial area, Cargill has a salt refining, packaging, and distribution plant on Central Avenue. Approximately one mile east on Thornton Avenue is Newark Old Town, where the City originated. The commercial core of Old Town is considered to be the blocks of Thornton Avenue centered on Sycamore Street between Ash Street and Cherry Street.

3.4.4 WEST

Commercial Cargill salt production operations border the Specific Plan area to the west. Small tidal estuaries and the Newark Slough are located west of Cargill's salt production operations. The estuaries drain into San Francisco Bay, which is located further west.

3.5 PROJECT OBJECTIVES

The City of Newark's objectives for the proposed project are based on goals, objectives, and policies contained within the Newark General Plan, as amended, and to be amended concurrent with the proposed Specific Plan, previous work completed for the 1999 Specific Plan, demographic and market research, and the

physical characteristics of the Dumbarton TOD Specific Plan area. The following lists the project objectives:

- ◆ Implement the City's objectives and long-term programmatic planning for the Specific Plan area as set forth in the General Plan and the 1999 Specific Plan;
- ◆ Establish a zoning-level framework to guide future development projects within the Specific Plan consistent with the General Plan;
- ◆ Implement strategies to ensure success for the Specific Plan area developers, homebuilders, and the City of Newark;
- ◆ Guide the development of a sustainable community that includes a variety of residential, retail, employment generating, and park and recreational opportunities in close proximity to each other;
- ◆ Provide for a mix of housing opportunities at a range of densities from single-family detached to multi-family housing to meet the varied housing needs of the community;
- ◆ Effectuate the City's General Plan goals, policies, and programs that require a mix of housing types at a range of densities and for a range of income levels, including but not limited to the following:
 - “Provide housing opportunities for households with a wide range of incomes.” (Housing Element Goal 2 (Housing Element, p. 62.))
 - “Provide zoning districts that provide standards for multi-use development as well as for unique combinations of similar uses, such as single- with multi-family uses.” (Land Use Element Goal 3, Program 9 (General Plan, p. 3-8).)
 - “Maintain a desirable quality of life in the community through preservation of a small town, neighborhood atmosphere and the promotion of balanced land uses.” (Land Use Element Goal 1 (General Plan, p. 3-5).)
- ◆ Create compact, connected, safe, and walkable neighborhoods with convenient access to a future, planned transit station along the DRC, to existing employment centers, including Silicon Valley, to parks and open space, and to commercial services;
- ◆ Provide a sufficient number of residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station if and when the DRC Project is implemented or alternative transit service is established;
- ◆ Encourage the development of a predominantly vacant area of land for its highest and best use;

- ◆ Guide the development of a new community with a distinct identity, architectural style and sense of place while being compatible with existing neighborhoods; and
- ◆ Create a mix of land uses that will contribute to the local economy, employment base and fiscal health of the City.

3.6 PROJECT CHARACTERISTICS

The Dumbarton TOD Specific Plan would provide a comprehensive policy and regulatory framework to guide future development and redevelopment within the approximately 205-acre Dumbarton TOD Specific Plan area. The proposed Specific Plan would establish the allowable land uses, development regulations, design guidelines, necessary infrastructure improvements, and an implementation plan to direct future development and redevelopment of the Dumbarton TOD Specific Plan area. Implementation of the proposed Specific Plan would allow a mix of residential, office, retail, parks and recreational open space uses.

3.6.1 SUMMARY OF MAJOR COMPONENTS OF THE DUMBARTON TOD SPECIFIC PLAN

COMMUNITY FORM

The vision of the proposed Dumbarton TOD Specific Plan is to create a livable community that integrates a wide variety of residential housing types and densities with a neighborhood retail center, employment opportunities and connectivity to parks, open space, the future transit station and commercial services. Proposed development would be based on the principles of smart growth and sustainable community design that promote compact, planned development tied together with pedestrian and bicycle friendly streets and where residents are not dependent upon the automobile for access to recreation, open space and everyday needs. In addition, in support of green building principles, all new homes would be constructed to meet Energy Star requirements for energy efficiency and sustainable landscaping principles would be followed, such as the encouragement of drought-tolerant and/or native plant materials and use of durable, low maintenance, sustainable, and ecologically appropriate landscape materials. Figure 3-4 (Dumbarton TOD Specific Plan Land Use Map) depicts the location of the various land uses proposed by the Dumbarton TOD Specific Plan.

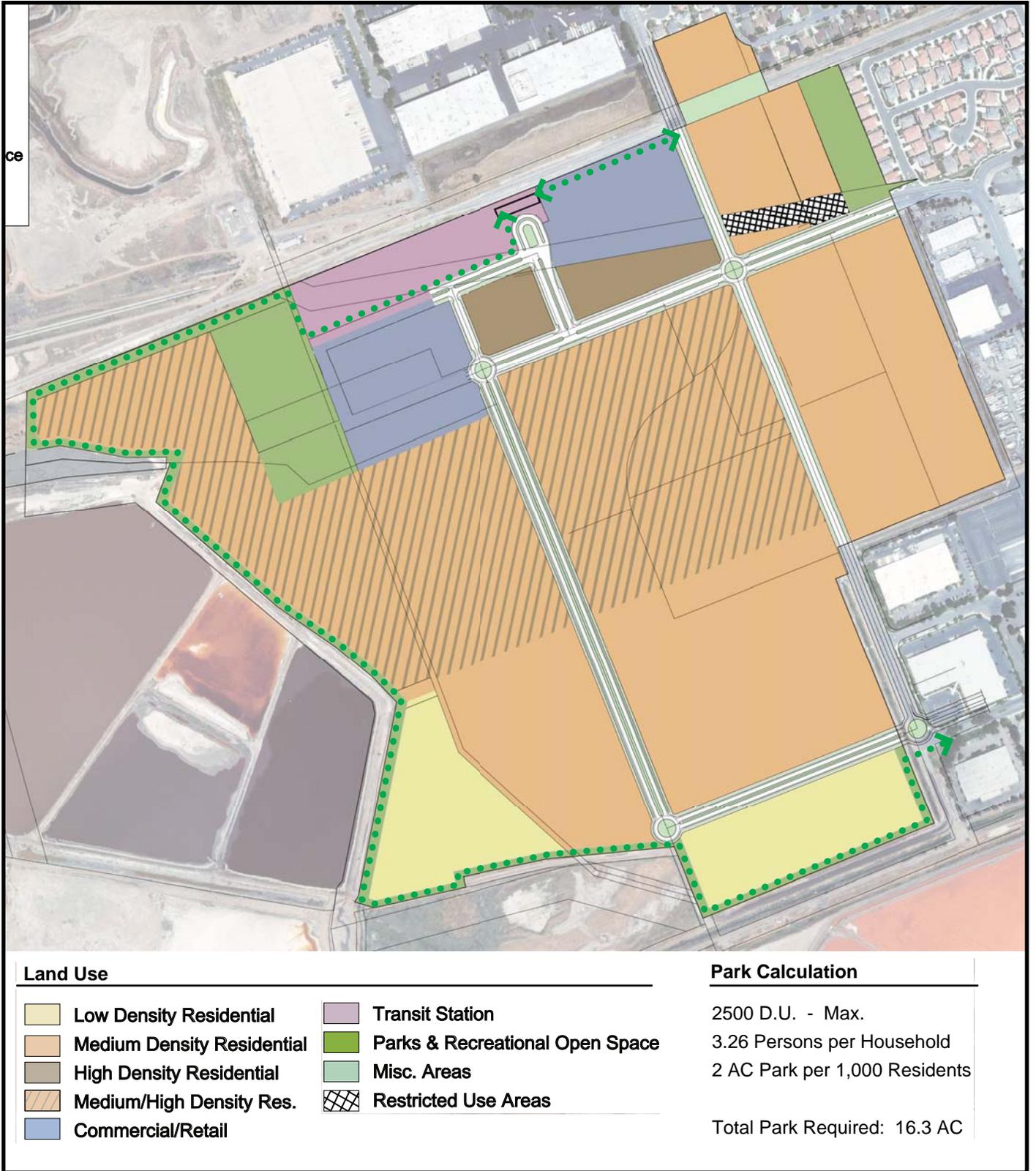
The following summarizes the major components of the proposed Dumbarton TOD Specific Plan.

Neighborhood Center

The Neighborhood Center would be located in the north central portion of the Specific Plan area, immediately south of the DRC. The Neighborhood Center would consist of the following components: (1) the future DRC transit station, including a fixed platform for transit access, an open area in front of the transit station to serve as a community gathering place, and a designated parking area for transit riders adjacent to and west of the platform; (2) land zoned for up to 35,000 square feet of retail uses near and to the west of the transit station, including, but not limited to a grocery store (which will be required), personal services, shops, and entertainment; (3) land zoned for up to 195,000 square feet of a variety of commercial uses in buildings clustered near and to the west of the future DRC transit station; depending upon market demand, this space could be used for office, medical, financial, real estate, general business, personal services, food related services, a sports center or a “clean tech” manufacturing or development business; and (4) high density residential housing with an allowable density of 25 to 60 dwelling units per gross developable acre located immediately adjacent to the future DRC transit station and commercial and retail uses of the Plan area. In addition to dedicated parking for the future transit station, parking would be shared between all uses.

Residential Opportunities

Residential neighborhoods would predominate the Dumbarton TOD Specific Plan area with a maximum of 2,500 dwelling units allowed. Proposed neighborhoods would offer a wide variety of housing choices at various densities, including single-family attached and detached homes, townhomes, live/work townhomes, condominiums, and apartments. As noted above, high density residential units would be permitted within the Neighborhood Center and immediately adjacent to the future transit station. Residential uses would also be permitted at low, medium and medium-high densities within the Plan area, with, by design, increased density as one moves closer to the future transit station. Residential neighborhood design would emphasize a modified grid street network that would promote pedestrian-scaled streets and interweaving of various home types to create the appearance of development over time rather than development of discrete housing tracts. Sound and privacy walls would be eliminated where feasible in support of creating an integrated community. Proposed residential uses and zoning are discussed in more detail below.



Source: Dahlin Group (2011)

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Park and Recreational Open Space Uses

The Specific Plan would provide for a minimum of 16.3 acres of parkland. This would include the designation and zoning as parkland of an approximately 6.5-acre community park that would be located directly west of the proposed Neighborhood Center, an approximately 2.3-acre park in the northwestern portion of the Specific Plan area, and a perimeter trail/liner park of approximately 3.92 acres that would connect to the Bay Trail at its existing location along Willow Street. In addition, proposed subdivisions within the Specific Plan area would be required to comply with the parks requirements set forth in Chapter 16.30 of the Newark Municipal Code (Parks Ordinance). Depending upon how subdividers/developers elect to comply with Chapter 16.30, namely, through the payment of in lieu fees, land dedication and/or the provision of private recreational space (discussed in more detail below), additional pocket parks, tot lots, trails or other recreational open space areas could be provided within the Specific Plan area. The Specific Plan contains specific goals, principles, design concepts and policies to govern the provision and management of parks and recreational open space areas.

Essential Features

The following lists features required for the Dumbarton TOD Specific Plan area:

- ◆ Enterprise Drive extension and improvements, Hickory Road improvements and Central Avenue extension and improvements;
- ◆ Provision for a future grocery store;
- ◆ An approximately 3.92-acre linear park/trail that would run along the perimeter of the Specific Plan area and connect to the existing Bay Trail at its current location along Willow Street;
- ◆ An approximately 6.5-acre community park adjacent to and west of the future transit station;
- ◆ Additional private and public park and recreational open space areas as provided through the City's Parks Ordinance; and
- ◆ Contribution by Specific Plan projects toward the construction of an overpass on Central Avenue over the Union Pacific Railroad right-of-way east of the Specific Plan area.

LAND USE PLAN

The proposed land use plan for the Dumbarton TOD Specific Plan identifies the distribution, location, and extent of the allowable land uses within the Specific Plan area; refer to Figure 3-4.

Land Use Principles

The following principles were used to guide the layout of the land use plan:

- ◆ Provide a mix of uses within a walkable scale environment that supports transit ridership;
- ◆ Integrate new development with existing uses and neighborhoods;
- ◆ Limit sensitive receptors exposure to noise and air quality emissions; and,
- ◆ Reduce total vehicle miles traveled and regional greenhouse gas emissions.

Land Use Designations

The following provides detailed descriptions of the land use designations proposed for the Dumbarton TOD Specific Plan area.

Low Density Residential (LDR)

The LDR district is intended for single-family residential neighborhoods and the allowable density in this district would be a maximum of up 14 dwelling units per gross developable acre.

Medium Density Residential (MDR)

The MDR district is intended for areas of medium-density detached and attached housing such as small lot single-family houses, duets, duplexes, triplexes, four-plex units, townhomes, and condominiums. The allowable density range is 14-25 dwelling units per gross developable acre.

Medium-High Density Residential (MHDR)

The MHDR district is intended primarily for areas of medium-density residential with some pockets of high-density residential units. Refer to the description below for the definition of High-Density Residential (HDR). The allowable density range is 16-60 dwelling units per gross developable acre.

High Density Residential (HDR)

The HDR district is intended for higher density multi-family development such as apartments, townhomes, condominiums and live/work units. HDR allocated areas are located along collector roads, adjacent to neighborhood serving land uses such as retail services, and near employment and transit centers. The allowable density range is 25-60 dwelling units per gross developable acre.

Retail (R)

The R designation provides a variety of uses including, but not limited to, grocery, personal services, neighborhood serving retail, entertainment, sports and recreation. Parcels may include multiple land uses as individual buildings or within each building. The allowable square footage is up to 35,000 square feet.

Commercial (C)

The C designation provides a variety of uses including, but not limited to, office, medical, financial, real estate, general business and personal services, food related services and recreation. Parcels may include multiple land uses as individual buildings or within each building. The allowable square footage is up to 195,000 square feet.

Transit Station (TS)

The TS designation indicates the location for the future DRC Transit Station and associated parking areas.

Parks & Open Space (POS)

The POS designation allows for a variety of recreational uses and open space, including the perimeter trail and various water quality features and associated structures.

Miscellaneous (M)

The M designation is designed to accommodate parcels that occur within rights-of-way where uses are limited or areas that are too small for a specific land use designation. This designation also accommodates the rail station train tracks.

Table 3-2 (Dumbarton TOD Proposed Land Use Table) provides a summary of the proposed land uses and the maximum development that would be permitted under the Dumbarton TOD Specific Plan at project buildout.

TABLE 3-2 PROPOSED LAND USE

Land Use/Zoning Designation	Total
Maximum Residential Units	2,500 units
Low Density Residential (LDR)	16.8 acres
Medium Density Residential (MDR)	67.9 acres
Medium High Density Residential (MHDR)	59.3 acres
High Density Residential (HDR)	5.0 acres
Retail (R)	5.0 acres
Commercial (C)	7.2 acres
Transit Station (TS)	6.1 acres (including parking areas)
Parks and Open Space (POS)	16.3 acres (including parkland provided through the City's Parks Ordinance)
Miscellaneous (M)	23.1 acres
TOTAL	206.7 acres

Source: Dumbarton TOD Specific Plan, March 2011

Note : Acreages are rounded to the nearest tenth of an acre and subject to change based upon final engineering.

Allocation of Dwelling Units

As noted, the Specific Plan would be limited to a total of 2,500 residential units. To ensure that development occurs in a manner consistent with the policies and objectives of the Specific Plan without exceeding this unit cap, the Specific Plan allocates a maximum number of residential units that each APN would be entitled to construct (refer to Table 3-3, Unit Allocation Table). This unit allocation was made based upon the land use/zoning designation of each APN.

TABLE 3-3 UNIT ALLOCATION TABLE

Property Owner	APN	Area Zoned for Residential	Land Use/Zoning Designation	Maximum Number Units	Percentage of Total
Ashland	092-0115-005	10.29 acres	MHDR	243	9.72%
Cargill	Parcel 1 of PM 9837	54.53 acres	LDR/MDR/MHDR	652	26.08%
Enterprise Drive, LLC	092-0140-008	2.14 acres	MDR	35	1.40%
FMC Corporation	092-0100-004-02	3.59 acres	MDR	50	1.98%
FMC Corporation	092-0100-005	0 acres	Train Station/Retail	0	0%
FMC Corporation	092-0101-001	2.22 acres	MDR	31	1.23%
FMC Corporation	092-0115-011	1.98 acres	MHDR	47	1.89%
FMC Corporation	537-0852-001-02	5.8 acres	Park/Commercial/HDR	246	9.85%
FMC Corporation	537-0852-002-07	0 acres	Park/Commercial	0	0%
FMC Corporation	537-0852-002-08	9.6 acres	MHDR/Park	173	6.93%
Gallade Enterprises	092-0140-005	0 acres	Park	0	0%
Jones Hamilton	092-0116-058	6.23 acres	MDR	86	3.44%
Jones Hamilton	092-0116-059	5.92 acres	MDR	82	3.27%
Jones Hamilton	092-0116-060	9.12 acres	MDR	126	5.04%
SHH, LLC	092-0115-012	2.00 acres	MHDR	48	1.91%
SHH, LLC	092-0115-013	4.11 acres	MHDR	98	3.92%
Torian	092-0115-008	10.00 acres	MDR/MHDR	138	5.53%

Property Owner	APN	Area Zoned for Residential	Land Use/Zoning Designation	Maximum Number Units	Percentage of Total
Torian	092-0115-010	32.22 acres	LDR/MDR/MHDR	445	17.81%
TOTAL		159.75 acres		2,500	100%

Adjustments/Transfers

The proposed Specific Plan would also allow adjustments to the boundaries and acreages of those land use/zoning designations set forth in Table 3.3, as well as a transfer of dwelling units between APNs.

Adjustment Policies

Project applications may incorporate an adjustment to the boundaries and acreages on file with the City for land use/zoning designations without necessitating a Specific Plan Amendment provided the total gross acreage of area land use/zoning does not change by more than 20 percent from the original gross acreage approved under the Specific Plan. A revised Land Use Plan as well as a revised Proposed Land Use Table must be submitted to the City for each proposed revision or set of revisions to the land use/zoning designation boundaries.

Transfer of Dwelling Units Policy

The transfer of dwelling units between APNs would be permitted as of right provided there would not be a net increase in the total dwelling units permitted by the Specific Plan (2,500). The Specific Plan also provides for policies and procedures for the automatic transfer of allocated units which are not utilized in connection the development of an APN as defined in the Specific Plan. A revised Unit Allocation Table would have to be filed with the City for each proposed transfer of dwelling units.

PERMITTED USES

Land uses within the Dumbarton TOD Specific Plan would be regulated by the application of permitted, conditionally permitted, and/or administratively permitted uses designated by the zoning district applied to each parcel (i.e., LDR, POS and C). Except as otherwise provided in the Dumbarton TOD Specific Plan, permitted uses, development standards, processing requirements, and other regulations are as specified by the City of Newark Zoning Ordinance.

DEVELOPMENT STANDARDS

The Dumbarton TOD Specific Plan outlines detailed development regulations for streets and residential product types, as well as mixed-use development and multi-family development. As noted in the Specific Plan, other development regulations not covered in the Dumbarton TOD Specific Plan would be governed by the City of Newark Zoning Ordinance.

DESIGN GUIDELINES

The Dumbarton TOD Specific Plan Site includes Design Guidelines to illustrate the desired character of the built environment through site, building, and landscape design. The Design Guidelines are design suggestions intended to help the City and developers achieve a mixed-use community with a consistent quality and distinct sense of place and include recommendations for variety of architectural styles, building types, building forms, roof pitches, materials and architectural details. In addition, recommendations for the Neighborhood Center address site design, street furnishings and landscaping. Recommendations for multi-family residential uses also address site design and landscaping, as well as relationship between buildings. The Dumbarton TOD Specific Plan also includes Design Guidelines for parks and open space (pedestrian and bicycle facilities, public streets, public open space, parks, terraces, courtyards, and the passive and active areas of the Specific Plan area), as well as circulation (streets, walkways and trails).

PARKS AND OPEN SPACE

The Dumbarton TOD Specific Plan includes a number of Park and Open Space goals, principles, design concepts, and policies that strive to ensure that adequate and attractive park and open space amenities are provided. The Park and Open Space goals of the Specific Plan are:

- ◆ Enhance the natural qualities of the area;
- ◆ Draw from the region's climate and native plants;
- ◆ Convey the identity of the community and neighborhoods;
- ◆ Create flexibility for community needs; and
- ◆ Landscaping safety and security.

The following lists the Park and Open Space Principles of the Dumbarton TOD Specific Plan:

- ◆ Provide park space to meet the recreational needs of the Specific Plan area residents and visitors; and
- ◆ Provide attractive, unique public spaces that define the community.

Dumbarton TOD Specific Plan policies address park accessibility, perimeter trail improvements, public plazas, community landscaping, plant and landscape materials, furnishings, fences, gates, railings, and walls.

The Dumbarton TOD Specific Plan proposes a parks standard of a minimum of two acres per 1,000 residents for the Dumbarton TOD Specific Plan area, resulting in a minimum of approximately 16.3 acres of parkland. Three areas within the Specific Plan area have been designated and zoned as parkland and would be required to be dedicated and set aside for parks and recreation uses, including: (1) a community park of approximately 6.5 acres directly west of the proposed Neighborhood Center; (2) a perimeter trail/linear park of approximately 3.92 acres extending around the Specific Plan area and connecting to the existing Bay Trail at Willow Street; and (3) a park of approximately 2.3 acres on the current Gallade property.

A minimum of 16.3 acres of parkland within the Specific Plan area would be achieved through the designation, zoning and dedication of the three areas of parkland described above as well as dedications and in lieu fees required in connection with proposed subdivisions within the Specific Plan area. Proposed subdivisions would be required to comply with the requirements set forth in Chapter 16.30 of the Newark Municipal Code (Parks Ordinance) as modified based upon the Specific Plan formula of two acres of park per 1,000 residents. The dedication requirement would be satisfied as provided in the Parks Ordinance through one or more of the following options:

- ◆ If the proposed subdivision includes land designated and zoned POS in the Specific Plan, the subdivision must dedicate land for an area or community park as provided in Section 16.30.050 of the Parks Ordinance but based upon a formula of two acres of park per 1,000 residents;
- ◆ If the proposed subdivision does not include land designated and zoned POS in the Specific Plan, at the option of the subdivider/developer, the subdivision may: (1) dedicate land outside the proposed subdivision and within the Specific Plan area which is either zoned POS, or not zoned POS but acceptable to the City for an area or community park, as provided in Section 16.30.050 of the Parks Ordinance but based upon a formula of two acres of

park per 1,000 residents; (2) pay an in lieu fee as provided in Section 16.30.060 of the Parks Ordinance but based upon a formula of two acres of park per 1000 residents; and/or (3) receive credit for private open space provided by the proposed subdivision as set forth in Section 16.30.100 of the Parks Ordinance but based upon a formula of two acres of park per 1,000 residents.

All provisions of the Parks Ordinance, including exemptions, would apply to subdivisions within the Specific Plan area except as modified by the Specific Plan formula of two acres of park per 1,000 residents.

CIRCULATION

Vehicular Access/Street Design

The Dumbarton TOD Specific Plan proposes a circulation system that would include an interconnected network of streets, as well as improved connections to the greater City of Newark. The new circulation network would consist of different street types, each with a different character and function to serve the transportation needs of the community. Proposed access to the community would be provided by new main entrances from Enterprise Drive and Central Avenue, which would be the main east/west arterials through the Specific Plan area. Willow Street would also provide access to the community from the north. Hickory Street would function as the main north/south arterial through the Specific Plan area. The Dumbarton TOD Specific Plan proposes the use of roundabouts on Enterprise Drive, Central Avenue, and Hickory Street, as well as on residential streets, as an alternative to traditional intersections.

The Specific Plan identifies the entire right-of-way required, street dimensions, sidewalk widths, and landscaping requirements for all street types within the Specific Plan area. In order to implement the proposed street design standards, the City of Newark would create an overlay district for the Dumbarton TOD Specific Plan area that would include allowances for transit-, bicycle-, and pedestrian-oriented streets with narrowed parking and travel lanes, and wider sidewalks and bicycle facilities. The streets within the Specific Plan area would be designed as “complete streets” to enable pedestrians, bicyclists and motorists of all ages and abilities to safely move along and across such a street.

Parking

As described previously under the Development Standards section, parking for the Dumbarton TOD Specific Plan would follow the requirements outlined in the City

of Newark Zoning Ordinance. However, parking within the Neighborhood Center may be shared use. Shared use parking refers to spaces that are available to multiple functions in close proximity which are unlikely to require the same spaces at the same time. The Dumbarton TOD estimates that 500 parking spaces would be required for the future Transit Station, 302 spaces would be required for retail uses, and 281 would be required for office uses. In addition, the Specific Plan proposes an overlay zone in the Low, Medium and Medium High and High Density residential areas that would provide for, but not require, reduced parking standards.

Transit

The Dumbarton TOD Specific Plan proposes a walkable, human scaled, transit oriented community. Key to the community would be its location adjacent to the future DRC Transit Station, which would provide residents of the community with access to regional rail service that travels through the Peninsula and the East Bay. However, until the regional train system is in service, there may be conventional bus service or a bus rapid transit system. Therefore, a bus station hub is included in the overall planning of the station. The Dumbarton TOD Specific Plan has been designed to place the majority of new residential units within the Specific Plan area within a 1/2 mile (ten minute) walking distance of the future Transit Station. The Specific Plan includes policies to enhance transit opportunities throughout the Specific Plan area and maximize their use by Plan area residents and visitors.

Pedestrian and Bicycle Circulation

A goal of the Dumbarton TOD Specific Plan is to create attractive, safe, inviting and efficient pedestrian and bicycle connections throughout the Specific Plan area, and to the greater City of Newark and beyond. These connections form an important link for residents, employees, and visitors to the Specific Plan area. Under the Specific Plan, all new streets would have sidewalks or other adjacent pedestrian facilities to create greater pedestrian connections throughout the Specific Plan area. In addition, the Specific Plan designates a perimeter trail/linear park of approximately 3.92 acres extending around the Specific Plan area and connecting to the existing Bay Trail at Willow Street and Central Avenue. Designated bicycle lanes are proposed on key internal roadways such as Enterprise Drive, Willow Street, Central Avenue, and the entrance to the future Transit Station.

INFRASTRUCTURE

Storm Drainage

The Specific Plan area would be graded to conform to the parameters set forth by the City of Newark and in the Alameda County Flood Control and Conservation District's (ACFC) Hydrology and Hydraulics Summary for Western Alameda County, as well as the requirements of the Federal Emergency Management Agency (FEMA). The drainage systems within the Specific Plan area would be designed so that lots, streets, and parks convey surface runoff to new inlets within the development, which would then transport the storm water through underground piping networks to discharge outlets. All public and private streets would be designed to comply with the requirements of the City of Newark. Final grading plans would reflect final sizing and routing of primary and secondary drainage conveyance lines, which would in turn be a function of the final land plans. Parks or other open areas that are incorporated into the final plan may not need to be filled to the elevations depicted in the conceptual plan, but any depressed area may be subject to inundation during storm events.

It is expected that approximately 500,000 to one million cubic yards of fill material would need to be imported to the site to comply with City requirements. However, the grading design should minimize the distance between any particular area and its outfall location to allow for the lowest possible elevations and minimize fill requirements at the northern and northeast portions of the Specific Plan area. Due to the significant quantity of fill material required to raise elevations across the site, a long-term staged import fill operation may be needed which may include the need for interim rough grading and stockpiling plans. Additionally, because portions of the Specific Plan area are underlain with Bay Mud, surcharging may be required to create viable sites.

The Dumbarton TOD Specific Plan proposes a Conceptual Grading and Drainage Plan that illustrates one potential grading and drainage scheme, which could vary from the ultimate final grading and drainage patterns in the Specific Plan area. This EIR analyzes the potential impacts associated with the conceptual scheme described in this document; however, should a different final grading and drainage plan be proposed, which would result in significant impacts not analyzed by this EIR, additional environmental review may be required.

The Conceptual Grading and Drainage Plan proposes three distinct drainage shed areas within the Specific Plan area, which are described below.

Shed 1: F-1 East Drainage Area (South of DRC)

The Conceptual Grading and Drainage Plan anticipates that the drainage patterns in the eastern portion of the Specific Plan area, south of the DRC would generally match those planned for in ACFC's drainage map for Line F-1. The F-1 East Drainage Area would connect to existing City of Newark drainage facilities and require no new outfalls. Detention would not be needed within this area as long as peak discharge rates do not exceed those assumed by ACFC and the City of Newark.

Lands north of the SFPUC right-of-way would likely require crossings of the Hetch Hetchy Pipeline. Prior to final design, the aqueduct lines would need to be potholed at any proposed crossings to verify that they are at a sufficient depth to allow the storm drainage lines to pass over them. If they are not at sufficient depth, additional fill material may be required to raise the area.

Shed 2: West Drainage Area

The Conceptual Grading and Drainage Plan proposes that the northwest portion of the Specific Plan area drain to an existing human-created channel. Similar to Shed 1, a portion of Shed 2 lies north of the SFPUC right-of-way and any proposed crossings would have to be investigated and potentially mitigated with fill material. The West Drainage Area would require an assessment upon final grading and drainage plans to determine if a new outfall is required at the existing human-created channel and whether regulatory permitting would be required for such an outfall. Detention may or may not be needed upon final grading and drainage plans depending upon confirmation of hydraulic conditions.

Shed 3: Willow Street Drainage Area

The Conceptual Grading and Drainage Plan proposes that portion of the Specific Plan area that is north of the DRC would be tied into the existing City-owned lines in Willow Street. When the Final Grading and Drainage Plan is prepared, the City-owned lines would need to be analyzed to ensure that they can accommodate the increased run-off. Detention may be needed so that post-project peak flow rates do not exceed pre-project peak flow rates if the system is not capable of accommodating additional flows. The Willow Street Drainage Area would connect to existing City of Newark facilities and requires no new outfalls. Detention would not be needed within this area as long as peak discharge rates do not exceed those assumed by ACFC and the City of Newark.

Water

The Alameda County Water District (ACWD) supplies water to the Specific Plan area. Due to the amount of development proposed by Dumbarton TOD Specific Plan, it is subject to the requirements of Senate Bills 610 (SB 610) and 221 (SB 221), which require the preparation of a Water Supply Assessment (WSA). The ACWD prepared a WSA for the proposed Dumbarton TOD Specific Plan and determined that demand associated with development proposed by the Dumbarton TOD Specific Plan would be consistent with planning assumptions and is included in ACWD's forecast and water supply planning.

Water is delivered to the Specific Plan area through a 16-inch transmission main in Central Avenue at the south end of the site that creates a loop by extending up Willow Street and connecting to an existing 12-inch main in Enterprise Drive. There are also 16-inch transmission mains stubbed at the south end of Hickory Street and at Willow Street, just north of the DRC tracks. The existing looped system in Central Avenue and Enterprise Drive would be extended westerly to include Hickory Street. In order to serve the Specific Plan area, a 16-inch connection between the transmission mains south and north of the tracks may be required to maintain adequate pressure and redundancy in the system.

Within the Specific Plan area, future development would be required to install distribution mains within the street network to serve fire and domestic water needs. It is anticipated that new distribution mains in "backbone" streets would be ten inch or 12-inch in diameter and distribution mains in local streets would be eight inch or ten inch in diameter. A water model would need to be performed based on final land plans, building types, water demands, fire flow requirement, and phasing, to establish final, actual line sizes in each street, and to determine whether the 16-inch connection between mains south and north of the railroad tracks described above would be required.

Sanitary Sewer

The City, including the Specific Plan area, is within the service boundaries of the Union Sanitary District (USD), which also serves the cities of Fremont and Union City. The District owns and maintains a system that consists of gravity and pressure pipes, pumping facilities, detention facilities and the Alvarado Treatment Plant, which is located in Union City, north of the Specific Plan area.

The Specific Plan area is primarily served by a 36-inch trunk gravity main in Willow Street (Willow Street 36-inch), which carries wastewater flows from the southwest

portion of Newark, north through the Specific Plan area, across (beneath) the Hetch Hetchy Pipeline and Southern Pacific Railroad (SPRR) and into parallel 36-inch and 42-inch trunk gravity mains that flow to the west in the SPRR right-of-way (SPRR Mains). The SPRR Mains combine into a single 48-inch gravity sewer main that continues to the Newark Pump Station near the northwest corner of the Specific Plan area. Wastewater is pumped from the station through twin 33-inch force mains to the Alvarado Treatment Plant, approximately five miles to the north. In addition to the Willow Street 36-inch, there is a 14-inch gravity line in Enterprise Drive (Enterprise Drive 14-inch) that flows from east to west before turning to the northwest to run diagonally across the FMC property. This line is in disrepair, is shallow and only serves as a redundant line to the Willow Street 36-inch and the SPRR Mains, in the event of excessive surcharging in those lines.

Dual 33-inch force mains owned and operated by the East Bay Dischargers Authority (EBDA) traverse the Specific Plan area generally from south to north and at a depth of approximately five feet within the existing right-of-way for Hickory Street between the Torian and Ashland properties to the east and Cargill property to the west, then follow FMC's property southern boundary before heading northerly again (EBDA Mains). The EBDA Mains do not serve the Specific Plan area but carry wastewater from the Irvington Pump Station near the Fremont Boulevard Interchange at Interstate 880 to the Newark Pump Station. These pipes may be sensitive to movement and subject to failure should heavy construction occur over or in the vicinity of the pipelines. Mitigation measures may therefore be necessary as part of the implementation of the Specific Plan to protect the EBDA Mains or project proponents may consider the option of replacing the EBDA Mains within the Hickory Street right-of-way working closely with the USD.

In general, most new connections to the existing wastewater collection system are anticipated to be made to the Willow Street 36-inch gravity main. A new 12-inch gravity sewer main may be required to the areas located west of the EBDA Mains to avoid potential conflicts with those pipelines. There is no particular limit to the number of connections that can be made. However, it is anticipated that improvements may be required to both the 36-inch gravity trunk sewer in Willow Street and possibly the 42-inch gravity trunk sewer in the SPRR due to future development associated with the Dumbarton TOD Specific Plan and deficiencies in these lines identified by the USD.

The Newark Pump Station recently underwent an 11 million dollar upgrade and it is anticipated that no further upgrades would be needed to serve the proposed Dumbarton TOD Specific Plan area. However, the force mains that convey flow

from the station to the Alvarado Treatment Plant may be undersized for the buildout conditions associated with the Union Sanitary District Master Plan. An additional line may be needed or, alternatively, an equalization basin near the pump station may be constructed and utilized to detain wastewater during peak times. The District has land near the Newark Pump Station for this purpose, but has not constructed a basin.

IMPLEMENTATION

The Dumbarton TOD Specific Plan identifies the necessary infrastructure improvements to support the proposed land uses, as well as the funding options for the improvements and the phasing of the improvements. Necessary infrastructure improvements include, but are not limited to: roadways/sidewalks and utility systems (i.e., water supply/distribution, sewer, storm drainage). Funding options include, but are not limited to: special districts and fees, community facilities districts (CFDs), redevelopment funds, special assessment districts, area of benefit fees, infrastructure financing districts, and landscaping and lighting districts.

PHASING

The Specific Plan is intended to be built over time and in various phases. At the same time, there are no requirements within the Specific Plan for parcels to be developed in any particular order so long as supporting infrastructure is available or made available to accommodate new development. The ultimate phasing of the Specific Plan buildout would be highly dependent upon the timing of available land, the market demand for various product types and the availability of financing and funds for the installation of infrastructure.

3.7 INTENDED USES OF THE EIR

This EIR has been prepared at the program-level under CEQA Guidelines Section 15168 to assess and document the environmental impacts of the Dumbarton TOD Specific Plan. Wherever possible, however, additional development-level information has been produced so that this EIR can be used on specific development proposals. Therefore, subsequent activities undertaken pursuant to the Specific Plan would be examined in the light of this EIR to determine whether any additional environmental document must be prepared. (14 CCR § 15168(c).) Under Government Code Section 65457, any residential development project, including any subdivision or zoning change, that is undertaken to implement and is consistent with the Dumbarton TOD Specific Plan is exempt from further CEQA analysis, unless an event specified in Public Resources Code Section 21166 occurs,

in which case a Supplemental EIR or other CEQA document may be required. As a program-level EIR, the EIR serves as the primary environmental document for the proposed land use designations, zoning districts, and future development that would be undertaken in the Dumbarton TOD Specific Plan area. Development that does not require discretionary review would not be subject to further environmental documentation.

This EIR provides the environmental information and evaluation necessary for the range of development evaluated in this EIR. This EIR provides the foundational CEQA compliance documentation upon which the City's, responsible agencies', and all other applicable agencies' consideration of and action on all necessary and/or desirous permits, approvals and other grants of authority (collectively, "approvals") shall be based. This includes without limitation all those approvals set forth in this EIR, as well as any additional approvals necessary and/or desirous to such project planning, development, construction, operation and maintenance (e.g., any development plans, construction approvals, grading permits, building permits, architectural review, certificates of occupancy and any other development related approvals). Other agencies with jurisdiction over approvals necessary or desirous to the project include, without limitation, the following:

- ◆ U.S. Army Corps of Engineers
- ◆ U.S. Fish and Wildlife Service
- ◆ California Department of Fish and Game
- ◆ California Department of Toxic Substances Control
- ◆ California Regional Water Quality Control Board
- ◆ Bay Area Air Quality Management District
- ◆ Alameda County Water District
- ◆ Alameda County Flood Control and Water Conservation District
- ◆ East Bay Dischargers Authority
- ◆ Union Sanitary District
- ◆ San Francisco Public Utilities Commission
- ◆ San Francisco Water Department
- ◆ San Mateo County Transit District
- ◆ San Mateo County Transportation Authority

4.1 AESTHETICS

This section describes the aesthetic and visual resource conditions within the Specific Plan area and vicinity and discusses the potential aesthetic impacts that could result from implementation of the proposed Dumbarton Transit Oriented Development (TOD) Specific Plan. The primary visual and aesthetic concerns are the general changes in land use and visual character within the Specific Plan area; potential impacts to existing views from adjacent properties; and visual compatibility of the proposed Specific Plan with the surrounding area. Visual impacts were evaluated using a combination of a site reconnaissance; review of photo documentation and aerial photographs, and a review of existing policy documents (e.g., City of Newark General Plan).

4.1.1 ENVIRONMENTAL SETTING

4.1.1.1 VISUAL IMAGE

Visual images dominate an observer's impressions of a region. To understand how visual images influence an observer's impressions, the aesthetic value of an area must first be defined. Aesthetic value is a measure of visual character and scenic quality combined with a viewer's response to the area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure to a viewshed varies with the number of viewers, the number of views seen, the distance of the views, and the viewing duration. Viewer sensitivity is related to the extent of the public's concern for particular visual resources.

Both natural and artificial landscape features contribute to perceived visual images and aesthetics value of a view. Aesthetic value is influenced by geologic, hydrologic, botanical, wildlife, recreational and urban features. Visual images and their perceived visual quality can vary significantly seasonally and even hourly as weather, light, shadow and the elements that compose the resource change.

4.1.1.2 REGIONAL VISUAL SETTING

As set forth in Chapter 3 (Project Description), the Dumbarton TOD Specific Plan area is located in the City of Newark (City) within Alameda County (County) along the eastern edge of the San Francisco Bay, approximately 15 miles north of San Jose and 30 miles southeast of San Francisco.

Highway 880 establishes the eastern boundary of the City; Highway 84 defines the northern boundary of the City; and the San Francisco Bay defines the western boundary of the City, which dramatically influences the visual landscape. Portions

of the City are also located within the limits of the Don Edwards San Francisco Bay National Wildlife Refuge. (Refuge), which contributes substantially to the open feeling and provides a unique and regional scale open space resource. Also contributing to the open space qualities are the salt evaporation ponds of Cargill Salt Company and views from various locations within Newark to the eastern hills located beyond the developed portions of the City of Fremont.

Development in the City has been partially shaped by the constraints imposed by the adjacent highways. Commercial and industrial growth in the City has occurred along the freeways in the eastern and northern portion of the City. This development has buffered the more sensitive land uses (e.g., residential, parks, schools, etc.) from the adverse effects associated with the freeways. Along the western side of the City between the established residential areas and the Refuge, industrial development has taken place.

4.1.1.3 PROJECT VISUAL SETTING

The approximately 205-acre Dumbarton TOD Specific Plan area is located at the western edge of the City and is generally bounded by tracks to the north/northwest, salt production facilities located adjacent to San Francisco Bay to the south and west, and Willow Street and industrial and residential uses to the east.

The Specific Plan area is disturbed and primarily vacant with the exception of a chemical blending and distribution facility located in the northeastern corner, a storage area for base-rock and tractor trailers used in construction projects located in the northeastern portion, and a dog training facility and a police firing range located in the south central portion. In general, the Specific Plan area is characterized by large, open, expansive, weedy fields with some scattered marsh and areas of seasonal wetland vegetation. As discussed in greater detail in Chapter 4.3 (Biological Resources), some trees exist on the site. Most of the Specific Plan area is enclosed by fencing with restricted access and contains remnants of the former industrial development that previously existed in the area. Figures 4.1-1 and Figure 4.1-2 (Photographs of Specific Plan Area) present photographs of existing conditions of the Specific Plan area.

View of the southwestern portion of the project site from Willow Street



View of the central portion of the project site from Willow Street



Source: RBF Consulting

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View of the central portion of the project site from Enterprise Drive



View of vacant industrial buildings in the northern portion of the project site off Enterprise Drive



Source: RBF Consulting

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Hickory Street, Willow Street and Enterprise Drive are City-owned roads/right-of-ways within the enclosed boundaries of the Specific Plan area. Hickory Street is currently an unpaved public right-of-way running north to south within the Specific Plan area. Central Avenue currently ends at Willow Street and does not yet extend through the Specific Plan area.

The topography of the Specific Plan area is generally flat with elevations ranging from approximately five to 15 feet above mean sea level (MSL). However, there are some isolated bedrock outcroppings, stockpiles and levees where elevations are as high as approximately 40 feet above MSL.

The Specific Plan area contains several rights-of-way and transportation and utilities easements. The northern portion of the Specific Plan area is underlain by the Hetch-Hetchy Pipeline, which travels from east to west. The Dumbarton Rail Corridor (DRC) runs in an east/west direction generally along the northern edge of the Specific Plan area, almost parallel to the Hetch-Hetchy Pipeline. The Alameda County Flood Control F-1 Canal flows from east to west along the Specific Plan area's southern boundary. A tributary to this canal, the F-6 ditch generally flows from north to south along the Specific Plan area's easterly boundary and runs north along the west side of Willow Street for a distance of about 1,300 feet. Pacific Gas and Electric (PG&E) transmission lines traverse the Specific Plan area from north to south.

4.1.1.4 SURROUNDING LAND USES

A variety of commercial/industrial, residential and open space uses surround the Dumbarton TOD Specific Plan area. Commercial/industrial uses are generally located north, east/southeast and west; residential uses are to the northeast, and open space uses are located to the north and existing, on-going salt production and harvesting operations are located to the south and west.

The DRC borders the majority of the Specific Plan area to the north. Immediately north of the DRC is a small commercial/industrial park; directly west of the commercial/industrial park is open space with levees and several sloughs, ditches and canals, as well as the above ground segment of the Hetch-Hetchy Pipeline; residential neighborhoods are located to the northeast (residential neighborhoods border the Specific Plan area on the north and east and extend further northeast). Further northwest is the Don Edwards San Francisco Bay National Wildlife Refuge. The Coyote Hills Regional Park is located further north of the Don Edwards San Francisco Bay National Wildlife Refuge. The San Francisco Bay Trail

is developed on top of the levees to the north of the Specific Plan area, just north of the DRC. In the immediate vicinity, the existing Bay Trail Plan calls for it to be extended along Thornton Avenue, down Willow Street, and continue along Central Avenue to the east.

The approximately 26-acre Plummer Creek Mitigation Bank is located directly south of the Specific Plan area. Commercial Cargill salt production and harvesting operations surround the mitigation bank to the south, southwest, southeast and west.

Residential neighborhoods border the Specific Plan area to the east. Just south of those neighborhoods, to the east and southeast of the Specific Plan area, is the area is developed with industrial and light-industrial buildings that are primarily single-story, concrete tilt-up construction. Many of these buildings are currently vacant.

4.1.1.5 SCENIC VISTAS

A scenic vista is a view of natural environmental, historic and/or architectural features possessing visual and aesthetic qualities of value to the community. The term “vista” generally implies an expansive view, usually from an elevated point or open area. There are no designated scenic vistas in the vicinity of the Specific Plan area. However, according to Figure 6-1 in the City of Newark General Plan, the Barge Channel in the northwestern portion of the Specific Plan area is designated as an area of visual significance.

4.1.1.6 SCENIC HIGHWAYS AND ROADWAYS

The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans) protects scenic State highway corridors from changes which would diminish the aesthetic value of lands adjacent to highways. According to the California State Scenic Highway Program, there are no State-designated scenic highways within or adjacent to the City.¹

¹ California Department of Transportation website, Officially Designated State Scenic Highways, <http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm>, accessed February 14, 2011.

According to the City of Newark General Plan, none of the local roadways in the vicinity of the Specific Plan area are considered major gateways or pathways of visual significance.

4.1.1.7 LIGHT AND GLARE

Lighting nuisances can generally be categorized by the following:

- ◆ Glare – Intense light that shines directly, or is reflected from a surface into a person’s eyes;
- ◆ “Skyglow”/Nighttime Illumination – Artificial lighting from urbanized sources that alters the urban landscape in sufficient quantity to cause excessive lighting of the nighttime sky and reduction of visibility of stars and other astronomical features; and
- ◆ “Spillover” Lighting – Artificial lighting that spills over onto adjacent properties, which could interrupt sleeping patterns or cause other nuisances to neighboring residents.

Lighting within the Specific Plan area is fairly minimal and consistent with the type of nighttime illumination generated by the surrounding urban development in the project vicinity.

4.1.2 REGULATORY SETTING

4.1.2.1 LOCAL FRAMEWORK

CITY OF NEWARK GENERAL PLAN

The Land Use Element of the City of Newark General Plan sets forth several goals, policies and programs with respect to aesthetic resources.

- | | |
|----------|--|
| Goal 2 | Promote high quality development that establishes the City’s character as distinctive from that of the other cities in the Bay Area. |
| Policy a | Maintain high standards for design and appearance of all new development, with special emphasis for those areas adjacent to the city’s entrances and along major arterial streets. |

Aesthetics Section 4.1

Program 1	Establish a distinctive character for each of the City's gateways including the elements of sculpture and other art forms, landscaping, paving, lighting, signage, etc.
Program 3	Utilize the City's median and street tree policies to assure high quality improvements in the streetscape with particular emphasis on the City's gateways.
Program 4	Landscape along major arterials and at the major entrances.
Policy b	Encourage architectural styles for new development that are compatible with and complement adjacent developments, and that will enhance the overall quality of the development and the area.
Program 4	Maintain design guidelines and a design review process that apply to building and site design throughout the city.
Program 5	Assure that multi-family projects have adequate landscaping, off-street parking, recreational facilities and provisions for management and maintenance.
Policy c	Upgrade existing structures and sites, particularly those located along major arterials where deficiencies in appearance and aesthetics create a negative image of the City and/or impact the value of the property.
Program 6	Improve the appearance of existing development by encouraging adequate landscaping, the maintenance of existing buildings and the use of materials for upgrading the buildings that are of higher quality than may presently exist.
Goal 3	Maintain the quality of life by assuring the compatibility of land uses.
Policy d	Provide for control of excessive exterior lighting.
Program 10	Utilize the city's development regulations and design review procedures to reduce potential light and glare impacts to non-

significant levels. Design review procedures should encourage consideration of the following:

- ◆ Use of low pressure sodium lights where security needs permit;
- ◆ Restricting height of exterior lighting fixtures to minimize light spill;
- ◆ Directing exterior lighting onsite to minimize spill-over;
- ◆ Shielding for exterior lights;
- ◆ Minimizing use of highly reflective building materials;
- ◆ Restricting the use of non-security exterior lighting for commercial, industrial, and institutional uses.

Program 11 Work with public and private land owners and organizations to minimize offsite impacts of exterior lighting associated with public and private recreational facilities.

CITY OF NEWARK MUNICIPAL CODE

Other than the City of Newark General Plan, the City's Municipal Code is the primary regulatory structure that shapes the form and character of physical development within the City. Standards and regulations established in the City's Municipal Code are used to implement the goals and policies of the General Plan. Two primary sections of the City's Municipal Code contain regulations to maintain the aesthetic quality and character of the City: Subdivision Regulations and Zoning Regulations.

The Subdivision Regulations (Section 16) are established to ensure the orderly development of lands partially or wholly within the incorporated City. The ordinance also provides standards for design and construction of street improvements.

The Zoning Regulations (Section 17) provide specific requirements for development in the City to achieve the general arrangement, configuration, and intensity of land uses identified in the Land Use Element of the General Plan. Among the primary objectives of the zoning standards are the regulation of building form, placement and density, and the provision of sufficient parking and open spaces corresponding to different types of development.

4.1.3 ENVIRONMENTAL ANALYSIS

4.1.3.1 THRESHOLDS OF SIGNIFICANCE

According to the Appendix G of the CEQA Guidelines, the Dumbarton TOD Specific Plan would have a significant impact on aesthetics if it would:

- ◆ Substantially degrade the existing visual character or quality of the site and surroundings;
- ◆ Have a substantial adverse impact on a scenic vista;
- ◆ Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway; and/or
- ◆ Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

POTENTIAL DEGRADATION OF EXISTING VISUAL CHARACTER

- 4.1-1 **The proposed project would alter the existing visual character of the Specific Plan area from primarily vacant disturbed land to urban development, which would change existing views to and from the surrounding area.**

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The Specific Plan area is disturbed and primarily vacant with the exception of a chemical blending and distribution facility located in the northeastern corner, a storage area for base-rock and tractor trailers used in construction projects located in the northeastern portion, and a dog training facility and a police firing range located in the south central portion. In general, the Specific Plan area is characterized by large, open, expansive, weedy fields with some scattered and fragmented non-tidal saline marsh and areas of seasonal wetland vegetation with visible remnants of prior industrial development.

The Dumbarton TOD Specific Plan would provide a comprehensive policy and regulatory framework to guide future development and redevelopment within the approximately 205-acre Dumbarton TOD Specific Plan area. The proposed

Specific Plan would establish the allowable land uses, development regulations, design guidelines, necessary infrastructure improvements, and an implementation plan to direct future development and redevelopment of the Specific Plan area. Implementation of the proposed Specific Plan would allow a mix of residential, office, retail, public/quasi-public, and park and open space uses. Figure 3-4 (Dumbarton TOD Specific Plan Land Use Map) depicts the location of the various land uses proposed by the Dumbarton TOD Specific Plan.

A Retail/Commercial Center would be located in the north central portion of the Specific Plan area, immediately south of the DRC. The Retail/Commercial Center would provide up to 35,000 square feet of retail space and up to 195,000 square feet of office space in buildings clustered near the future DRC transit station.

Residential neighborhoods would be the dominant feature within the Specific Plan area with a maximum of 2,500 dwelling units. Proposed neighborhoods would offer a wide variety of housing choices at various densities, including single-family attached and detached homes, townhomes, live/work townhomes, condominiums, and apartments. In addition, residential units would be permitted above retail uses in the Retail/Commercial Center. Residential neighborhood design would emphasize a modified grid street network that would promote pedestrian-scaled streets and interweaving of various home types to create the appearance of development over time rather than development of discrete housing tracts. Sound and privacy walls would be eliminated where feasible in support of creating an integrated community.

Proposed park and recreational open space areas would provide the community with both passive and active recreational opportunities with the provision of approximately 16.3 acres of parkland within the proposed Specific Plan area. An approximate 6.5-acre park would be located directly west of the proposed Retail/Commercial Center and an approximate 2.3 acre park would be located in the northeast corner of the Specific Plan area, with other park and open space/trail uses proposed throughout the Specific Plan area.

Land uses within the Dumbarton TOD Specific Plan would be regulated by the application of permitted, conditionally permitted, and/or administratively permitted uses designated by the zoning district applied to each parcel (e.g., Residential, Open Space and Commercial). Except as otherwise provided in the Dumbarton TOD Specific Plan, permitted uses, development standards, processing requirements, and other regulations are as specified by the City of Newark Zoning Ordinance.

The proposed Specific Plan outlines detailed development regulations for streets and residential product types, as well as mixed-use development and multi-family development. The Dumbarton TOD Specific Plan Site and Architecture Design Guidelines illustrate the desired character of the built environment through site, building and landscape design. The Guidelines are design suggestions intended to help the City and developers achieve a mixed-use community with a consistent quality and distinct sense of place. The Guidelines include recommendations for variety of architectural styles, building types, building forms, roof pitches, materials, and architectural details. In addition, recommendations for the Retail/Commercial Center also address site design, street furnishings and landscaping. Recommendations for multi-family residential uses also address site design and landscaping, as well as the relationship between buildings. The Dumbarton TOD Specific Plan also includes Design Guidelines for parks and open space (pedestrian and bicycle facilities, public streets, public open space, parks, terraces, courtyards, and the passive and active areas of the Specific Plan area), as well as circulation (streets, walkways, and trails).

The overall change in the visual character of the Specific Plan area from primarily disturbed and vacant land to the more urban and suburban land use proposed by the Specific Plan would result in a permanent change in the character of the project area. The change to the visual character of the planning area would occur over time as the proposed project would be built-out in phases. A variety of commercial/industrial, residential, and open space uses surround the Dumbarton TOD Specific Plan area so there is no prevailing development pattern in the vicinity. Commercial/industrial uses are generally located to the north, east, south and west and residential uses are to the northeast; and, . The proposed project would complement the surrounding development and would be required to comply with strict development regulations and Design Guidelines in the proposed Specific Plan to ensure the proposed project is of quality design and is consistent with the City of Newark General Plan. Implementation of the linear trail planned for the perimeter of the west, northwest, and southern portions of the Specific Plan area, as well as a public park in the northern portion of the area would preserve public views of the Refuge and the Bay.

Implementation of the proposed project (including without limitations its Design Guidelines) does not result in a significant degradation of the visual character of the Specific Plan area or surrounding area, or views to or from the surrounding area. Therefore, the proposed Specific Plan would have a less than significant impact on visual character.

Mitigation Measure:

4.1-1 No mitigation required.

Level of Significance After Mitigation: Not applicable.

DEGRADATION OF A SCENIC HIGHWAY OR SCENIC VISTA

4.1-2 The proposed project would alter the existing visual character of the Specific Plan area, but would not degrade scenic resources within a State scenic highway or impact a scenic vista.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

As previously described, there are no State-designated scenic highways within or adjacent to the City. In addition, none of the local roadways in the vicinity of the Specific Plan area are considered major gateways or pathways of visual significance under the City's General Plan.

A scenic vista is generally described as a clear, expansive view of significant regional features possessing visual and aesthetic qualities of value to the community. Views to and from the Specific Plan area would be primarily from neighboring streets including Willow Street and Enterprise Drive, as well as from surrounding commercial office and residential land uses.

According to the City of Newark General Plan, the Specific Plan area is not located within one of the City's major gateways or pathways. Although future development would be visible from surrounding land uses, there is not an identifiable scenic vista on these adjacent properties from which the proposed project would ultimately detract in a significant way. However, according to Figure 6-1 in the City of Newark General Plan, a waterway/canal in the western portion of the project site is identified as an area of visual significance. The proposed Specific Plan would include a perimeter trail surrounding the Specific Plan area, as well as the construction of a 6.5-acre park that would be located adjacent to this area, which would help to preserve public views to and from this visual resource, as well as views of the Refuge and the San Francisco Bay.

Therefore, implementation of the proposed Specific Plan would not result in a degradation of a scenic highway or impact a scenic vista. Impacts from the proposed project would be considered less than significant.

Mitigation Measure:

4.1-2 No mitigation required.

Level of Significance After Mitigation: Not applicable.

INCREASED LIGHT AND GLARE

4.1-3 The proposed Specific Plan would introduce new sources of light and glare.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

Implementation of the proposed Specific Plan would result in the installation of new sources of light in an area that currently contains a low amount of lighting on the relatively undeveloped site. Surrounding uses contribute lighting to the area at an intensity consistent with the low density development surrounding the project site.

The main sources of light from the proposed Specific Plan would be as follows: the project would generate daytime glare from sunlight reflecting on new structures with reflective surfaces such as windows. Windows and the design of new residential, commercial retail/office, and transit uses that would be considered potential sources of daytime glare. A source of glare during the nighttime hours would be artificial light generated primarily from the residential uses. The sources of new and increased nighttime lighting and illumination include, but are not limited to, new residential and commercial lighting, street lighting, lights associated with vehicular travel (i.e., car headlights) and any new security lighting associated with future development in the Specific Plan area.

New light sources would result in an incremental increase in ambient daytime and nighttime light and glare within the Specific Plan area and the surrounding area. According to the Specific Plan, the goal for the lighting design for the project is to provide a comfortable level of illumination that meets the community's need for use and safety. The proposed Specific Plan's Design Guidelines include lighting

standards for: 1) exterior illumination for streetlights and fixtures on Enterprise Drive and the entrance to the project, as well as secondary streets; 2) path and stair lighting; 3) building mounted lights; 4) accent lighting; and 5) special event lighting to ensure that lighting is architecturally designed and does not create excessive “spillover” light and glare into adjacent residential areas and habitat areas, including the adjacent Refuge.

Future development within the Specific Plan area would be required to comply with the lighting standards in Design Guidelines. Compliance with the Guidelines would, therefore, ensure that the proposed Specific Plan does not introduce substantial light and glare, which would pose a hazard or nuisance, or result in night sky illumination. Therefore, the proposed Specific Plan would have a less than significant impact on light and glare.

Mitigation Measure:

4.1-2 No mitigation required.

Level of Significance After Mitigation: Not applicable

4.1.3.3 CUMULATIVE IMPACTS AND MITIGATION MEASURES

CUMULATIVE DEGRADATION OF THE VISUAL CHARACTER AND INCREASED LIGHT AND GLARE

4.1.4 Future development of the project area allowed by the Dumbarton TOD Specific Plan could have a cumulatively considerable contribution to the degradation of visual character and contribute to increased light and glare.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The geographic scope of this impact is the immediate vicinity of the project area, generally within the eastern portion of the City, including views of the eastern hills located beyond the developed portions of the City of Fremont.

Development under the Specific Plan would be an extension of the existing residential and commercial retail/office uses located in the project vicinity and would result in a less than significant impact to the visual quality or character of the Specific Plan area and surrounding area. The past, present and reasonably foreseeable future projects anticipated by the City of Newark General Plan, as most recently updated, could contribute incrementally to changes in the visual character of the City and surrounding area, as well as result in additional light and glare. Because all development projects in the City would be required to comply with City codes and General Plan policies similar to those applicable to projects in the Specific Plan area, it is unlikely that there will be any significant direct cumulative impacts to visual character and light and glare from the proposed project.

There are not many present or reasonably foreseeable future major development projects in the City or surrounding cities that would indirectly result in a substantial degradation to visual character or quality of the area. Any future development within the project vicinity would be required to comply with all applicable City and/or County code standards and would be subject to the City and/or County planning review processes and appropriate environmental review. Cumulative development within the City would be required to comply with the City's zoning ordinance, which contains regulations to maintain the aesthetic quality of the City and thereby ensuring that cumulative development would result in a less than cumulatively considerable impact to the visual quality or character of the City and surrounding area and would have a less than significant impact on light and glare.

Mitigation Measure:

4.1-4 No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.2 AIR QUALITY

This section evaluates air quality conditions associated with short- and long-term impacts resulting from construction and operations of the proposed project. Information in this section is based primarily on the Bay Area Air Quality Management District (BAAQMD) *CEQA Air Quality Guidelines* (June 2010), the *Bay Area 2010 Clean Air Plan* (September 2010), Air Quality Data (California Air Resources Board 2007 through 2009), the Dumbarton TOD Specific Plan prepared by Dahlin Group (dated March, 22, 2011), and traffic data found in Section 4.14 (Traffic). Refer to Appendix B (Air Quality/GHG Data) for the assumptions used in this analysis.

4.2.1 ENVIRONMENTAL SETTING

The California Air Resources Board (CARB) divides the State into 15 air basins that share similar meteorological and topographical features. The project site is located within the San Francisco Bay Area Air Basin (Basin). This Basin comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

The City of Newark is located within the Southwestern Alameda County climatological subregion of the Basin. This subregion encompasses the southeast side of the San Francisco Bay, from Dublin Canyon to north of the City of Milpitas. A majority of the subregion is flat and is bordered on the east by the East Bay hills and on the west by the bay. The Basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys and bays, which distort normal wind flow patterns. The gap in the western coast range is known as the Golden Gate, and the gap in the eastern coast range is the Carquinez Strait. These gaps allow air to pass into and out of the Basin and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high pressure cell is centered over the northeastern Pacific Ocean resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band resulting in condensation and the presence of fog and stratus clouds

along the northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

4.2.1.1 WIND PATTERNS

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3 p.m. to 4 p.m.), compared with only seven knots at San Jose and less than six knots at the Farallon Islands. The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited and stagnant conditions are likely to result.

In the winter, the Basin frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the Basin.

4.2.1.2 TEMPERATURE

Summertime temperatures in the Basin are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays.

The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons the temperatures at the coast can be 35 degrees Fahrenheit (°F) cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10°F. In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

4.2.1.3 PRECIPITATION

The Basin is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the Basin to another even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys. During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing are usually high and, thus, pollution levels tend to be low. However, frequent dry periods do occur during the winter where mixing and ventilation are low and pollutant levels build up.

4.2.1.4 AIR POLLUTION POTENTIAL

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

4.2.1.5 WIND CIRCULATION

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commute traffic (early morning) and wood burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants upvalley during the day, and cold air drainage flows move the air mass downvalley at night. Such restricted movement of trapped air provides

little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

4.2.1.6 INVERSIONS

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth, which is the vertical depth in the atmosphere available for diluting air contaminants near the ground. The highest air pollutant concentrations in the Basin generally occur during inversions.

There are two types of inversions that occur regularly in the Basin. One is more common in the summer and fall, while the other is most common during the winter. The frequent occurrence of elevated temperature inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution. Elevated inversions are caused by subsiding air from the subtropical high pressure zone, and from the cool marine air layer that is drawn into the Basin by the heated low pressure region in the Central Valley.

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the build-up of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next to the ground. Mixing depths under these conditions can be as shallow as 50 to 100 meters, particularly in rural areas. Urban areas usually have deeper minimum mixing layers because of heat island effects and increased surface roughness. During radiation inversions downwind transport is slow, the mixing depths are shallow, and turbulence is minimal, all factors which contribute to ozone formation.

Although each type of inversion is most common during a specific season, either inversion mechanism can occur at any time of the year. Sometimes both occur simultaneously. Moreover, the characteristics of an inversion often change throughout the course of a day. The terrain of the Basin also induces significant variations among subregions.

4.2.1.7 SOLAR RADIATION

The frequency of hot, sunny days during the summer months in the Basin is another important factor that affects air pollution potential. It is at the higher

temperatures that ozone is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases and oxides of nitrogen react to form secondary photochemical pollutants, including ozone. Because temperatures in many of the inland valleys are so much higher than near the coast, the inland areas are especially prone to photochemical air pollution. In late fall and winter, solar angles are low, resulting in insufficient ultraviolet light and warming of the atmosphere to drive the photochemical reactions. Ozone concentrations do not reach significant levels in the Basin during these seasons.

4.2.1.8 SHELTERED TERRAIN

The hills and mountains in the Basin contribute to the high pollution potential of some areas. During the day, or at night during windy conditions, areas in the lee sides of mountains are sheltered from the prevailing winds, thereby reducing turbulence and downwind transport. At night, when wind speeds are low, the upper atmospheric layers are often decoupled from the surface layers during radiation conditions. If elevated terrain is present, it will tend to block pollutant transport in that direction. Elevated terrain also can create a recirculation pattern by inducing upvalley air flows during the day and reverse downvalley flows during the night, allowing little inflow of fresh air.

The areas having the highest air pollution potential tend to be those that experience the highest temperatures in the summer and the lowest temperatures in the winter. The coastal areas are exposed to the prevailing marine air, creating cooler temperatures in the summer, warmer temperatures in winter, and stratus clouds all year. The inland valleys are sheltered from the marine air and experience hotter summers and colder winters. Thus, the topography of the inland valleys creates conditions conducive to high air pollution potential.

4.2.1.9 LOCAL AMBIENT AIR QUALITY

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. Air quality monitoring stations usually measure pollutant concentrations ten feet aboveground level; therefore, air quality is often referred to in terms of ground-level concentrations. The closest air monitoring station to the project site is the Fremont-Chapel Way monitoring station, which was used to gather pollutant information from 2007 to 2009. The Fremont-Chapel Way Monitoring Station is located approximately five miles away from the project site and collects data for all criteria pollutants except PM₁₀ in 2009. Therefore, 2009 PM₁₀ data was collected from the Berkeley-6th Street Monitoring Station located at 1340 Sixth Street (approximately 28 miles from the project site). Local air quality

data from 2007 to 2009 is provided in Table 4.2-1 (Local Air Quality Levels). This table lists the monitored maximum concentrations and number of exceedances of Federal/State air quality standards each year as available.

Carbon Monoxide. Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency, as seen in high altitudes) are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of CO. Exposure to high levels of CO can slow reflexes and cause drowsiness, as well as result in death in confined spaces at very high concentrations.

Nitrogen Dioxide. Nitrogen oxides (NO_x) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone (O₃), and react in the atmosphere to form acid rain. NO₂ (often used interchangeably with NO_x) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO₂ occur in areas that have a high concentration of combustion sources (i.e., motor vehicle engines, power plants, refineries, and other industrial operations).

NO₂ can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO₂ concentrations that are typically much higher than those normally found in the ambient air, may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may aggravate eyes and mucus membranes as well as cause pulmonary dysfunction.

Ozone. O₃ occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately ten miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O₃ layer) extends upward from about ten to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

TABLE 4.2-1 LOCAL AIR QUALITY LEVELS

Pollutant	Primary Standard		Year	Maximum ¹ Concentration	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO) ² (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2007	2.5 ppm	0/0
			2008	1.9	0/0
			2009	2.0	0/0
Carbon Monoxide (CO) ² (8-Hour)	9 ppm for 8 hours	9 ppm for 8 hours	2007	1.57ppm	0/0
			2008	1.43	0/0
			2009	1.20	0/0
Ozone (O ₃) (1-Hour) ²	0.09 ppm for 1 hour	NA ⁴	2007	0.079 ppm	0/0
			2008	0.112	1/0
			2009	0.099	4/0
Ozone (O ₃) (8-Hour) ²	0.070 ppm for 8 hours	0.075 ppm for 8 hours	2007	0.068 ppm	0/0
			2008	0.079	3/1
			2009	0.075	2/1
Nitrogen Dioxide (NO ₂) ²	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2007	0.058 ppm	0/NA
			2008	0.062	0/NA
			2009	0.051	0/NA
Particulate Matter (PM ₁₀) ^{2,3,5,6}	50 µg/m ³ for 24 hours	150 µg/m ³ for 24 hours	2007	57.5 µg/m ³	1/0
			2008	37.5	0/0
			2009	33.5	0/0
Fine Particulate Matter (PM _{2.5}) ^{2,6}	No Separate State Standard	35 µg/m ³ for 24 hours	2007	51.2 µg/m ³	2/NM
			2008	28.6	0/NM
			2009	39.3	1/NM

ppm = parts per million PM₁₀ = particulate matter 10 microns in diameter or less
µg/m³ = micrograms per cubic meter PM_{2.5} = particulate matter 2.5 microns in diameter or less
NM = Not Measured NA = Not Applicable

Notes:

1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Fremont-Chapel Way Monitoring Station located at 40733 Chapel Way, Fremont, California 94538.
3. 2009 measurement taken at the Berkeley-6th Street Monitoring Station located at 1340 Sixth Street, Berkeley, California 94710
4. The United States Environmental Protection Agency revoked the Federal 1-hour Standard in June of 2005.
5. PM₁₀ exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6. PM₁₀ and PM_{2.5} exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, *Aerometric Data Analysis and Measurement System (ADAM) Air Quality Data Statistics*, <http://www.arb.ca.gov/adam/welcome.html>, accessed on March 1, 2011.

The “bad” O₃ is a photochemical pollutant, and needs reactive organic gases (ROGs), NO_x and sunlight to form; therefore, ROGs and NO_x are O₃ precursors. To reduce O₃ concentrations, it is necessary to control the emissions of these O₃ precursors. Significant O₃ formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O₃ concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O₃ in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O₃ (in the troposphere) can adversely affect the human respiratory system and other tissues. O₃ is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O₃. Short-term exposure (lasting for a few hours) to O₃ can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache and nausea.

Coarse Particulate Matter (PM₁₀). PM₁₀ refers to suspended particulate matter, which is smaller than ten microns or ten one-millionths of a meter. PM₁₀ arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM₁₀ scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, CARB adopted amendments to the Statewide 24-hour particulate matter standards based upon requirements set forth in the Children’s Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter (PM_{2.5}). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal PM_{2.5} standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new PM_{2.5} standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the U.S. Supreme Court reversed this decision and upheld the EPA’s new standards.

On June 20, 2002, CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the Statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide. Sulfur dioxide (SO₂) is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with sulfur oxides (SO_x) and lead (Pb). Exposure of a few minutes to low levels of SO₂ can result in airway constriction and reduction in breathing capacity in some asthmatics.

Reactive Organic Gases and Volatile Organic Compounds. Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including reactive organic gases (ROGs) and volatile organic compounds (VOCs). Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Toxic Air Contaminants. Toxic Air Contaminants (TACs) (also referred to as Hazardous Air Pollutants [HAPs]), are pollutants that result in an increase in mortality, a serious illness, or pose a present or potential hazard to human health. Health effects of TACs may include cancer, birth defects, and immune system and neurological damage.

TACs can be separated into carcinogens and noncarcinogens based on the nature of the physiological degradation associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Noncarcinogenic TACs differ in that there is a safe level in which it is generally assumed that no negative health impacts would occur. These levels are determined on a pollutant-by-pollutant basis.

TACs are not considered criteria air pollutants and, thus, are not specifically addressed through the setting of ambient air quality standards. Instead, the EPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology

(MACT and BACT) to limit emissions. These in conjunction with additional rules set forth by the BAAQMD establish the regulatory framework for TACs.

4.2.1.10 SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than is the general population. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools and parks. Existing sensitive receptors located in the project vicinity include single and multi-family residential homes, schools, parks, places of worship, and a hospital. Sensitive receptors are depicted in Table 4.2-2 (Sensitive Receptors).

TABLE 4.2-2 SENSITIVE RECEPTORS

Type	Name	Distance from Project Site (feet)	Direction from Project Site
Residential	Residential Uses	40	North
		275	East
Schools	Schilling Elementary School	1,455	Northeast
	Lincoln Elementary School	3,770	North
	Headstart Ash Street Center	2,580	East
	James Graham Elementary School	5,200	North
Parks	Ash Street Park	2,580	East
	Alderwood Park	4,120	East
	Mayhews Landing Park	5,100	Northeast
Religious Centers	Newark Christian Center	3,200	East
	Pentecostal Church of God of Newark	3,200	East
	Family Bible Fellowship	3,500	East
	Newark Community Church	4,900	East
	Living Hope Fellowship	4,300	East
	Jehova's Witnesses Newark North	5,100	Northeast
Church of Jesus Christ of Latter Day Saints	4,440	Northeast	

Source: Source: Google Earth 2011. Sensitive Receptor populations utilized in this analysis are those within a 1-mile radius of the project site.

4.2.2 REGULATORY SETTING

4.2.2.1 FEDERAL FRAMEWORK

U.S. ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O₃, CO, NO₂ (which is a form of NO_x), SO₂ (which is a form of SO_x), particulate matter less than ten and 2.5 microns in diameter (PM₁₀ and PM_{2.5}, respectively), and Pb. Refer to Table 4.2-3 (National and California Ambient Air Quality Standards).

4.2.2.2 STATE FRAMEWORK

CALIFORNIA AIR RESOURCES BOARD

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 4.2-3, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for preparation of the State Implementation Plan (SIP) for the State of California.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard, and are not used as a basis for designating areas as nonattainment.

4.2.2.3 LOCAL FRAMEWORK

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

BAAQMD is the regional agency with jurisdiction over the nine-county region located in the Basin. The Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), county transportation agencies, cities and counties, and various nongovernmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs.

BAAQMD is responsible for attaining and/or maintaining air quality in the Basin within federal and State air quality standards. Specifically, BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Basin and to develop and implement strategies to attain the applicable federal and State standards.

In June 2010, BAAQMD adopted its updated *CEQA Air Quality Guidelines* as a guidance document to provide lead agencies, consultants and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The *CEQA Air Quality Guidelines* include methodologies and thresholds for addressing project and program level air quality and greenhouse gas emissions.

In March 2010, BAAQMD, in cooperation with the MTC and ABAG, published the draft *2010 Bay Area Clean Air Plan*, which, supersedes the *Bay Area 2005 Ozone Strategy*. The *2010 Bay Area Clean Air Plan* updates the *2005 Ozone Strategy* in accordance with the requirements of the CCAA to achieve the following:

- ◆ Implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, toxic air contaminants and greenhouse gases in a single, integrated plan;
- ◆ Review progress in improving air quality in recent years; and
- ◆ Establish emission control measures to be adopted or implemented in the 2010 to 2012 time frame.

TABLE 4.2-3 NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California ¹		Federal ²	
		Standard ³	Attainment Status	Standards ⁴	Attainment Status
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Nonattainment	N/A ⁵	N/A ⁵
	8 Hours	0.07 ppm (137 µg/m ³)	Nonattainment	0.075 ppm (147 µg/m ³)	Nonattainment
Particulate Matter (PM ₁₀)	24 Hours	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
	Annual Arithmetic Mean	20 µg/m ³	Nonattainment	N/A ⁶	Unclassified
Fine Particulate Matter (PM _{2.5})	24 Hours	No Separate State Standard		35 µg/m ³	Nonattainment
	Annual Arithmetic Mean	12 µg/m ³	Nonattainment	15.0 µg/m ³	Attainment
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
	1 Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂) ⁷	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	N/A	53 ppb (100 µg/m ³)	Attainment
	1 Hour	0.18 ppm (339 µg/m ³)	Attainment	100 ppb (188 µg/m ³)	Unclassified
Lead (Pb)	30 days average	1.5 µg/m ³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m ³	Attainment
Sulfur Dioxide (SO ₂)	24 Hours	0.04 ppm (105 µg/m ³)	Attainment	N/A	Attainment
	3 Hours	N/A	N/A	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m ³)	Attainment	75 ppb (196 µg/m ³)	N/A
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified		
Sulfates	24 Hour	25 µg/m ³	Attainment		No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	N/A		

µg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

- California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM₁₀ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In 1990, the California Air Resources Board (CARB) identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 parts per million ambient concentration specified in the 1978 standard.
- National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
- Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- The Federal 1-hour ozone standard was revoked on June 15, 2005 in all areas except the 14 8-hour ozone nonattainment Early Action Compact (EAC) areas.
- The Environmental Protection Agency revoked the annual PM₁₀ standard in 2006 (effective December 16, 2006).
- To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that EPA standards are in units of ppb and California standards are in units of ppm.

Source: California Air Resources Board and U.S. Environmental Protection Agency, September 8, 2010.

The control strategy includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive program and other activities; and transportation control measures to be implemented through transportation programs in cooperation with MTC, local governments, transit agencies and others. The *2010 Bay Area Clean Air plan* also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the one-hour ozone standard.

4.2.3 ENVIRONMENTAL ANALYSIS

4.2.3.1 THRESHOLDS OF SIGNIFICANCE

According to the Appendix G of the *CEQA Guidelines*, the Dumbarton TOD Specific Plan would have a significant impact on air quality if it 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 in nonattainment under an applicable Federal or State ambient air quality standard;
- ◆ Expose sensitive receptors to substantial pollutant concentrations; and/or
- ◆ Create objectionable odors affecting a substantial number of people.

BAAQMD THRESHOLDS

Under the California Environmental Quality Act (CEQA), the BAAQMD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. BAAQMD reviews projects to ensure that they would: (1) support the primary goals of the latest Air Quality Plan; (2) include applicable control measures from the Air Quality Plan; and (3) not disrupt or hinder implementation of any Air Quality Plan control measures.

As described above, the BAAQMD adopted their CEQA Air Quality Guidelines to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the Basin. The CEQA Air Quality Guidelines provide BAAQMD-recommended procedures for evaluating potential air quality and GHG impacts during the environmental review process consistent with CEQA requirements. In addition to providing new thresholds for GHG emissions, the 2010 CEQA Air Quality Guidelines provide updated significance thresholds for criteria pollutants

and supersede the BAAQMD's previous CEQA guidance titled BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans (1999). The 2010 CEQA Air Quality Guidelines provide the following specific thresholds and methods to evaluate air quality impacts for long-range planning projects such as specific plans, typically in a program level EIR.

Consistency with Clean Air Planning Efforts

According to the BAAQMD CEQA Air Quality Guidelines, proposed plans must show over the planning period of the plan that:

- ◆ The plan incorporates current air quality plan control measures as appropriate to the plan area; and
- ◆ The rate of increase in vehicle miles travelled or vehicle trips (either measure may be used) within the plan area is equal to or lower than the rate of increase in population projected for the proposed Plan.

Operation Emissions

The BAAQMD CEQA Air Quality Guidelines do not have thresholds related to direct and indirect emissions resulting from plan implementation. Traffic resulting from the implementation of the plan would cause a significant localized air quality impact if emissions of CO cause a projected exceedance of the ambient CO State standard of 9.0 ppm for 8-hour averaging period would be considered to cause or contribute substantially to an existing or projected air quality violation. The BAAQMD screening criteria for localized CO include the following:

- ◆ Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans
- ◆ Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour
- ◆ Project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway)

If none of the above criteria are met, then the project would require a quantitative analysis that would compare emissions to the CAAQS.

Health Risk Screening Thresholds

BAAQMD has developed methods whereby local community risk and hazard impacts from projects for both new sources and new receptors can be determined based on comparison with applicable thresholds of significance and screening criteria. The screening methods are provided in the BAAQMD guidance document entitled Recommended Methods for Screening and Modeling Local Risks and Hazards (May 2010). The BAAQMD guidance provides screening tables to determine whether emissions would create a significant health hazard impact based on project size and receptor distance. Additionally, the BAAQMD recommends that all toxic sources are identified within a 1,000 foot radius of a project site to determine any risk and health hazards.

Exposure of New Residences to Toxic Air Contaminants

Unlike industrial or stationary sources of air pollution, residential development or other development where sensitive receptors would be located do not require air quality permits. Nonetheless, this type of development can expose people to unhealthy conditions. The BAAQMD Thresholds of Significance for specific plans with regard to community risk and hazard impacts are:

- ◆ The land use diagram must identify:
 - Special overlay zones around existing and planned sources of TACs and particulate matter (PM) (including adopted risk reduction plan areas); and
 - Special overlay zones of at least 500 feet (or BAAQMD-approved modeled distance) on each side of all freeways and high-volume roadways.
- ◆ The plan must also identify goals, policies, and objectives to minimize potential impacts and create overlay zones around sources of TACs, PM, and hazards.

Odors

Odors are assessed based on the potential of the Plan to result in odor complaints. The BAAQMD CEQA Air Quality Guidelines Thresholds of Significance for plans with regard to odor impacts are:

- ◆ The land use diagram must identify special overlay zones around existing and planned sources of odors; and
- ◆ The plan must identify goals, policies, and objectives to minimize potential impacts and create buffer distances between sources of odors and receptors.

4.2.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS IMPACTS

4.2-1 Short-term construction activities associated with the proposed project could result in significant air pollutant emissions.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The proposed Dumbarton TOD Specific Plan would not directly result in the construction of any new development projects. However, implementation of the Specific Plan could facilitate the development of various residential, retail, office, and park and recreational open space uses.

Fugitive Dust. Construction activities are a source of fugitive dust (PM₁₀ and PM_{2.5}) emissions that may have a substantial, temporary impact on local air quality. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Dust (PM₁₀) poses a serious health hazard alone or in combination with other pollutants. Fine Particulate Matter (PM_{2.5}) is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gasses such as NO_x and SO_x combining with ammonia. PM_{2.5} components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Exhaust. Exhaust emissions would be generated by the operation of vehicles and equipment on the construction site, such as tractors, dozers, backhoes, cranes, and trucks. The majority of construction equipment and vehicles would be diesel powered, which tends to be more efficient than gasoline-powered equipment. Diesel-powered equipment produces lower carbon monoxide and hydrocarbon emissions than gasoline equipment, but produces greater amounts of NO_x, SO_x, and particulates per hour of activity. The transportation of equipment and materials to and from the site, as well as construction worker trips, would also generate vehicle emissions during construction.

Grading/Hauling. Approximately 500,000 to one million cubic yards of fill material would need to be imported to the site to comply with City requirements.

However, the grading design would minimize fill requirements to the extent feasible at the northern and northeast portions of the Specific Plan area. A long-term staged import fill operation would likely be developed to identify interim rough grading and stockpiling plans. Additionally, because portions of the Specific Plan area are underlain with Bay Mud, surcharging and/or deep dynamic compaction may be required to create viable sites. Although these activities may create additional dust and PM₁₀ and PM_{2.5} (as well as truck-related emissions), they would be reduced through implementation of standard dust control practices required as part of the grading permit (periodic site watering, covering laden trucks with tarps, and periodic street sweeping).

Asbestos – Existing Structures. It is possible that asbestos-containing materials may exist within existing buildings that may be modified or demolished. Therefore, the possibility exists that asbestos fibers may be released into the air should no asbestos assessment or removal (if needed) take place prior to demolition. Standard practice would be to conduct an asbestos assessment for candidate buildings to determine the presence of asbestos. If identified, an asbestos abatement contractor would be retained to develop an abatement plan and remove the asbestos containing materials, in accordance with local, State, and Federal requirements. After removal, demolition may proceed without significant concern to the release of asbestos fibers into the air. Also refer to Section 4.7 (Hazards and Hazardous Materials) for an additional discussion of asbestos and asbestos containing materials.

Naturally Occurring Asbestos – Serpentine Bedrock. Portions of the project site contain serpentine soils and Naturally Occurring Asbestos (NOA) has been identified on the Cargill property. Mitigation Measures 4.7h and 4.7i are included in Section 4.7 to reduce NOA impacts to a less than significant level. These mitigation measures require the implementation of dust control and an NOA air monitoring program.

Due to the extent of the development allowed under the Specific Plan, and the amount of earthwork that would be involved, construction emissions have the potential to violate Federal and State ambient air quality standards. The BAAQMD short-term thresholds are established for individual development projects, and it is assumed that some of the projects that would be implemented under the proposed project could individually exceed the BAAQMD thresholds. Implementation of Mitigation Measure 4.2-1 would lessen construction-related impacts by requiring the BAAQMD's "Basic" construction mitigation measures to reduce air pollutant emissions from construction activities; refer to Mitigation Measure 4.2-1a. The

BAAQMD requires the basic construction mitigation measures to be implemented at all construction sites, regardless of size. “Additional” measures may be implemented if further emission reductions are deemed necessary by the Lead Agency. Due to the volume of fill materials needed for the proposed project, the additional BAAQMD construction mitigation measure would be required; refer to Mitigation Measure 4.2-1b. If each of the applicable measures are implemented as appropriate, air pollutant emissions from construction activities under the Dumbarton TOD Specific Plan would be considered a less than significant impact.

Mitigation Measures

4.2-1a Prior to issuance of any Grading Permit, the Public Works Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with the BAAQMD *CEQA Air Quality Guidelines*, the following basic construction mitigation measures shall be implemented for all construction projects:

- ◆ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day.
- ◆ All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- ◆ All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- ◆ All vehicle speeds on unpaved roads shall be limited to 15 mph.
- ◆ All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- ◆ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- ◆ All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- ◆ A publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

4.2-1b Prior to issuance of any Grading Permit, the Public Works Director and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with the BAAQMD *CEQA Air Quality Guidelines*, the following additional construction mitigation measures shall be implemented for all construction projects:

- ◆ All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- ◆ All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- ◆ Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- ◆ Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- ◆ The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- ◆ All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- ◆ Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- ◆ Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- ◆ Minimizing the idling time of diesel powered construction equipment to two minutes.

- ◆ The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- ◆ Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- ◆ Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO_x and PM.
- ◆ Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

Level of Significance After Mitigation: Less Than Significant

LONG-TERM (OPERATIONAL) AIR EMISSIONS IMPACTS

4.2-2 Long-term operation of the proposed project would not result in significant air pollutant emissions.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

As described above, the BAAQMD 2010 *CEQA Air Quality Guidelines* provide specific thresholds and methods to evaluate air quality impacts for specific plans in program level EIRs. The BAAQMD *CEQA Air Quality Guidelines* do not have thresholds related to direct and indirect emissions resulting from plan implementation. Rather, the significance of impacts are based on the plan's consistency with the current air quality plan control measures and whether the plan's rate of increase in vehicle miles traveled (or vehicle trips) is equal to or lower than the rate of increase in projected population; refer to Impact Statement 4.2-3, below, for a discussion of the project's consistency with the latest clean air plan. Additionally, traffic resulting from the implementation of the plan would cause a

significant localized air quality impact if emissions of CO cause or contribute substantially to an existing or projected air quality violation.

Localized Carbon Monoxide Impacts

The Basin is designated as attainment for CO. As indicated in the BAAQMD *CEQA Air Quality Guidelines*, ambient concentrations of CO have decreased dramatically in the Basin with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991.¹ As a result, the screening criteria in the BAAQMD *CEQA Air Quality Guidelines* notes that CO impacts may be determined to be less than significant if a project is consistent with the applicable congestion management plan, or would not increase traffic volumes at intersections to more than 44,000 vehicles per hour for regular intersections, or would not increase traffic volumes at intersections to more than 24,000 vehicles per hour for intersections with limited mixing zones (e.g., tunnels, garages, overpasses, etc.).

Based on the traffic data presented in Section 4.14 (Traffic), with implementation of the Dumbarton TOD Specific Plan, the project would not cause traffic volumes at local intersections to increase beyond 6,000 vehicles per hour. The intersection of Newark Boulevard and Jarvis Avenue would have the greatest traffic volumes with 5,652 vehicles per hour during Cumulative Plus Project conditions. Therefore, the proposed project would not increase traffic volumes to 44,000 vehicles per hour for regular intersections, nor would the project increase traffic volumes to more than 24,000 vehicles per hour for intersections with limited mixing zones. Therefore, effects related to CO concentrations would be less than significant.

Risk and Health Hazards

BAAQMD recommends that all TAC and particulate PM_{2.5} sources be identified within a 1,000 foot radius of a proposed project site to determine any risk and health hazards. As described above, the project site is surrounded primarily by open space, residential uses, commercial, and industrial uses. There are no mobile TAC sources currently located within 1,000 feet of the project site. State Route 84

¹ Bay Area Air Quality Management District, *BAAQMD CEQA Air Quality Guidelines* (page 6-1), June 2010.

and Interstate 880 are located to the north and east of the project site; however, these roadways are located more than one mile away. However, there is one TAC and PM_{2.5} sources located within 1,000 feet of the project site, i.e., Morton International.² A second source (thermal reduction facility) is located on-site; however, this source is currently dismantled and would be removed prior to development of the proposed project. The next closest source is the Union Sanitary District Facility, which is located 4,600 feet to the west of the project site. Table 4.2-4 (Existing Permitted Stationary Sources Within 1,000 feet of the Proposed Project) depicts the TAC sources within 1,000 feet of the project site. As indicated in Table 4.2-4, impacts from TAC sources would be less than significant.

TABLE 4.2-4 EXISTING PERMITTED STATIONARY SOURCES WITHIN 1,000 FEET OF THE PROPOSED PROJECT

Site #	Facility Name	Street Address	City	UTM E	UTM N	Cancer Risk in a Million	Chronic Hazard Index	Acute Hazard Index	PM _{2.5} (µg/m ³)
79	Morton International	7380 Morton Avenue	Newark	584219	4152693	1.18	0.011	0.0182	0
Total:						1.18	0.011	0.0182	0
BAAQMD Threshold						10	1	1	0.3
Significant Impact?						No	No	No	No

Source: BAAQMD, *Stationary Source Risk & Hazard Analysis Tool, Alameda Permitted Sources*, January 27, 2011 and correspondence with Alison Kirk, BAAMD Environmental Planner on March 8, 2011.

The Dumbarton TOD Specific Plan would provide space for a multi-modal transit station that would include commuter train service. The Dumbarton Rail Transit Station would provide commuter rail service from the Union City Intermodal Transit Center across the Dumbarton Bridge to Menlo Park, and finally connect to the Caltrain service that runs from San Francisco to San Jose. Although future rail uses would utilize cleaner diesel engines, a worst case scenario would include the operation of six diesel trains per day. Based on the land use plan for the proposed project, high-density residential uses would have the potential to be located in proximity to the proposed transit station. The BAAQMD identifies diesel trains as a common source of TAC and PM_{2.5} emissions and recommends including adequate buffers and the implementation of upgraded HVAC filters to mitigate

² Bay Area Air Quality Management District, *Stationary Source Risk & Hazard Analysis Tool, Alameda Permitted Sources*, January 27, 2011. <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>

impacts. As a result, Mitigation Measure 4.2-2 would be required to ensure that train TAC and PM_{2.5} impacts are reduced to a less than significant level.

Odors

According to the BAAQMD *CEQA Air Quality Guidelines*, land uses associated with odor complaints typically include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants. Odor impacts generally occur from either siting a new odor source (e.g., the project includes a proposed odor source near existing sensitive receptors), or siting a new receptor (e.g., the project includes proposed sensitive receptors near an existing odor source).

The proposed project would not be located in proximity to any facilities that are typically associated with odor complaints, as identified by the BAAQMD. The proposed project would generally be adjacent to existing residential uses to the north and east, and commercial and light industrial uses would be located to the east. The commercial industrial uses generally include business park complexes and do not consist of wastewater treatment plants, landfills, animal facilities, or any other uses associated with odors. The Union Sanitary District is the closest potential source of odors, and this facility is located approximately 4,600 feet to the west of the project site. There are also reports of odors that occur due to algae in the salt ponds. However, these odors are regarded as an annoyance rather than a health hazard. Based on the nature of the odor source and the low frequency of odor events generated by the salt ponds, impacts are not considered a significant odor source. Additionally, salt ponds are not identified by the BAAQMD as a significant odor source. Therefore, potential odor impacts would be less than significant.

Mitigation Measure

4.2-2 Prior to building permit issuance, the project applicant shall demonstrate to the City of Newark Community Development Director that emissions from the Dumbarton Transit Station would not exceed BAAQMD health risk criteria at the high/mixed-use residential, medium/high density residential, medium density residential parcels located within 1,000 feet. If health risks are determined for any sensitive receptors located within 1,000 feet of the Dumbarton Transit Station, the project applicant shall demonstrate to the Community Development Director that the following is provided:

- ◆ A filtered air supply system shall be installed in all residential units to maintain positive pressure when windows are closed. The ventilation system, whether a central heating, ventilation and air conditioning (HVAC) or a unit-by-unit filtration system, shall include high-efficiency filters meeting minimum efficiency reporting value (MERV) 13, per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 (equivalent to approximately ASHRAE Standard 52.1 Dust Spot 85 percent) or shall be certified by a licensed design professional that the ventilation system is capable of removing more than 80 percent of ambient PM_{2.5} from habitable areas of dwelling units.
- ◆ Air intakes for HVAC shall be located away from the freeway to the maximum extent feasible.
- ◆ The applicant shall also prepare and implement a plan that ensures on-going maintenance of ventilation and filtration systems, including informing occupant's of the proper maintenance of any installed air filtration system.

Level of Significance After Mitigation: Less Than Significant

CONSISTENCY WITH REGIONAL PLANS

4.2-3 Development associated with the proposed project would be consistent with regional plans.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The BAAQMD recommends using an analysis that determines the consistency between a project's projected population growth and vehicle miles traveled (VMT) with the projections in the latest Clean Air Plan. The BAAQMD requires that specific plans include the latest air quality plan control measures and do not increase vehicle travel at a greater rate than population growth. The 2010 Clean Air Plan is the most recently adopted air quality control plan, and provides the methodology for determining the appropriate control measures that should be included in specific types of long-range plans.

As noted in Section 4.10 (Population and Housing), total buildout under the Specific Plan would result in a population increase of 8,150. The Housing Element

estimates that the population of the City will be 52,500 in 2030. With a current population of 44,035, this would result in the addition of 8,465 residents over the next 20 years. The project at full buildout would represent approximately 96 percent of this growth. The Housing Element concludes that there is a capacity for 5,300 new dwelling units to meet projected housing needs. The General Plan envisions residential development within the Specific Plan area and assumes 1,953 units at buildout. Although the Specific Plan proposes marginally more housing than envisioned in the General Plan, the project would be within the estimate of population growth per the Housing Element and would represent an incremental increase in population at full buildout. The Specific Plan would also represent only 47 percent of the projected and planned for capacity for new dwelling units within the City of Newark.

Analysis of population and housing in Section 4.10 of this EIR found that the projected population increases would result in a less than significant impact. Therefore, the Specific Plan would not result in population projections that would exceed ABAG projections, which are used to formulate projections used by BAAQMD to develop control strategies for the Clean Air Plan. Impacts would be less than significant.

Detailed VMT projections have not been developed for existing conditions or the Plan. Section 4.14 (Traffic) provides trip generation estimates for the proposed Specific Plan. However, these projections do not include existing trip generation estimates because the Specific Plan area consists mostly of vacant, former industrial land, and is currently not a significant generator of vehicle trips. Therefore, the rate of increase in vehicle trips cannot be compared with existing conditions. The Dumbarton TOD Specific Plan would increase opportunities for walking, bicycling, and using transit. The Specific Plan would provide more opportunities for housing and businesses near a new transit station, while promoting more pedestrian and bicycle friendly access. While the Specific Plan would increase population at a rate that is consistent with General Plan projections, the rate of vehicle use with respect to population growth is expected to decrease. As indicated in the Section 4.14 (Traffic) the proposed Specific Plan would generate a net total of 14,131 daily vehicle trips. Based on a project population increase of 8,150 persons, the Specific Plan would create 1.73 daily trips per person. The Specific Plan is expected to result in a lower vehicle trip generation rate than traditional development in Newark, because the Specific Plan would increase walking, bicycling, and regional transit opportunities near new residences and businesses.

Consistency is also demonstrated by assessing whether the proposed project implements all of the applicable 2010 Clean Air Plan transportation control measures. The Specific Plan supports a balance of vehicular, pedestrian, bike, and transit modes of transportation. These are supported by Specific Plan goals and objectives are summarized in Table 4.2-5 (Clean Air Plan Consistency Analysis).

TABLE 4.2-5 CLEAN AIR PLAN CONSISTENCY ANALYSIS

Transportation Control Measure	Relevant Specific Plan Feature
<p>TCM A: Improve Transit Services</p> <ul style="list-style-type: none"> • TCM A-1: Improve Local and Area wide Bus Service • TCM A-2: Improve Local and Regional Rail Service 	<p>The proposed project would improve transit by providing a new intermodal transit station. The Specific Plan anticipates rehabilitation of the Dumbarton Rail Line that would run parallel to the Dumbarton Bridge and connect the eastern side of the San Francisco Bay to the Peninsula.</p> <p>The project has been designed to take advantage of the train station's location by placing the majority of new residential units with the Specific Plan Area within a 1/2 mile (10 minute) walking distance from the station.</p> <p>In addition to the re-establishment of the rail line as a transit corridor, regional bus service would be established at this location to further enhance the TOD experience of the neighborhood. For this reason, a bus station hub is included in the overall planning of the station.</p>
<p>TCM B: Improve System Efficiency</p> <ul style="list-style-type: none"> • TCM B-2: Improve Transit Efficiency and Use 	<p>The proposed project would provide a mix of uses that supports transit ridership. Commercial, retail, and high density mixed-use residential would be located immediately adjacent to the transit station. A majority of the residential units would be located within a 1/2 mile of the transit station. The location of these land uses would maximize transit efficiency and use.</p>
<p>TCM D: Support Focused Growth</p> <ul style="list-style-type: none"> • TCM D-1 Improve Bicycle Access and 	<p>As described above, the proposed project would include bicycle facilities that serve the transit station as well as the commercial</p>

TABLE 4.2-5 CLEAN AIR PLAN CONSISTENCY ANALYSIS

Transportation Control Measure	Relevant Specific Plan Feature
Facilities <ul style="list-style-type: none"> • TCM D-2 Improve Pedestrian Access and Facilities • TCM D-3 Support Local Land Use Strategies 	areas. The Specific Plan includes Class I, II, and III bike routes, as well as pedestrian corridors to maximize circulation. The proposed mixed-use and TOD land use patterns include facilities and infrastructure to reduce motor vehicle dependence and facilitate walking, bicycling and transit use.
Energy and Climate Measures	
ECM 1 Energy Efficiency: Provide 1) education to increase energy efficiency; 2) technical assistance to local governments to adopt and enforce energy- efficient building codes; and 3) incentives for improving energy efficiency at schools.	The Specific Plan includes numerous energy efficiency measures and design guidelines. All new buildings would be constructed to comply with Title 24 of the California Code of Regulations at a minimum. Additionally, the Specific Plan that encourages increased energy efficiency beyond Title 24.
ECM 2 Renewable Energy: Promote distributed renewable energy generation (solar, micro wind turbines, cogeneration, etc.) on commercial and residential buildings, and at industrial facilities	The optional renewable specific plan recommends the installation of renewable energy sources such as optional renewable solar panels for residential and commercial buildings.
ECM 4 Tree-Planting: Promote planting of low-VOC-emitting shade trees to reduce urban heat island effects, save energy, and absorb CO ₂ and other air pollutants	The Specific Plan would include the recommendation of shade/street trees as part of the Circulation Design Guidelines.

Source: Bay Area Air Quality Management District, *Bay Area 2010 Clean Air Plan*, September 15, 2010.

The Bay Area's Smart Growth Vision is a planning effort promoted by the BAAQMD, MTC, and ABAG to encourage development of communities that promote transit, walking, and bicycling by encouraging compact infill development. These types of development provide a mix of uses with moderate or high development densities, such as that proposed by the Dumbarton TOD Specific Plan. Development patterns can support transit, walking, and bicycling in many ways such as:

- ◆ Focusing higher density development near transit stations and corridors;
- ◆ Encouraging compact development with a mix of uses that locates housing near jobs, shops, services, schools, and other community facilities;

- ◆ Locating shops and services near employment centers;
- ◆ Encouraging infill development of underutilized land;
- ◆ Designing streets, sidewalks and bicycle routes to ensure safe and convenient access for pedestrians and bicyclists; and
- ◆ Designing individual development projects to provide safe, convenient pedestrian and bicycle access to transit stops and nearby services.

Increasing the amount of housing in urban portions of the Bay Area to accommodate the region's residential demands is among the key principles of these regional planning goals. The Specific Plan would provide low, medium, and high density housing in an urban portion of the Bay Area, as well as infrastructure and a land use plan that would encourage the reduction of motor vehicle use. The projected increase in population would be consistent with the City's General Plan projections and would therefore be consistent with the 2010 Clean Air Plan assumptions. As described above, the Specific Plan is consistent with the applicable Clean Air Plan transportation control measures supports regional strategies to reduce regional air quality impacts. Therefore, impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Level of Significance After Mitigation: Not applicable.

4.2.3.3 CUMULATIVE IMPACTS AND MITIGATION MEASURES

4.2-4 Implementation of the proposed project and related cumulative projects would not result in significant air quality impacts.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The BAAQMD *CEQA Air Quality Guidelines* do not include separate significance thresholds for cumulative operational emissions. However, with respect to regional air pollution, the development of the Specific Plan area would result in population growth that is consistent with the City's General Plan projections. Therefore, the project would be consistent with the 2010 Clean Air Plan that uses ABAG population forecasts. Additionally, as noted above, the Specific Plan is expected to

result in a lower vehicle trip generation rate than traditional development in Newark, because the Specific Plan would increase walking, bicycling, and regional transit opportunities near new residences and businesses.

As described in Impact Statement 4.2-3, above, the project would also be consistent with the appropriate 2010 Clean Air Plan control measures, which are provided to reduce air quality emissions for the entire Bay Area region. The *BAAQMD CEQA Air Quality Guidelines* note that the nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size by itself to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Consistency with the 2010 Clean Air Plan control measures would ensure that the proposed project would not cumulatively contribute to air quality impacts in the Basin. Therefore, impacts would be less than significant.

Mitigation Measure

4.2-4 No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.3 BIOLOGICAL RESOURCES

This section identifies existing biological resources within the Dumbarton Transit Oriented Development (TOD) Specific Plan area (also described as the project site), potential project impacts on biological resources, and mitigation measures for potential impacts. Because one of the properties within the Dumbarton TOD Specific Plan area (Torian property) has been studied previously and those studies have been provided to the EIR consultant, the existing biological resources, potential impacts and mitigation measures for the Torian property are specifically defined. Other properties within the Dumbarton TOD Specific Plan area that have not been studied to the same level or in which the biological resource studies were not provided to the EIR consultant, the analysis for these properties is necessarily more general.

Monk & Associates, Inc. (Monk & Associates) provided the information for this Biological Resources section based on project site investigations conducted by Monk & Associates' biologists in July and October 2009, background research, and Monk & Associates' knowledge of biological resource issues in the Newark area. Additionally, Zentner and Zentner (for the Torian property; hereafter simply "Torian") and Wetland Research Associates (for the Cargill property; hereafter simply "Cargill") completed a number of studies over the past several years. Since only the Torian studies were provided to the EIR consultant, those are the only outside studies that were used in this analysis or that formed the basis for conclusions reached specifically for the Torian property in this analysis. Conclusions drawn for the Cargill property are based on Monk & Associates' limited field studies and background research. Zentner and Zentner assessed Torian in November 2009, in March, April, May and July of 2010, and in January 2011. Zentner and Zentner's field work was completed to define the extent of the various habitats onsite, delineate wetlands and other areas subject to the jurisdiction of federal and state agencies, and to identify potential special-status species habitats and the likelihood of their occupancy.

The biological resources reports prepared by Zentner and Zentner for the project site and used for this Draft EIR are listed below.

- ◆ Torian Property Section 404 Jurisdictional Delineation. Zentner and Zentner. May 2010.
- ◆ Torian Property Special-Status Species Assessment. Zentner and Zentner. March 2011.

The biological reports prepared for the Dumbarton TOD Specific Plan and referenced above are available at the City of Newark (City).

In addition, the most recent versions of the CDFG California Natural Diversity Database (CNDDDB) and the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants were reviewed by Monk & Associates during the preparation of this analysis to determine special-status plant and animal species potentially occurring in the project vicinity. The databases were searched for the project site and greater project area. (i.e., the surrounding USGS 7.5-minute quadrangles).

This Draft EIR has been prepared at the program-level to assess and document the broad environmental impacts of the Dumbarton TOD Specific Plan with the understanding that a more detailed site-specific environmental review may be required to evaluate future development projects implemented under the program. Thus, with the exception of the Torian property, this Draft EIR does not conclusively determine whether or not federally or state listed plant or animal species or "waters of the U.S.," which includes wetlands, are present within the project site; further site specific biological studies would be necessary prior to any future development proposal to make these findings.

4.3.1 ENVIRONMENTAL SETTING

As set forth in Chapter 3 (Project Description), the Dumbarton TOD Specific Plan area is located in the City within Alameda County (County) along the eastern edge of the San Francisco Bay, approximately 15 miles north of San Jose and 30 miles southeast of San Francisco. The following environmental setting information was provided by Zentner and Zentner.

Historically, the project site was largely uplands, an area of relatively rocky substrate and high elevation protruding into the tidal marshes of San Francisco Bay, that were converted for industrial use. The project site is generally an area of relatively open lands, once heavily industrialized, and located between the existing industrial and residential uses on the western edge of Newark and the Cargill bittern basins to the west. The Coyote Hills Regional Park and residential uses are north of the project site. Plummer Creek, which once ran through the site, is channelized and runs along a portion of the site's southern border. The Wildlands Inc. Plummer Creek wetland mitigation bank, an area of restored tidal and seasonal wetlands, is adjacent to the site's southwestern edge. Just to the west are bittern storage basins, containing a commercial product sold by Cargill as a result of its salt-production

operations. A number of regional transportation and utility lines pass through or adjacent to the site including the Southern Pacific (SP) rail line along the site's northern border, the Hetch Hetchy pipeline just south of the SP rail line and through the northern part of the site and Highway 84/Thornton Road just north of the SP rail line.

The historical ecology analysis contained within the San Francisco Bay Goals Project shows that prior to the arrival of Europeans to the Bay Area, the Dumbarton TOD Specific Plan area was largely uplands, an area of relatively rocky substrate and high elevation protruding into the tidal marshes of San Francisco Bay, as noted above. Most of the area to the north and south is shown as upland with grassland/vernal pool complex and tidal marsh to the west with a small amount of tidal marsh intruding into Cargill from the west.

The project area developed rapidly at the beginning of the 1900s due to its upland condition and proximity to the opposite shore of the Bay. Important local port facilities included Jarvis Landing just north of the project site and Plummer Landing just west of the project site; served as transshipment points for the movement of local farm products and salt to the markets in San Francisco. Development during this period was hastened by the construction of the Dumbarton railway bridge (1918; the first railway bridge across San Francisco Bay) and, in 1927, the original Dumbarton bridge, the first automobile bridge across the Bay).

The project site was then developed primarily in industrial uses, reflecting the early proximity of the rail line. Industrial buildings and uses are still present on some of the parcels but on other properties (e.g., Torian) all that remains are paved lots where buildings have been torn down and removed. Today, much of the project site appears to be a typical post-industrial landscape with a few remnant industrial buildings, lots dominated by ruderal (weedy) vegetation and occasional patches of natural and anthropogenic (man-made) wetlands in areas where previously developed land has converted to wetland conditions due to lack of maintenance of drainage facilities.

4.3.1.1 PLANT COMMUNITIES AND ASSOCIATED WILDLIFE HABITAT

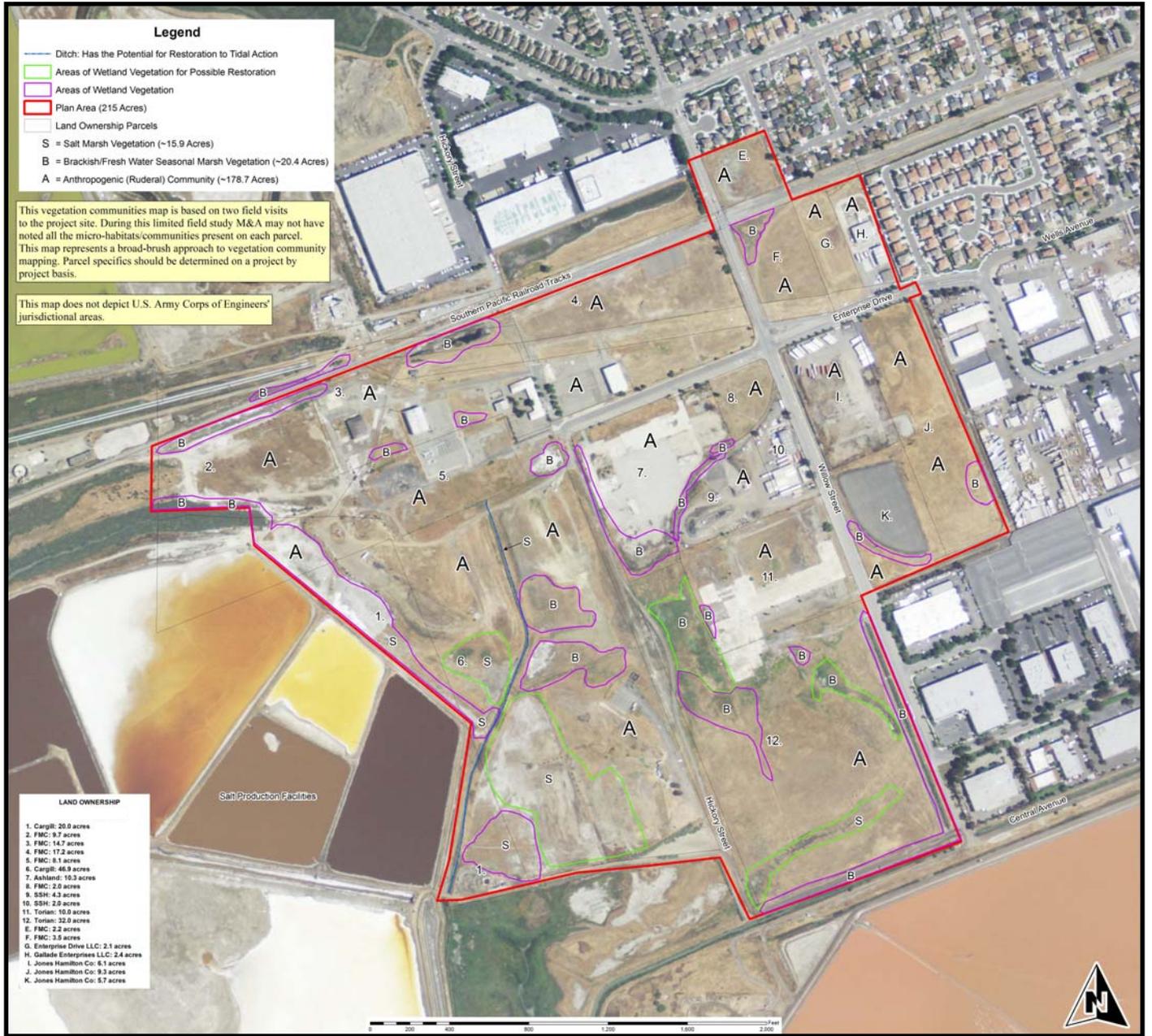
Monk & Associates' biologists only conducted cursory investigations on the 19 parcels within the project site. Thus, many of the species "identified" on the project site are simply identified to the genus level without a species designation (for

example, tar plant would be listed simply as *Holocarpba* sp. (“sp.” for “species”) without a specific species name given). At this cursory level of site examination it was not possible to conclusively determine whether or not federally or state listed plant or animal species or “waters of the U.S.,” which includes wetlands, are present on the project site parcels. Hence, further site specific biological studies would be necessary prior to any future development proposal.

As noted above, the project site is a post-industrial landscape and is dominated by ruderal plant communities and developed lands with small areas of non-tidal salt marsh and brackish/freshwater seasonal and perennial wetlands.

Portions of the site have been used for manufacturing processes, which have now ceased. Remediation has been completed or is underway on many of the properties and the former buildings and facilities have been removed, often leaving vacant lands. Ruderal species, primarily non-native annual grasses and forbs (broad-leaved plants) now occupy most of the vegetated portions of the site. These are often mowed for fire control or otherwise disturbed. Additionally, parts of the site have either been lowered through grading or are naturally low and these are dominated by non-tidal salt marsh or other wetland associations. The former bed of Plummer Creek, for example, runs through the southern part of Torian and is markedly lower than the adjacent grounds and includes non-tidal salt marsh. A number of the current uses on the project site, such as the Newark police dog training facility, include landscaped areas that regularly maintained. Finally, the project site is characterized by a marked lack of trees; several non-native street trees line Enterprise Drive and Willow Street but otherwise the site is relatively bereft of tree cover.

Monk & Associates identified three distinct plant community types during their 2009 field work. These three plant communities are discussed below and are depicted on Figure 4.3-1 (Dumbarton TOD Specific Plan Area Vegetation Communities). Nomenclature used for plant names follows *The Jepson Manual* (Hickman 1993) and changes made to this manual as published on the Jepson Interchange Project website (<http://ucjeps.berkeley.edu/interchange/index.html>). Nomenclature for wildlife follows CDFG’s *Complete list of amphibian, reptile, bird, and mammal species in California* (2008) and any changes made to species nomenclature as published in scientific journals since the publication of CDFG’s list.



Source: Monk & Associates, 2011

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RUDERAL PLANT COMMUNITIES

All of the parcels within the project site support ruderal habitat and this is the most common plant community onsite. Ruderal communities are assemblages of plants that thrive in waste areas, roadsides and other sites that have been disturbed by human activity. Weeds will grow through cracks in asphalt, in fields that are routinely disturbed by mowing or discing, or other frequent disturbances. Common ruderal species detected on the parcels in the project site include prickly lettuce (*Lactuca serriola*), sweet fennel (*Foeniculum vulgare*), short-podded mustard (*Hirschfeldia incana*), common vetch (*Vicia sativa*), milk thistle (*Silybum marianum*), common knotweed (*Polygonum aviculare*), and horseweed (*Conyza canadensis*).

Often around commercial and residential developments, plant species that are not native to the region have been introduced and later become naturalized, often spreading aggressively and reducing local species diversity. In these areas, it is not uncommon to find mixtures of non-native and native vegetation in open areas. On the project site, the non-native plant stinkwort (*Dittrichia graveolens*) is common in some of the seasonal wetland vegetation areas and in the ditches that periodically have standing water. Stinkwort was not present in California until the late-1990s, and now this plant is common in ruderal habitats throughout the Bay Area and Central Valley (and possibly elsewhere; sightings listed above are based on Monk & Associates' biologists' experiences). Pampas grass (*Cortaderia jubata*), another invasive species that quickly covers up large areas of ground and can remove habitat for ground nesting passerine birds and raptors, is present on the Cargill, FMC, and Ashland parcels.

Also included in this community are the non-native trees found onsite. While these are not numerous, as noted above, the list includes trees that can spread into and replace native plant communities. Non-native trees observed on the project site parcels include ornamental fig (*Ficus* sp.), Mexican fan palm (*Washingtonia robusta*), London plane tree (*Platanus acerifolia*), eucalyptus (*Eucalyptus* sp.), Peruvian pepper tree (*Schinus molle*), and pine tree (*Pinus* sp.).

Typically, ruderal plant communities provide habitat for those animal species adapted to people and their associated disturbances. Examples of birds associated with these communities are western scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), northern mockingbird (*Mimus polyglottos*), and Brewer's blackbird (*Euphagus cyanocephalus*). Typical mammals include house mouse, black rat (*Rattus rattus*),

Norway rat (*Rattus norvegicus*), and black-tailed hare. These animals have all been observed or are all likely to be found on the project site.

NON-TIDAL SALT MARSH

Non-tidal salt marsh occurs on the project site, most commonly on Torian and Cargill but also on the FMC property. This community is dominated by two species of pickleweed, perennial pickleweed (*Salicornia virginica*) and an annual species (*Salicornia* sp., likely *Salicornia europaea*, but the species could not be confirmed). Salt grass (*Distichlis spicata*), alkali heath (*Frankenia salina*), and fleshy jaumea (*Jaumea carnosa*), also occur within this community on the project site. Barren areas and areas covered with sea-purslane (*Sesuvium verrucosum*) are also present on Cargill within the non-tidal salt marsh areas. These areas are generally highly saline as evidenced by salt crusts and other features.

This community transitions to the neighboring ruderal plant community through a grassland zone dominated by salt grass, Mediterranean barley (*Hordeum marinum gussoneanum*) and rabbit's foot grass (*Polypogon monspiliensis*). These are short-statured grasses adapted to seasonally wet, saline areas.

Also included in this community is a very small area of tidal salt marsh located off-site near the northwest corner of the project site. This marsh is part of the extension of the tidal ditch running east from the Bay south of the SP rail line.

Vegetation of this tidal salt marsh is similar to that of the non-tidal salt marsh in that both are dominated by low-growing halophytic plants (that is, salt tolerant plants) such as pickleweed (*Salicornia* spp.) but the tidal plant community has a richer mixture of halophytic plant species closer to high ground (that is, out of the tidal zone) and is generally more robust, *i.e.* the plants in the tidal marsh are taller and the cover more dense.

The non-tidal salt marsh on the project site has been modified over the years by the installation of drainage facilities, industrial activities, and other land uses. Non-tidal salt marsh on Torian and Cargill is short-statured and with less cover by native marsh plants than in tidal marshes, for example. In turn, this tends to result in higher populations of upland wildlife species in these types of habitats and fewer numbers of native wetland species relative to tidal marshes.

Based on Monk & Associates' experience live-trapping rodents and conducting wildlife inventory studies in similar San Francisco Bay salt marsh habitats, the wildlife species associated with non-tidal salt marsh habitats such as those on site

are primarily small rodents such as western harvest mice (*Reithrodontomys megalotis*), California meadow vole (*Microtus californicus*), non-native house mouse (*Mus musculus*), and lagomorphs (rabbits) such as the black-tailed hare (*Lepus californicus*). In contiguous swaths of tidal salt marsh or in contiguous diked salt marsh habitat that is not interrupted by ruderal (weedy) vegetation, one would also expect to see the salt marsh harvest mouse (*Reithrodontomys raviventris*), a federal and state listed endangered species. It is unknown whether or not this mouse resides on any of the project site parcels. However, due to the disturbed and remnant nature of the salt marsh habitat on the project site, it is Monk & Associates' expectation that this listed species is not present.

Non-tidal salt marsh habitats adjacent to ruderal habitats are also known to support deer mice (*Peromyscus maniculatus*). Raptors such as the white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and red-tailed hawk (*Buteo jamaicensis*) can frequently be seen hunting over these habitats due to the rodent population. Passerine birds and shorebirds typically observed in non-tidal salt marsh habitats similar to the project site include song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), Wilson's snipe (*Gallinago delicata*), greater yellow legs (*Tringa melanoleuca*), and great egret (*Ardea alba*).

BRACKISH/FRESHWATER SEASONAL AND PERENNIAL WETLANDS

Several of the project site parcels support areas of brackish or freshwater seasonal wetland vegetation. Brackish areas are typically dominated by bulrushes such as *Schoenoplectus* spp. or *Bolboschoenus* spp. Freshwater wetland vegetation in the project area consists of rabbit's foot grass, cattails (*Typha* sp.), Bermuda grass (*Cynodon dactylon*), Italian rye grass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum gussoneanum*), and yellow sweet clover (*Melilotus indica*). Portions of the FMC, Cargill, Jones-Hamilton, Torian, and Ashland properties support these plant community types.

Wildlife species associated with brackish or freshwater seasonal wetland vegetation on the project site are similar to those found in the non-tidal salt marsh. Additional species that may be expected in this community due to the presence of cattails and bulrushes (which provide nesting habitat) include the red-winged blackbird (*Agelaius phoeniceus*), song sparrow (*Melospiza melodia*), and marsh wren (*Cistothorus palustris*).

4.3.1.2 SPECIAL-STATUS SPECIES

DEFINITIONS

Special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the California Native Plant Society [CNPS]). Special-status species are defined as:

- ◆ Plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 et seq.; 14 CCR §670.1 et seq.) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);
- ◆ Plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);
- ◆ Plants and animals that meet the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;
- ◆ Plants occurring on Lists 1A, 1B, 2, 3, and 4 of CNPS' Electronic Inventory (CNPS 2001). CDFG recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for state listing, and CDFG requests their inclusion in EIRs. Plants occurring on CNPS Lists 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2001). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information;
- ◆ Migratory non-game birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Non-game Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);
- ◆ Animals that are designated as "species of special concern" by CDFG (2010);
- ◆ Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).

The following provides further definitions of the legal status of special-status species.

Federal Endangered or Threatened Species. A species listed as Endangered or Threatened under the FESA is protected from unauthorized “take” (that is, harass, harm, pursue, hunt, shoot, trap) of that species. If it is necessary to take a federal listed Endangered or Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from the U.S. Fish and Wildlife Service (USFWS) prior to initiating the take.

State Threatened Species. A species listed as Threatened under the state Endangered Species Act (§2050 of California Fish and Game Code) is protected from unauthorized “take” (that is, harass, pursue, hunt, shoot, trap) of that species. If it is necessary to “take” a state listed Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from CDFG prior to initiating the “take.”

California Species of Special Concern. These are species in which their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible. This designation affords no legally mandated protection; however, pursuant to the CEQA Guidelines (14 CCR §15380), some species of special concern could be considered “rare.” Pursuant to its rarity status, any unmitigated impacts to rare species could be considered a “significant effect on the environment” (§15382). Thus, species of special concern must be considered in any project that will, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

CNPS List Species. The CNPS maintains an inventory of special-status plant species. This inventory has four lists of plants with varying rarity. These lists are: List 1, List 2, List 3, and List 4. Although plants on these lists have no formal legal protection (unless they are also state or federal listed species), CDFG requests the inclusion of List 1 species in environmental documents. In addition, other state and local agencies may request the inclusion of species on other lists as well. List 1 species have the highest priority: List 1A species are thought to be extinct, and List 1B species are known to still exist but are considered “rare, threatened, and endangered in California and elsewhere.” All of the plants constituting List 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (CESA) of the CDFG Code, and are eligible for state listing (CNPS 2001). List 2 species are rare in California, but more common elsewhere. Lists 3 and 4 contain species about which there is some concern, and are

review and watch lists, respectively. Additionally, in 2006 CNPS updated their lists to include “threat code extensions” for each list. For example, List 1B species would now be categorized as List 1B.1, List 1B.2, or List 1B.3. These threat codes are defined as follows: .1 is considered “seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)”; .2 is “fairly endangered in California (20-80 percent of occurrences threatened)”; .3 is “not very endangered in California (less than 20 percent of occurrences threatened or no current threats known).”

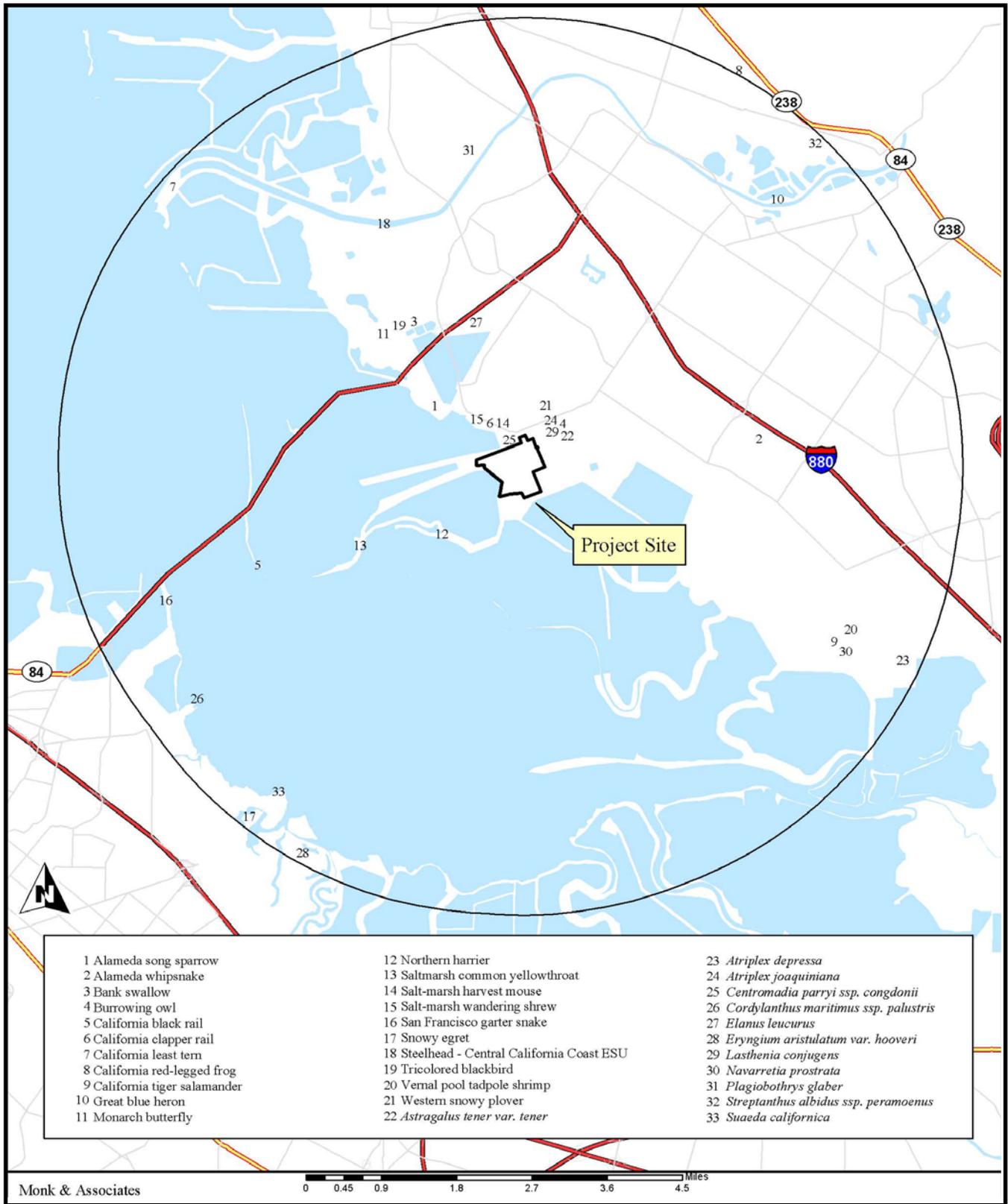
Under the CEQA review process only CNPS List 1 and 2 species are considered since these are the only CNPS species that meet CEQA’s definition of “rare” or “endangered.” Impacts to List 3 and 4 species are not regarded as significant pursuant to CEQA.

Fully Protected Birds. Fully protected birds, such as the white-tailed kite and golden eagle, are protected under CDFG Code (§3511). Fully protected birds may not be “taken” or possessed (i.e., kept in captivity) at any time.

Protected Amphibians. Under Title 14 of the California Code of Regulations (14 CCR 41), protected amphibians, such as the California tiger salamander, may only be taken under special permit from CDFG issued pursuant to Sections 650 and 670.7 of these regulations.

SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE DUMBARTON TOD SPECIFIC PLAN AREA

Figure 4.3-2 (Known Occurrences of Special-Status Species within Five Miles of Dumbarton TOD Specific Plan Area) provides a graphical illustration of the closest known records for special-status plant and animal species within five miles of the project site. No special-status plants or animals have been recorded on or adjacent to the project site. However, according to the CNPS Inventory and CDFG’s California Natural Diversity Database (CNDDDB), a total of 34 special-status plant species are known to occur in the region of the project site. In addition, a total of 24 special-status animal species are known to occur in the region of the project site. Special-status species known to occur near the Dumbarton TOD Specific Plan area are identified in Table 4.3-1 (Special-Status Species Known to Occur Near the Dumbarton TOD Specific Plan Area). Appendix C (Special-Status Plant and Animal Species Tables) includes a discussion of those special-status species that were dismissed from consideration due to an absence of suitable habitat on the project site.



Source: Monk & Associates

Dumbarton TOD Specific Plan EIR

Known Occurrences of Special-Status Species within Five Miles of Dumbarton TOD Specific Plan Area

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Most of the special-status plants known from the area occur in specialized habitats such as chaparral, vernal pools, chenopod scrub, or cismontane woodland, none of which are present on the project site.

Owing to the excessively disturbed conditions found on the project site from past human uses, special-status plants would be unlikely to occur. In order to substantiate this premise, special-status plant surveys would need to be conducted at the appropriate time of year (when target species are flowering) in order to determine if these species are present or absent. It is recommended that such surveys be conducted well before any development is planned on a specific parcel so that the results of the surveys can be incorporated into the project plan. For example, if a special-status plant species is found, appropriate onsite or offsite mitigation must be arranged which will require time to arrange during the site development/planning process.

The wildlife species that have potential to occur on the project site are described in more detail below. Several species found in Table 4.3-1 are not more fully described as they are highly unlikely to occur onsite due to a lack of suitable habitat and local occurrences, including great blue heron (rookery sites), bank swallow (nesting colonies), Alameda whipsnake, San Francisco garter snake, central coast steelhead, monarch butterfly, and California brackishwater snail. Of the remaining special-status wildlife species occurring in the project region, only the red-tailed hawk has been observed within the project site boundaries. The following species, with the exception of the red-tailed hawk, have not been seen but have at least some likelihood to nest onsite at some time, move through the site, or otherwise depend on the site for some function given the presence of potentially suitable habitat and known occurrences in the surrounding area.

A discussion of those special-status plant and animal species that have potential to occur in the habitats present on the project site follows Figure 4.3-2 and Table 4.3-1.

TABLE 4.3-1 SPECIAL-STATUS SPECIES KNOWN TO OCCUR NEAR DUMBARTON TOD SPECIFIC PLAN AREA

Plants		Animals	
Scientific Name	Common Name	Scientific Name	Common Name
<i>Atriplex depressa</i>	Brittlescale	<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp
<i>Atriplex joaquiniana</i>	San Joaquin saltbush	<i>Danaus plexippus</i>	Monarch butterfly
<i>Suaeda californica</i>	California sea-blite	<i>Oncorhynchus mykiss</i>	Steelhead - Central California Coast ESU
<i>Eryngium aristulatum hooveri</i>	Hoover's button-celery	<i>Ambystoma californiense</i>	California tiger salamander
<i>Balsamorhiza macrolepis macrolepis</i>	Big-scale balsam-root	<i>Rana draytonii</i>	California red-legged frog
<i>Centromadia parryi congdonii</i>	Congdon's tarplant	<i>Masticophis lateralis euryxanthus</i>	Alameda whipsnake
<i>Cirsium fontinale fontinale</i>	Fountain thistle	<i>Thamnophis sirtalis tetrataenia</i>	San Francisco garter snake
<i>Helianthella castanaea</i>	Diablo helianthella	<i>Ardea herodias</i>	Great blue heron
<i>Holocarpus macradenia</i>	Santa Cruz tarplant	<i>Egretta thula</i>	Snowy egret
<i>Lasthenia conjugens</i>	Contra Costa goldfields	<i>Elanus leucurus</i>	White-tailed kite
<i>Lessingia hololeuca</i>	Woolly-headed lessingia	<i>Circus cyaneus</i>	Northern harrier
<i>Micropus amphibolus</i>	Mount Diablo cottonweed	<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Plagiobothrys glaber</i>	Hairless popcornflower	<i>Laterallus jamaicensis coturniculus</i>	California black rail
<i>Streptanthus albidus peramoenus</i>	Uncommon jewelflower	<i>Rallus longirostris obsoletus</i>	California clapper rail
<i>Tropidocarpum capparideum</i>	Caper-fruited tropidocarpum	<i>Charadrius alexandrinus nivosus</i>	Western snowy plover
<i>Campanula exigua</i>	Chaparral harebell	<i>Sterna antillarum brownii</i>	California least tern
<i>Arctostaphylos andersonii</i>	Santa Cruz manzanita	<i>Athene cucularia hypugaea</i>	Western burrowing owl
<i>Arctostaphylos regismontana</i>	Kings Mountain manzanita	<i>Riparia riparia</i>	Bank swallow
<i>Astragalus tener tener</i>	Alkali milkvetch	<i>Geothlypis trichas sinuosa</i>	Saltmarsh common yellowthroat

TABLE 4.3-1 SPECIAL-STATUS SPECIES KNOWN TO OCCUR NEAR DUMBARTON TOD SPECIFIC PLAN AREA

Plants		Animals	
Scientific Name	Common Name	Scientific Name	Common Name
<i>Trifolium depauperatum hydrophilum</i>	Saline clover	<i>Melospiza melodia pusillula</i>	Alameda song sparrow
<i>Acanthomintha duttonii</i>	San Mateo thorn-mint	<i>Agelaius tricolor</i>	Tricolored blackbird
<i>Monardella antonina antonina</i>	San Antonio Hills monardella	<i>Sorex vagrans halicoetes</i>	Salt-marsh wandering shrew
<i>Monardella villosa globosa</i>	Robust monardella	<i>Reithrodontomys raviventris</i>	salt marsh harvest mouse
<i>Allium peninsulare franciscanum</i>	Franciscan onion		
<i>Fritillaria liliacea</i>	Fragrant fritillary		
<i>Hesperolinon congestum</i>	Marin dwarf flax		
<i>Malacothamnus arcuatus</i>	Arcuate bush mallow		
<i>Cordylanthus maritimus palustris</i>	Point Reyes bird's-beak		
<i>Collinsia multicolor</i>	San Francisco collinsia		
<i>Navarretia myersii myersii</i>	Pincushion navarretia		
<i>Navarretia prostrata</i>	Prostrate navarretia		
<i>Polemonium carneum</i>	Royal polemonium		
<i>Stuckenia filiformis</i>	Slender-leaved pondweed		
<i>Dirca occidentalis</i>	Western leatherwood		

Monk & Associates/February 2010

Plants

Brittlescale

Brittlescale (*Atriplex depressa*) is a CNPS List 1B.2 species. It has no state or federal status. This annual chenopod is found in chenopod scrub, meadows, seeps, playas, valley and foothill grasslands and vernal pools with alkaline or clay soils. It flowers between April and October. Marginally suitable habitat for this species occurs in the brackish marsh community on the project site. Surveys would be necessary on parcels supporting brackish marsh habitat (refer to Figure 4.3-1 for locations) to determine this plant's presence or absence prior to any site development.

San Joaquin Spearscale

San Joaquin spearscale (*Atriplex joaquiniana*) is a CNPS List 1B.2 species. It has no state or federal status. San Joaquin spearscale is found in chenopod scrub, meadows, seeps, playas and alkaline valley and foothill grasslands. It is an annual herb that blooms from April through October. Although only marginal habitat exists for this plant on the project site, the presence of this plant cannot be dismissed without conducting formal surveys. Surveys would be necessary on parcels supporting brackish marsh habitat and grasslands with alkaline soils (refer to Figure 4.3-1 for locations) to determine this plant's presence or absence prior to any site development.

Congdon's Tarplant

Congdon's tarplant (*Centromadia parryi* ssp. *congonii*) is a CNPS List 1B.2 species. It has no state or federal status. This annual tarplant is found in alkaline soils in grassland habitats. It flowers from May through November. This plant has been observed immediately north of the project site on the north side of the Southern Pacific Railroad tracks (CNDDDB Occurrence No. 60). To determine this plant's presence or absence prior to any site development, surveys would be necessary on parcels supporting salt or brackish marsh habitat (refer to Figure 4.3-1 for locations).

Hoover's Button-Celery

Hoover's button-celery (*Eryngium aristulatum hooveri*) is a CNPS List 1B.1 species. It has no state or federal status. This member of the carrot family (*Apiaceae*) is found in vernal pool habitats where it typically flowers during the month of July. Hoover's button-celery was identified in the vicinity of Mayfield and Charleston Sloughs,

Palo Alto, approximately 4.7 miles from the project site. This record is from 1901. This population, and the marsh it was found in, is believed extirpated due to development in the area over the last century. Although the likelihood of identifying this rare button-celery on the project site is low, one non-flowering specimen of *Eryngium* was found on the project site in October 2009 when Monk & Associates' biologists conducted a cursory site survey. Additional surveys would be necessary during this plant's blooming period, July, in order to identify the *Eryngium* onsite to species. Additional surveys for this plant species are recommended prior to any development proposal.

California Sea Blite

California sea blite (*Sueda californica*) is a federal listed endangered species. It has no state status. This plant is also on CNPS List 1B.1 California sea blite has been extirpated from most of its former range and is only believed to be extant (existing) in salt marsh habitats in Morro Bay and Cayucos Point, San Luis Obispo County. It flowers between July and October. The closest known historic occurrence of this plant to the project site is a 1986 collection made southwest of Fremont. The exact location of this occurrence is unknown but is estimated to be approximately 4.2 miles southeast of the project site (CNDDDB Occurrence No. 14). Due to the limited number of existing occurrences of this species, it is unlikely that it occurs within the project site boundaries. However, due to its federal status (an endangered species) and the presence of suitable habitat within the project site boundaries (salt marsh), it is prudent to survey for this plant prior to any grading or construction in salt marsh habitats.

Caper-Fruited Tropicocarpum

Caper-fruited tropidocarpum (*Tropicocarpum capparideum*) is a CNPS List 1B.1 species. It has no state or federal status. It is known from only two occurrences. The species is possibly threatened by grazing, trampling, and non-native plants. Caper-fruited tropidocarpum is found in alkaline hills in valley and foothill grassland ranging from an elevation of one-meter to 455 meters. It is an annual herb that blooms from March through April. There are no CNDDDB records for this plant species within five miles of the project site. While it is very unlikely for this plant to be present on the project site (due to its known occurrences in only two locations), due to the suitability of habitat onsite (alkaline soils), surveys are recommended prior to any future development proposal onsite.

Saline Clover

Saline clover (*Trifolium depauperatum* var. *hydrophilum*) is a CNPS List 1B.2 species. It has no state or federal status. Saline clover is found in marshes, swamps, mesic and alkaline valley and foothill grasslands, and vernal pools. It is an annual herb that blooms from April through June. The project site provides suitable habitat for this species. Surveys during this plant's blooming period would be necessary to determine its presence or absence prior to any site development. Surveys would be necessary on parcels supporting brackish marsh and salt marsh habitat (refer to Figure 4.3-1 for locations).

Point Reyes Bird's Beak

Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*) is a CNPS List 1B.2 species. It has no federal or state status. This hemiparasitic annual herb is found in coastal salt marshes, where it blooms from June through October. The salt marsh habitats provide marginal habitat for this special-status plant species. Prior to impacting any salt marsh habitats on the project site, surveys would be necessary to determine the presence or absence of this plant species. Surveys would need to be conducted during this plant's flowering period in order for the surveys to follow CDFG and CNPS specified survey guidelines.

Alkali Milk-Vetch

Alkali milk-vetch (*Astragalus tener* var. *tener*) is a CNPS List 1B.2 species. It has no federal or state status. It is an annual herb inhabiting playas, edges of salt marshes, alkali meadows, clay soils supporting valley and foothill grasslands, and alkaline, vernal pools (CNDDDB 2001). Alkali milk-vetch is a delicate, sparsely hairy to smooth herb, growing one to twelve inches high. It has seven to seventeen leaflets on blades one to three-and-a-half inches long. It produces two to twelve pink-purple flowers per inflorescence. Fruits are elongated legumes under an inch long.

It occurs in open, alkaline and vernal moist meadows and vernal pools from sea level to 200 feet in elevation. This species can be distinguished from all other species of *Astragalus* that occur in the same areas by its deflexed fruit stalks and smooth seeds (Liston 1992). This variety flowers from March through June (Skinner and Pavlik 1994).

Threats to the species include habitat destruction, especially agricultural conversions (Skinner and Pavlik 1994). However, anecdotal evidence suggests that *A. tener* var. *tener* may benefit from some types of temporary surface disturbance (C. Witham *in litt.* 1998). Competitors that threaten *A. tener* var. *tener* include *Lepidium*

latifolium and *Salsola* spp. (Russian thistle) in Yolo County, and *Melilotus indica* (sweet clover) and *Lolium multiflorum* in Alameda County (CNDDDB 2001). Extirpation from random processes is also a threat to virtually all of the populations due to their small numbers of plants, which make them vulnerable to chance events. Loss of pollinators due to destruction or degradation of their habitat also is a threat to *A. tener* var. *tener* because it would not be able to set seed if pollinators were absent. Alkali milk-vetch was last collected in the Bay Area in 1959. It is currently protected at the Jepson Prairie Preserve. Alkali milk-vetch is known from San Francisco from historical records. It was purportedly identified in 1868 by Kellogg and Harford, occurring in low, sub-saline fields in the Mission Dolores area. The alkali milk-vetch is believed extant in Alameda, Merced, Napa, Solano, and Yolo counties. It is believed extirpated from Contra Costa, Monterey, San Benito, Sonoma, and Stanislaus counties (Keeler-Wolf *et al.* 1998).

According to CNDDDB, there are three known records of this species within five miles of the project site. Two of these observations are historic, that is, quite old, including one historic within 1-mile of the site and one five miles from the site. The observation 1-mile away dates from 1895 and was located in essentially the developed portion of the City and is now considered likely extirpated. The other historic observation is from 1905 and is located growing along the marshes adjacent to Palo Alto and is considered possibly extirpated as well. The most recent observation is located five miles southeast of the site near in the City of Fremont growing on the edge of vernal pools.

This species is mainly associated with vernal pools, playas and relatively undisturbed grassland complexes, which are not present on the project site. This species is also relatively easily observed. Given the lack of observations and habitat onsite, this species is not likely to occur at the project site.

Contra Costa Goldfields

Contra Costa goldfields (*Lasthenia conjugens*) is a federally listed endangered species and a CNPS List 1B.1 species. It has no state status. This plant is a showy herb in the Asteraceae family. It grows to between 4 and 12 inches high and has opposite, green leaves and an infrequently branched stem. The blooming period is from March through June and it has specialized adaptations to allow it to exist in vernal pools. The species is an annual, which allows it to complete its life cycle within the time period of vernal pool inundation and drying and also produces dormant seeds that allow them to survive through the dry summers until they can germinate when the winter rains come (Hickman 1993).

Contra Costa goldfields is known from only 20 extant occurrences. Eleven of these occurrences are from areas east and south of the City of Fairfield in Contra Costa County. The species has also been recorded in Alameda, Napa, and Solano Counties and has been extirpated from Santa Barbara, Santa Clara, and Mendocino Counties (CDFG 2007). Monk & Associates biologists have also found it on a property in Sonoma County. The species is found in vernal pools (Northern Basalt Flow, Northern Claypan, and Northern Volcanic Ashflow), swales, and moist depressions and flats in cismontane woodland and valley and foothill grassland between 0 and 470 meters elevation in clay or loam soils. Historical observations included many occurrences in the transition zone between vernal pools and tidal marshes on the eastern side of the San Francisco Bay. Development, agriculture land conversion, overgrazing, non-native invasive plants, and creek channelizing threaten nearly all remaining populations of this species (CNPS 2007). Critical habitat for this species was declared in August 2003.

A total of three occurrences within five miles of the project site are noted on the CNDDDB. Two of these are located in vernal pool complexes approximately five miles to the southeast and one is located within one-mile north of the project. However, the nearer occurrence is historic (1895) and is presumed extirpated as that area is now near the center of the City. Because this species requires vernal pool habitat that is not found on the project site, this species is not likely to occur within the confines of the project boundaries.

Prostrate (Vernal Pool) Navarretia

Vernal pool navarretia (*Navarretia prostrata*) is a CNPS List 1B.1 species. It has no state or federal status. Like all navarretia species, the prostrate navarretia is a relatively small-stature, annual plant. As its name implies, this species lies prostrate (close to the ground) with blue to white flowers with seeds that stick to the fruit until wet (Hickman 1993), which is likely an adaptation to wetland conditions to improve reproduction until more optimal conditions arise. It is known from relatively undisturbed alkaline floodplains and vernal pools.

According to CNDDDB, there are two known occurrences of this species within five miles of the project site. These observations are located approximately four to five miles southeast of the project site in vernal pool complexes with other rare plant species. Because the site does not contain vernal pool complexes and has not been observed onsite, this species is not likely to occur at the project site.

Hairless Popcorn Flower

Hairless popcorn flower (*Plagiobothrys glaber*) is a CNPS List 1A species. List 1A species are species that are believed to be extinct. This is a small, annual plant with white flowers that was once known from wet, alkaline soils in valleys and coastal salt marshes. According to the CNDDDB there is one occurrence of this species within five miles of the project site. However, this is also an historic observation from 1896 and is now presumed to be extirpated.

This species is not expected to occur onsite because of the heavy disturbance onsite, lack of recent, local observations, and its presumed local extinction.

Slender-leaved pondweed

Slender-leaved pondweed (*Stuckenia [Potamogeton] filiformis*) is a CNPS List 2.2 species. It has no state or federal status. This is a perennial, aquatic plant growing from rhizomes and tubers (Hickman 1993). It is known from relatively shallow, clear water lakes and channels.

There is one observation of this species within five miles of the project site according to the CNDDDB. This observation from 1977 is located approximately five miles northeast of the project site within Alameda Creek. This species is not likely to occur onsite as its required habitat is not present.

Animals

Western Snowy Plover

The western snowy plover (*Charadrius alexandrinus nivosus*) is a federal listed threatened species and a California species of special concern. This small shorebird inhabits playas (salt flats, dry beds of seasonal saline lakes) of the interior states and beaches on the Pacific Coast. The population of the Pacific Coast constitutes a relatively distinct breeding unit. San Francisco Bay is one of the most productive breeding sites along the central California coast, while breeding success has often declined at natural beach breeding sites (U.S. Fish and Wildlife Service 2001). Like the California least tern, the western snowy plover has adapted to exploit the artificial playa-like habitats provided by dry beds of salt evaporation ponds and bare, linear

levees. The natural analogues of these habitats in San Francisco Bay were extensive sand and shell spits, and natural salt ponds, primarily in the Berkeley-Oakland-Alameda shoreline. These were largely destroyed by urban and port development early in the state's history (1850s to 1870s) prior to local breeding records for the species. Almost all of the Estuary's breeding colonies are in the South Bay. The San Francisco Bay population typically ranges around 200 to 300 adult birds during the breeding period when these migratory birds are present.

Western snowy plovers feed on insects and other small invertebrates found in sand or firm mud, edges of saline waters, decomposing algal mats or around moist, rich organic debris. In San Francisco Bay, they feed in salt ponds, levees, and sand flats at low tide. Brine flies are an important component of their diets in salt pond beds and levees. Like California least terns, they nest in small scrapes on relatively barren or very sparsely covered (debris, low vegetation) surfaces, preferring light-colored surfaces which mask their pale tan-gray backs.

There are six occurrence records for this species in the region of the project, with most scattered along the edges of the Bay. One record (Occurrence No. 2) is just to the northeast of the project site, probably near the remnant arm of Newark Slough north of Highway 84. This sighting was made in 1971 but presumed still extant in 1989 when the record was updated. However, the location of the three nests that were observed was non-specific and the occurrence was taken from a national survey.

It is unlikely that this species nests onsite as there is no suitable nesting habitat. While there are areas of open, unvegetated habitat, they are very small and the site is well-populated by predators (e.g., black rats, Norway rats as well as domestic cats). Additionally, most of the site is some distance from potential feeding grounds; the Cargill ponds to the west are bittern ponds, which would not provide feeding habitat.

White-Tailed Kite

The white-tailed kite (*Elanus caeruleus*) is “fully protected” under the CDFG Code. Fully protected birds may not be “taken” or possessed (i.e., kept in captivity) at any time (§3511). It is also protected under the Federal Migratory Bird Treaty Act (50

CFR 10.13). The white-tailed kite is typically found foraging in grassland, marsh, or cultivated fields where there are dense-topped trees or shrubs for nesting and perching. They nest in a wide variety of trees of moderate height and sometimes in tall bushes, such as coyote bush (*Baccharis pilularis*) and toyon (*Heteromeles arbutifolia*). Commonly, they are found nesting in native trees including live and deciduous oaks (*Quercus* spp.), willows (*Salix* spp.), cottonwoods (*Populus* spp.), sycamores (*Platanus* spp.), maples (*Acer* spp.), and Monterey cypress (*Cupressus macrocarpa*). Although the surrounding terrain may be semi-arid, kites often reside near water sources, where prey is more abundant. The particular characteristics of the nesting site do not appear to be as important as its proximity to a suitable food source (Shuford 1993). Kites primarily hunt small mammals, with California meadow voles (*Microtus californicus*) accounting from between 50-100 percent of their diet (Shuford 1993). The closest known occurrence for nesting white-tailed kites to the project site is a 1972 nesting occurrence located 1.5 miles northwest of the project site (CNDDDB Occurrence No. 2).

Trees and tall shrubs on the project site parcels provide suitable nesting habitat for white-tailed kites. Hence, prior to any tree removal, ground disturbance, or earth-moving activity that could occur during the nesting season (February 1 through August 30) on any of the parcels, a preconstruction nesting survey should be completed for nesting white-tailed kites.

Northern Harrier

The northern harrier (*Circus cyaneus*) is a state species of special concern. This raptor is also protected under CDFG Code §3503, 3800, and 3513 that protects nesting raptors and their eggs/young. The northern harrier is also protected from direct take under the Migratory Bird Treaty Act (50 CFR 10.13). Northern harriers build grass-lined nests on the ground within dense, low-lying vegetation in a variety of habitats, though they are typically found nesting in grassland or marsh habitats. They usually nest on level to near level ground. This species is particularly vulnerable to ground predators such as coyotes (*Canis latrans*), red fox (*Vulpes vulpes*), and various snake species. Ground nesting birds in general are also subject to disturbance by agricultural practices. There are records of northern harriers nesting in salt marsh habitat within one mile of the project site (CNDDDB Occurrence No. 2). Northern harriers likely forage over the project site and may nest in or around the diked salt marsh habitat or ruderal uplands that provide suitable nesting habitat for this species. Hence, development of the proposed project could result in impacts on nesting northern harriers.

Preconstruction nesting surveys would have to be conducted prior to site grading or development to ensure that direct take of this species would not occur. If northern harriers were found nesting on the project site an adequate buffer would have to be established around the nesting site until the nesting cycle ended, typically in August. It is imperative to have a qualified raptor biologist determine the size of the buffer so that direct take is minimized and the project otherwise remains in compliance with the Federal Migratory Bird Treaty Act. Red-Tailed Hawk

The red-tailed hawk (*Buteo jamaicensis*) is protected under the Migratory Bird Treaty Act (50 CFR 10.13) and under CDFG Code §3503.5, 3800, and 3513 which protect nesting raptors and their eggs/young. This raptor species has an extremely wide tolerance for habitat variation, which can be attributed to its very broad spectrum of prey (Johnsgard 1990). Some clear habitat preferences do exist, however, and have been analyzed by a variety of studies. Habitat preferences in the winter for both sexes are oriented toward upland pasture, grassland, and hardwood habitats, with females also using lowland hardwoods and males using marsh–shrub communities. In the spring, females continue to use mainly upland and lowland hardwoods, probably as a reflection of their orientation toward a nest site. Monk & Associates has observed red-tailed hawks nesting in a variety of tree species including eucalyptus, coast live oak, and valley oak trees. Monk & Associates has also observed red-tail hawks nesting on utility towers. On the project site, Monk & Associates' biologists observed a red-tail hawk foraging over the Cargill parcels and then land on the top of a utility tower.

The utility towers on the project site and a few of the trees provide suitable nesting habitat for red-tailed hawks. If any site disturbance was scheduled to occur during the nesting season (February 1 through August 30), preconstruction surveys would be necessary to ensure that the project does not impact nesting red-tailed hawks. The optimal time to survey for nesting red-tailed hawks is between April 15 and May 15. If red-tailed hawks are identified nesting on the project site, a construction buffer would have to be temporarily established until the hawks are finished nesting. It is imperative to have a qualified biologist determine the size of the buffer. In this fashion the minimal area necessary to protect the nest site can be identified. This will allow the project to proceed with the minimum avoidance requirements while otherwise ensuring that direct take of the nesting birds is minimized and that the project otherwise remains in compliance with the federal Migratory Bird Treaty Act and CDFG Code. After the nesting cycle ends, and the young have fledged, typically in late-July or early August, there would be no further requirements for avoidance of the nesting tree.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia hypugaea*) is a California “species of special concern.” Its nest, eggs, and young are also protected under CDFG Code (§3503, §3503.5, and §3800). The burrowing owl is also protected from direct take under the Migratory Bird Treaty Act (50 CFR 10.13). Finally, based upon this species’ rarity status, any unmitigated impacts to rare species would be considered a “significant effect on the environment” pursuant to §21068 of the CEQA Statutes and §15382 of the CEQA Guidelines. Thus, this owl species must be considered in any project that would, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency. When these owls occur on project sites typically mitigation requirements are mandated in the conditions of project approval from the CEQA lead agency.

Burrowing owl habitat is usually found in annual and perennial grasslands, characterized by low-growing vegetation. Often, the burrowing owl utilizes rodent burrows, typically ground squirrel burrows, for nesting and cover. They may also on occasion dig their own burrows, or use man-made objects such as concrete culverts or rip-rap piles for cover. They exhibit high site fidelity, reusing burrows year after year. Occupancy of suitable burrowing owl habitat can be verified at a site by observation of these owls during the spring and summer months or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement (white wash) at or near a burrow. Burrowing owls typically are not observed in grasslands with tall vegetation or wooded areas because the vegetation obscures their ability to detect avian and terrestrial predators. Since burrowing owls spend the majority of their time sitting at the entrances of their burrows, grazed grasslands seem to be their preferred habitat because it allows them to view the world at 360 degrees without obstructions.

A 1988 CNDDDB record shows that burrowing owls were found in the vicinity of Newark and are possibly extirpated (CNDDDB Occurrence No. 51). The occurrence information included in this CNDDDB record also states that burrowing owls have suffered marked declines in the Newark area.

In order to avoid potential impacts to burrowing owls, a nesting season survey should be conducted prior to any project site development. All of the parcels within the project site provide some areas of suitable habitat for the burrowing owl. Hence, none of the parcels on the project site should be developed without prior consideration and surveys for this species.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is a state “species of special concern.” It is also protected under the Federal Migratory Bird Treaty Act and CDFG Code sections that protect nesting birds, their eggs and young (§3503). A gregarious species, the tricolored blackbird is typically found near freshwater, particularly near marsh habitat. Loss of wetland habitats is regarded as the principal factor responsible for this species population decline (Beedy 1992). Nesting colonies are typically found in stands of cattail (*Typha* spp.) and bulrush (*Scirpus* spp.), although they are also known to utilize blackberry patches (*Rubus* sp.) and thistle clumps (*Cirsium* spp. and *Cynara* spp.) adjacent to water. Flooded lands, margins of ponds, and grassy fields in summer and winter provide typical foraging habitat for this species. Cattails and bulrushes growing along ditches and in other areas of the project site provide potential nesting habitat for this colonial nesting species. Preconstruction surveys would be necessary to ensure that impacts on this species are avoided.

Saltmarsh Common Yellowthroat

The saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) is a state species of special concern. It is also protected under the Federal Migratory Bird Treaty Act and CDFG Code sections that protect nesting birds, their eggs and young (§3503). This yellow and black masked warbler is a resident of freshwater and salt water marshes in the San Francisco Bay region. It requires thick, continuous cover for foraging, and tall grasses, tules, or willows for nesting. Nest sites are varied and may be adjacent to, above, or well away from water. Nests are well concealed, mostly on or near the ground in grass tussocks, low herbaceous vegetation, cattails, tules, willows, and bushes (Shuford 1993). Cattails and bulrushes growing along ditches and in other areas of the project site provide potential nesting habitat for this species. Preconstruction surveys would be necessary to ensure that impacts to this species are avoided.

Salt Marsh Harvest Mouse

The salt marsh harvest mouse (*Reithrodontomys raviventris*) was federally listed as endangered in its entire range on October 13, 1970 (Federal Register 35: 16047). Critical habitat has not been designated for this species. This mouse is also state listed as endangered. A recovery plan for the salt marsh harvest mouse was prepared in 1984 and is currently under revision.

The salt marsh harvest mouse is a small, native rodent. Salt marsh harvest mice are found only around the San Francisco, San Pablo, and Suisun Bays. The water in the wetlands and marshes of the Sacramento-San Joaquin Delta is probably too fresh to support this mouse, therefore the Collinsville-Antioch area is the eastern limit of their distribution. There are two subspecies of the salt marsh harvest mouse: the northern (*R. r. halicoetes*) and the southern (*R. r. raviventris*). The northern subspecies lives in the marshes of the San Pablo and Suisun bays, the southern in the marshes of Corte Madera, Richmond, and South San Francisco Bay (Monroe et al 1999). Salt marsh harvest mice are critically dependent on dense vegetative cover; their preferred habitat is dominated by pickleweed (USFWS 1984). Studies have shown that salt marsh harvest mice are most commonly found in pickleweed communities with the following characteristics: one hundred percent cover, or at a minimum 60 percent pickleweed cover; a cover depth of 30 to 50 centimeters at summer maximum; complexity in the form of fat hen (*Atriplex triangularis*) and alkali heath (*Frankenia salina*) or other halophytes (salt-tolerant plants) (USFWS 1984). In marshes with an upper zone of peripheral halophytes, mice use this vegetation to escape the higher tides and may even spend a considerable portion of their lives there. Mice also move into the adjoining grasslands during high winter tides.

Diet appears to consist mainly of salt marsh plant stems and leaves, with a low proportion of seeds and insects; in winter a high proportion of grasses are consumed. The rest of the year they may forage on pickleweed and seeds from saltgrass. The northern subspecies of the salt marsh harvest mouse can drink sea water for extended periods but prefers fresh water. The southern subspecies can't subsist on sea water but it actually prefers moderately salty water over fresh. Although salt marsh harvest mice are mostly active at night, they are sometimes active during daylight hours. Breeding occurs from spring through autumn. Each female usually has one or two litters per year. Nests are quite minimal, often built of grass, sometimes may be in shrubs or taller vegetation.

There are numerous occurrences of SMHM within five miles of the project site, in tidal marshes along the edges of the Bay. The closest known occurrence of this mouse to the project site is about 0.3-mile (3/10ths of a mile) west in the tidal marshes adjacent to Newark Slough (CNDDB Occurrence No. 78) with another occurrence a bit further north (Occurrence No. 94) at Mayhews Landing.

The project site overall provides very marginal habitat for this species. According to the San Francisco Bay Goals Project, the Cargill property historically supported tidal marsh (Zentner and Zentner 2011). However, tidal action has been removed from these parcels and no contiguous swaths of pickleweed occur onsite, providing

less than optimal conditions for the salt marsh harvest mouse. Regardless, in order to address the presence or absence of this species to the satisfaction of the resource agencies that oversee its protection (that is, CDFG and USFWS) a “Habitat Assessment” prepared by a federal and state permitted salt marsh harvest mouse biologist must be conducted prior to initiating grading or project development on any parcel supporting salt marsh habitat.

Salt Marsh Wandering Shrew

The salt marsh wandering shrew (*Sorex vagrans halicoetes*) is a California species of special concern. It has no federal status. This shrew is a small carnivorous mammal that feeds on insects, amphipods (beach hoppers), isopods, and other small invertebrates. They are found almost exclusively in tidal salt marshes, in low, dense vegetation and under mats of tidal debris in the tidal marsh plains. Like the salt marsh harvest mouse, they also depend on the availability of adequate cover during extreme high tides, which submerge vegetation cover and expose them to predators. Currently, this species appears limited to the South Bay.

There are three occurrences of this species within the project region, all in tidal marshes on the edge of the Bay. The nearest occurrence is about 1 mile to the southeast (Occurrence No. 6) near the mouth of Mowry Slough in tidal marsh. There is no tidal salt marsh on the project site and, accordingly, no potential habitat for this species. Given its habitat requirements, this species is not likely to occur onsite.

California Black Rail

The California black rail (*Laterallus jamaicensis coturniculus*) is a state listed threatened species. It is also a federal bird of conservation concern. The California black rail is also protected pursuant to the Migratory Bird Treaty Act and California Fish and Game Code which protects nesting birds, their eggs, and young (§3503, 3800). This rail is a small rail approximately six inches in length, with a nine inch wing span (Sibley 1999). It is a fairly secretive bird and is often difficult to observe. This rail resides year-round in tidal emergent wetlands dominated by pickleweed or in brackish marshes dominated by bulrush with a mix of pickleweed. Nests are constructed in dense vegetation, most often within pickleweed, and built at ground level near the upper limits of tidal flooding.

There are five occurrences of this species within the project region, most in tidal marshes around the edge of the Bay. The closest CNDDDB occurrence was made in 2003 approximately two miles west of the site in tidal marsh at Dumbarton Point.

There is no tidal salt marsh on the project site that could possibly support the black rail. Accordingly, given its habitat requirements, this species is not likely to occur onsite.

Alameda Song Sparrow

The Alameda song sparrow (*Melospiza melodia pusillula*) is a California species of special concern and a federal bird of conservation concern. It is one of three song sparrow subspecies located within the San Francisco Bay. It is found within the south Bay with the highest densities around Dumbarton Point, just to the west of the project site (Shuford and Gardalli 2008). This sparrow is also found in isolated patches of tidal salt marsh throughout this area, often in high densities. The Alameda song sparrow is non-migratory and breeds at the edge of tidal channels and sloughs. It nests in vegetation consisting of pickleweed and, if available, coyote bush.

There are nine nesting occurrences of this species within five miles of the site. As implied above, close occurrences occur at Dumbarton Point, just to the west but also along Newark Slough just to the northwest. (Occurrence 15). This species requires tidal marshes and tidal marsh channels for nesting. There is no tidal salt marsh on the project site. Accordingly, given its habitat requirements, this species is not likely to occur onsite.

California Clapper Rail

California clapper rail (*Rallus longirostris obsoletus*) (CCR) is a federal listed endangered species. It is also a state listed endangered species. CCRs are hen-sized birds that rarely fly and that are restricted to tidal marshes. Historically, the CCRs were found in the tidal salt marshes in northern and central California from Humboldt Bay to Morro Bay with the bulk of the population centered in the SF Estuary. Today, the population is restricted to the SF Estuary although it is now found in both salt and brackish tidal marshes (Collins et al. 1994).

Mud flats and tidal channels are used for foraging, dense marsh vegetation provides nesting sites and brooding areas, and transitional halophytic vegetation provides refuge during flooding (Zucca 1954). CCRs are described in the literature as most common in the lower marshes dominated by Pacific cordgrass, although bulrush is also well used (Josselyn 1983). Gumplant (*Grindelia humilis*), which occurs at mean higher high water provides important cover and nesting sites in some marshes (USFWS 1984). In a North Bay study, most nests were within a few feet of a tidal channel (Evens and Page 1983). Predation can be significant, with egg loss to

Norway rats and ravens and adult loss to red foxes and raptors (USFWS 1984).

There are ten CCR occurrences within the region of the project; all within tidal marshes on the fringes of the Bay. The closest occurrence is near the mouth of Plummer Slough about 1.5 miles to the southwest. This sighting (Occurrence No. 38) consists of more than 50 rails observed during an air boat survey at high tide in 1993. On the project site, there is no tidal salt marsh that could possibly support this species. Accordingly, given its habitat requirements, this species is not likely to occur onsite.

California Tiger Salamander

The California tiger salamander (*Ambystoma californiense*) (CTS) is a federally listed threatened species and a California listed threatened species. CTS are restricted to relatively deep vernal pools, stockponds or similar habitats as, compared to other amphibians, its larvae take a significant amount of time to transform (metamorphose) into juveniles and require relatively lengthy hydroperiods (ponded water typically through the month of May). CTS are relatively secretive and difficult to find outside of the breeding ponds or their nocturnal breeding migrations, which begin with the first rains of the season in November or December. Sexually mature adults move at night from underground refugia, (e.g., squirrel burrows), to breeding ponds from late November to early March and they may move significant distances, as much as 1.24 miles from a breeding pool (USFWS 2003). Breeding occurs from late winter into early spring. The species also breeds in reservoirs and small lakes but there they are often subject to predation by fish.

After breeding, the adults return to their underground burrows or other refugia. The eggs then hatch and the resulting gilled aquatic larvae metamorphose into juveniles that also move at night into terrestrial habitats (Zeiner et al 1988). Beginning in late spring and early summer, juveniles migrate from the ponds into refugia where they aestivate (that is, over summer, similar to hibernation) until the dry season ends. Juveniles can travel up to one mile from their breeding site to upland refugia (Austin and Shaffer 1992). This distance is normally less when there are large numbers of refugia sites in proximity to breeding sites. Barriers including road berms, buildings, or walls can impede migration and roads with high levels of traffic are both a major barrier to the species and a major source of mortality. At the end of the dry season, juveniles and adults return to the breeding pond.

There are four occurrences of CTS in the project region, all of which are clustered almost five miles to the southeast in the relatively deep vernal pools on and around

the Pacific Commons vernal pool restoration site in Fremont. There is no suitable breeding or aestivation habitat for CTS on the project site or near the project site and no records of this species closer than the Fremont sightings noted above. Accordingly, this site is not likely to support CTS.

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp (*Lepidurus packardii*) is a federal listed endangered species. It has no state status. Vernal pool tadpole shrimp are moderately sized (up to 2 inches long) aquatic crustaceans. These shrimp are found in vernal pools with clear to highly turbid water. They have been observed in pools ranging in size from 54 square feet to 89-acres. They are known from vernal pools in the San Francisco Bay National Wildlife Refuge in Alameda County as well as numerous populations in the Central Valley, ranging from east of Redding south to the San Luis National Wildlife Refuge in Merced County. California (USFWS 2003).

There are three occurrences of this shrimp in the project region, all of which (like the CTS) are clustered almost five miles to the southeast in the relatively deep vernal pools on and around the Pacific Commons vernal pool restoration site and the Warms Springs unit of the USFWS National Wildlife Refuge in Fremont. There is no suitable habitat for this species on the project site and no records of this species closer than the Fremont sightings noted above. Additionally, potential habitat on the Torian site investigated by Zentner and Zentner was found to be either too saline (and occupied by brine shrimp) or too heavily vegetated. Accordingly, this site is not likely to support this species.

Wildlife Movement Corridors

Wildlife corridors are generally described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or human induced factors such as urbanization. The fragmentation of natural habitat creates isolated “islands” of vegetation that may not provide sufficient area or resources to accommodate sustainable populations for a number of species and thus, adversely affecting both genetic and species diversity. Corridors often partially or largely eliminate the adverse effects of fragmentation by: 1) allowing animals to move between remaining habitats to replenish depleted populations and increase the gene pool available; 2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or species extinction; and 3) serving as travel paths for individual

animals moving throughout their home range in search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

The project site is part of a very broad zone of disturbed uplands between the Cargill bittern ponds and the adjacent developed uplands. Relatively common wildlife species that are tolerant of human development, such as raccoons, skunks, Columbian black-tailed deer, red fox, probably move in this area from the ruderal habitats of the local subdivisions on a more or less daily basis. Hence, the project site functions as a local wildlife movement corridor.

4.3.2 REGULATORY SETTING

4.3.2.1 FEDERAL FRAMEWORK

FEDERAL ENDANGERED SPECIES ACT

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, they are as follows:

- ◆ Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.
- ◆ Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.
- ◆ Section 9 (§1538): Prohibition on Take: prohibits the “taking” of a listed species by anyone, including private individuals, and state and local agencies.
- ◆ Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases.

Section 9 of FESA as amended, prohibits the “take” of any fish or wildlife species listed under FESA as endangered. Under federal regulation, “take” of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. “Take,” as defined by FESA, means “to harass, harm,

pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” “Harm” includes not only the direct taking of a species itself, but the destruction or modification of the species’ habitat resulting in the potential injury of the species. As such, “harm” is further defined to mean “an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR 17.3).

Section 9 applies to any person, corporation, federal agency, or any local or state agency. If “take” of a listed species is necessary to complete an otherwise lawful activity, this triggers the need to obtain an incidental take permit either through a Section 7 Consultation as discussed further below (for federal actions or private actions that are permitted or funded by a federal agency), or requires preparation of a Habitat Conservation Plan (HCP) pursuant to Section 10 of FESA (for state and local agencies, or individuals, and projects without a federal “nexus”).

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. The Section 7 consultation process applies only to actions taken by federal agencies, or actions by private parties that require federal agency permits, approval, or funding (for example, a private landowner applying to the USACE for a permit). Section 7’s consultation process is triggered by a determination of the “action agency” (i.e., the federal agency that is carrying out, funding, or approving a project) that the project “may affect” a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation with the USFWS is required.

Applicability to the Proposed Project

Monk & Associates’ biologists who conducted a field reconnaissance of the project site hold a federal 10(a)(1)(A) recovery permit issued by the USFWS to live-trap and study the federally listed salt marsh harvest mouse. Based on Monk & Associates’ experience studying this species, the project site does not appear to provide habitat that would likely support this salt marsh endemic species. However, in order to avoid potentially impacting this species, prior to any parcel specific grading or development, Monk & Associates is recommending that a “Habitat Assessment” for the salt marsh harvest mouse be conducted by a qualified, federally and state permitted salt marsh harvest mouse biologist (that is, a biologist

who holds a federal 10(a)(1)(A) recovery permit issued by USFWS and a Memorandum of Understanding issued by CDFG allowing the biologist to study/handle the species) on any parcel within the project site that supports salt marsh vegetation (specifically, pickleweed). The exception would be the Torian property since it has been studied by several salt marsh harvest mouse biologists over the years (Live Oak Associates biologists, Zentner and Zentner biologists and Monk & Associates) and a determination has been made that this property does not provide the habitat components suitable for the salt marsh harvest mouse (that is, the Torian property is not a historic salt marsh, and does not provide the contiguous salt marsh habitat necessary to support this species). Any Habitat Assessment prepared for the project site parcels would need to be submitted to USFWS and CDFG for their review and comment since they are the resource agencies that administer the Federal and State Endangered Species Acts (respectively).

Some of the parcels within the project site provide suitable habitat for the federally listed plant California sea blite. While this plant is believed to only exist near Morro Bay and Cayucos Point in San Luis Obispo County, its presence in suitable habitats on the project site cannot be overlooked without conducting appropriately timed studies. If this plant is identified on the project site, a federal “incidental take” permit may be necessary. Refer to the Section 4.3.3.3 (Potential Impacts and Mitigation Measures).

The project site does not provide suitable habitat for any other federally listed plant, animal, or fish species; hence, other than the salt marsh harvest mouse and the California sea blite, there should be no other considerations regarding federally listed species.

FEDERAL MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to “take” (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

Executive Order 13186 for conservation of migratory birds (January 11, 2001) requires that any project with federal involvement address impacts of federal actions on migratory birds. The order is designed to assist federal agencies in their

efforts to comply with the MBTA and does not constitute any legal authorization to take migratory birds. The order also requires federal agencies to work with the USFWS to develop a memorandum of understanding (MOU). Protocols developed under the MOU must promote the conservation of migratory bird populations through the following means:

- ◆ Avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- ◆ Restore and enhance habitat of migratory birds, as practicable; and prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

Applicability to the Proposed Project

White-tailed kite, red-tailed hawk, western burrowing owl, and northern harrier could nest on the project site. These raptors (birds of prey) would be protected by the Migratory Bird Treaty Act. Also, the common songbirds and wading birds (in fact most birds) that could occur on the site would be protected pursuant to this Act. As long as there is no direct mortality of species protected pursuant to this Act caused by development of the site, there should be no constraints to development of the site. Birds can, in most cases, simply fly away from threats. However, nesting birds are particularly vulnerable to mortality. To comply with the Migratory Bird Treaty Act, all active nest sites would have to be avoided while birds were nesting. Typically, measures that can be taken to avoid “taking” nesting birds include establishing a non-disturbance buffer around nests via installation of orange construction fencing. Upon completion of nesting, buffers can be removed and the project may re-commence as otherwise planned without further regard for the formerly used nest site. Refer to the Section 4.3.3.3 for specific requirements for avoidance of nest sites for potentially occurring species.

FEDERAL CLEAN WATER ACT

Section 404

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), USACE regulates the discharge of dredged or fill material into “waters of the U.S.” (33 CFR Parts 328 through 330). This requires project applicants to obtain authorization from the USACE prior to discharging dredged or fill material into any water of the U.S. In the Federal Register “waters of the U.S.” are defined as, “...all interstate waters including interstate wetlands...intrastate lakes, rivers, streams (including intermittent streams), wetlands, [and] natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce...” (33 CFR Section 328.3).

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to acquire authorization from the USACE prior to discharging or otherwise impacting “waters of the U.S.” Pursuant to Section 404 of the Clean Water Act, the USACE normally provides two alternatives for permitting impacts to “waters of the U.S.” The first alternative would be to use Nationwide Permit(s). The second alternative is to apply to the USACE for an Individual Permit (33 CFR Section 235.5(2)(b)). Prior to finalizing design plans, the applicant needs to be aware that the USACE maintains a policy of “no net loss” of wetlands (waters of the U.S.). Therefore, it is incumbent upon applicants that propose to impact USACE regulated areas to submit a mitigation plan that demonstrates that impacted regulated areas would be recreated (i.e., impacts would be mitigated). Typically, the USACE requires mitigation to be “in-kind” (i.e., if a stream channel would be filled, mitigation would include replacing it with a new stream channel), and at a minimum of a 1:1 replacement ratio (i.e., one acre or fraction thereof recreated for each acre or fraction thereof lost).

Applicability to the Proposed Project

Monk & Associates has not completed a formal wetland delineation on the project site. During Monk & Associates’ cursory field evaluation we noted that many areas of the project site support wetland vegetation and hydrology (and accordingly these areas also likely support wetland soils, though no soil pits were dug onsite to confirm or negate this supposition). Hence, it is likely that many of the project site parcels, specifically, Cargill, Torian, FMC, support USACE jurisdictional wetlands. Refer to Figure 4.3-1 for a map of areas that support wetland vegetation (for example, salt marsh, brackish marsh habitats). (While Figure 4.3-1 shows areas of wetland vegetation, it does not depict USACE jurisdictional areas). Thus, prior to any site development it would be necessary for a wetland delineation to be completed on these parcels and the property owner to obtain a confirmed jurisdictional map from the USACE. This approved “USACE jurisdictional” map could then be relied upon by the property owner(s) for site planning/development purposes. The extent of waters of the U.S. on the Torian property has already been confirmed by the USACE. Any development that affects USACE jurisdictional waters would constitute a significant adverse impact pursuant to CEQA. The significance of the impact could be reduced to less than significant with mitigation. This is discussed further in Section 4.3.3.3.

Section 401

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB) regulate activities in “waters of the State” (which includes wetlands) through Section 401 of the Clean Water Act. The term “waters of the State” is defined as any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code § 13050(e)). Any impacts on waters of the state would have to be mitigated to the satisfaction of the RWQCB prior to the time this resource agency would issue a permit for impacts to such features. The RWQCB requirements for issuance of a “401 Permit” typically parallel the USACE requirements for permitting impacts to USACE regulated areas pursuant to Section 404 of the Clean Water Act.

Applicability to the Proposed Project

Monk & Associates has identified areas on the project site supporting wetland vegetation and wetland hydrology (and accordingly these areas also likely support wetland soils, though no soil pits were dug onsite to confirm or negate this supposition). Accordingly it is likely that some portions of the project site may support USACE jurisdictional waters, which includes wetlands. The extent of USACE jurisdictional waters (including wetlands) has already been confirmed on the Torian property. Any Section 404 permit authorized by the USACE for the project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the Clean Water Act (i.e., without obtaining a certification of water quality). Since the RWQCB, at this time, does not have a formal method for technically defining what constitutes waters of the state, the RWQCB typically relies upon the USACE’s jurisdictional determination. Therefore, if the USACE determines there are a specified number of acres of wetland or other waters within the project site boundaries, the RWQCB will likely concur. However, pursuant to a Notice of Preparation (NOP) of a Draft EIR on its proposed "Wetland Area Protection Policy and Dredge Fill Regulations" issued in early January 2011, the SWRCB has requested comment on a new state definition of "wetlands" that is broader than the federal definition predominantly used within the state today. This state definition of “wetlands” is not in effect at this time. However, if the SWRCB’s definition of wetlands becomes policy during the life of this project, it may be necessary for property owners to have a wetland delineation completed on their property following the SWRCB’s definition of wetlands in addition to having a USACE delineation.

Any impacts to waters of the state would have to be mitigated to the satisfaction of the RWQCB prior to the time this resource agency would issue a permit for

impacts to such features. The RWQCB requirements for issuance of a “401 Permit” typically parallel the USACE requirements for permitting impacts to USACE regulated areas pursuant to Section 404 of the Clean Water Act. Refer to section above for likely mitigation requirements for impacts to RWQCB regulated wetlands. Also, refer to discussion of the Porter-Cologne Water Quality Control Act below for other applicable actions that may be imposed on the project by the RWQCB prior to the time any certification of water quality is authorized for the project. Note that any isolated wetlands or other waters that are determined to be on the project site that are not regulated by the USACE pursuant to the SWANCC decision would still be regulated by the RWQCB pursuant to the Porter-Cologne Water Quality Control Act (refer to discussion below). Finally, during the lifetime of this project, the SWRCB may have its own definition of wetlands that may need addressing.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that “any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge” with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1). It should be noted that pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates “isolated wetlands,” or those wetlands considered to be outside of the USACE jurisdiction.

Applicability to the Proposed Project

If the USACE determines there are waters of the U.S. on the project site, the RWQCB would also exert its jurisdiction over these areas pursuant to the Porter-Cologne Water Quality Control Act. Since any “threat” to water quality could conceivably be regulated pursuant to the Porter-Cologne Water Quality Control Act, care will required be when constructing the proposed project to be sure that adequate pre and post construction Best Management Practices Plan (BMPs) are incorporated into the project implementation plans. Note that any isolated wetlands defined by the USACE on the chosen project site option, that are not regulated by the USACE pursuant to the SWANCC decision, would still be regulated by the RWQCB pursuant to the Porter-Cologne Water Quality Control Act.

It should also be noted that prior to issuance of any permit from the RWQCB this agency will require submittal of a Notice of Determination from the City indicating that the proposed project has completed a review conducted pursuant to CEQA.

The pertinent sections of the CEQA document (typically the biology section) are often submitted to the RWQCB for review prior to the time this agency will issue a permit for a proposed project.

Many of the parcels within the project site do not have a stormwater drainage system, and no municipal provision for stormwater management exists on these parcels. Rather some of the parcels rely on natural flow to convey stormwater runoff. Therefore, when the project site parcels are developed a stormwater management plan/program would need to be implemented to address storm water run-off and treatment. A stormwater management system (and sewer system) would likely need to be installed into the street right-of-ways, and tied into existing infrastructure. To the extent possible, the project should tie into any existing storm water system owned and operated by the City. Refer to Section 4.8 (Hydrology, Drainage, and Water Quality) for additional discussion of stormwater management.

4.3.2.2 STATE FRAMEWORK

CALIFORNIA ENDANGERED SPECIES ACT

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would impact threatened or endangered species if reasonable and prudent alternatives are available.

Because CESA does not have a provision for “harm” (refer to discussion of FESA, above), CDFG considerations pursuant to CESA are limited to those actions that would result in the direct take of a listed species.

If proposed projects would result in impacts to a state listed species, an “incidental take” permit pursuant to §2081 of CDFG Code would be necessary (versus a federal incidental take permit for federal listed species). No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of “take.”

State and federal incidental take permits are issued on a discretionary basis, and are typically only authorized if applicants are able to demonstrate that impacts on the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would

be impacts on a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, management endowment fees are usually collected as part of the agreement for the incidental take permit(s). The endowment is used to manage any lands set-aside to protect listed species, and for biological mitigation monitoring of these lands over (typically) a five-year period.

Applicability to the Proposed Project

Monk & Associates' biologists who conducted a field reconnaissance of the project site hold a state Memorandum of Understanding (MOU) issued by the CDFG to live-trap and study the state and federally listed salt marsh harvest mouse. Our reconnaissance survey was at a cursory level. Based on Monk & Associates' experience studying this species, we conclude that the project site does not provide habitat that would be likely to support a population of this salt marsh endemic mouse. However, a more in depth analysis would be required than completed by Monk & Associates to render any conclusions about the presence or absence of this mouse species. Accordingly, in order to avoid potentially impacting this species, prior to any site grading or development, Monk & Associates is recommending that a "Habitat Assessment" for the salt marsh harvest mouse be conducted by a qualified, federally and state permitted salt marsh harvest mouse biologist (that is, a biologist who holds a federal 10(a)(1)(A) permit issued by USFWS and a MOU issued by CDFG allowing the biologist to study/handle the species) on any parcel within the project site that supports salt marsh vegetation (specifically, pickleweed). The exception would be the Torian property since it has been studied by several salt marsh harvest mouse biologists over the years (Live Oak Associates biologists, and Zentner and Zentner and Monk & Associates) and a determination has been made that this property does not provide the habitat components suitable for the salt marsh harvest mouse (that is, the Torian property is not a historic salt marsh, and does not provide the contiguous salt marsh habitat necessary to support this species).

If a qualified, permitted salt marsh harvest mouse biologist can render a conclusion that no impacts to the salt marsh harvest mouse would occur from development of the project site, the standards of care dictated by CEQA will be met and no further action shall be warranted. However, if the permitted biologist believes the project could impact the salt marsh harvest mouse or if the biologist that prepares the assessment does not hold current permits from CDFG and USFWS that allow work with the salt marsh harvest mouse, then the Habitat Assessment prepared for the project site parcels would need to be submitted to USFWS and CDFG for their

review and comment. These two agencies administer the Federal Endangered Species Act and California Endangered Species Act (respectively) and oversee the protection of this species.

CALIFORNIA FISH AND GAME CODE

Section 4700

In accordance with California Fish and Game Code, Section 4700, “fully protected” mammals or parts thereof may not be taken or possessed (held in captivity) at any time (a) (1), except as provided in Section 2081.7. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected mammal, and no permits or licenses heretofore issued shall have any force or effect for that purpose. However, subject to certain notice requirements, the CDFG may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species. The salt-marsh harvest mouse is fully protected.

Prior to authorizing the take of any fully protected species, the CDFG shall make an effort to notify all affected and interested parties to solicit information and comments on the proposed authorization. The notification shall be published in the California Regulatory Notice Register and be made available to each person who has notified the CDFG, in writing, of his or her interest in fully protected species and who has provided an e-mail address, if available, or postal address to the CDFG. Affected and interested parties shall have 30 days after notification is published in the California Regulatory Notice Register to provide any relevant information and comments on the proposed authorization. (2) As used in this subdivision, “scientific research” does not include any actions taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code. (3) Legally imported fully protected mammals or parts thereof may be possessed under a permit issued by the CDFG.

Sections 3503, 3503.5, 3511, and 3513

CDFG Code §3503, 3503.5, 3511, and 3513 prohibit the “take, possession, or destruction of birds, their nests or eggs.” Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered “take.” Such a take would also violate federal law protecting migratory birds (Migratory Bird Treaty Act).

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, “fully protected” birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under CDFG Code (§3511). “Fully protected” birds may not be taken or possessed (that is, kept in captivity) at any time.

Section 1602

Pursuant to Section 1602 of the Fish and Game Code, CDFG regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream. CDFG's jurisdiction includes the outer extent of any riparian vegetation associated with the stream. Any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, would require entering into a Streambed Alteration Agreement (SBAA) with CDFG prior to commencing work in the stream. However, prior to authorizing such permits, CDFG typically reviews an analysis of the expected biological impacts, any proposed mitigation plans that would be implemented to offset biological impacts and engineering and erosion control plans.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380 of CEQA defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors. “Rare” species are defined by CEQA as those who are in such low numbers that they could become endangered if their environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in the FESA. The CEQA Guidelines also state that a project will normally have a significant effect on the environment if it will “substantially affect a rare or endangered species of animal or plant or the habitat of the species.” The significance of impacts to a species under CEQA, therefore, must be based on analyzing actual rarity and threat to that species despite its legal status or lack thereof.

BAY CONSERVATION AND DEVELOPMENT COMMISSION

The 27-member San Francisco Bay Conservation and Development Commission (BCDC) was created by the California Legislature in 1965 in response to broad public concern over the future of San Francisco Bay. The Commission is made up of appointees from local governments and state/federal agencies. BCDC

administers a comprehensive plan (i.e., the San Francisco Bay Plan) for the conservation of San Francisco Bay through regulation of development. The BCDC's jurisdiction covers the open water, marshes and mudflats of greater San Francisco Bay, including Suisun, San Pablo, Honker, Richardson, San Rafael, San Leandro and Grizzly Bays and the Carquinez Strait. Their jurisdiction also includes:

- ◆ The first 100 feet inland from the shoreline around San Francisco Bay (note: the shoreline is defined by BCDC as being at five feet above mean sea level).
- ◆ The portion of the Suisun Marsh-including levees, waterways, marshes and grasslands- below the ten-foot contour line.
- ◆ Portions of most creeks, rivers, sloughs and other tributaries that flow into San Francisco Bay.
- ◆ Salt ponds diked off from the Bay and used as such from 1966-1969.
- ◆ Duck hunting preserves, game refuges and other managed wetlands that have been diked off from San Francisco Bay.

A BCDC permit must be obtained before you do any of the following things within the Commission's jurisdiction:

- ◆ Place solid material, build or repair docks, pile-supported or cantilevered structures, dispose of material or moor a vessel for a long period in San Francisco Bay or in certain tributaries that flow into the Bay.
- ◆ Dredge or extract material from the Bay bottom.
- ◆ Substantially change the use of any structure or area.
- ◆ Construct, remodel or repair a structure.
- ◆ Subdivide property or grade land.

The BCDC has three different types of permits. The size, location, and impacts of a project determine which type of permit is appropriate for a particular project. In turn, the type of permit that is applied for affects the information that must be provided to complete a permit application. A brief description of each type of permit follows. In an emergency, any of the three types of permits can be issued almost immediately if a project is needed to protect life, health, or property.

Regionwide Permit: Routine maintenance work that qualifies for approval under an existing Commission regionwide permit can be authorized in a very short period of time by the Commission's executive director without Commission review or a public hearing.

Administrative Permit: An administrative permit can be issued for an activity that qualifies as a minor repair or improvement in a relatively short period of time and without a public hearing on the application. Although an administrative permit application can be processed quickly, the proposed project must be reviewed against the same policies that are used to determine whether a major permit can be approved.

Major Permit: A major permit is issued for work that is more extensive than a minor repair or improvement. A public hearing is held on an application for a major permit and the application may be reviewed at hearings held by the engineers and designers who advise the Commission.

To get a BCDC permit, you need to complete an application form (which requires detailed project information and plans) and pay a processing fee that ranges from \$50 for a pre-authorized project to \$10,000 for a project costing more than ten million dollars. The application must be submitted by the owner of the project site or the owner's representative (architect, attorney, environmental consultant, contractor, etc.). Once you submit a complete application, by law the Commission must grant or deny your permit within 90 days unless you agree to extend this period. Most applications are processed within five to eight weeks.

Applicability to the Proposed Project

On May 4, 2010, the BCDC submitted a comment letter on the NOP of the project's Draft EIR. In this letter it states: "However, the project itself is not located in a priority use area, nor is it located within the Commission's permit jurisdiction. As the NOP states, the project area is bounded to the south and west by salt ponds." The letter goes on to state: "Although none of the project area is within the Commission's permit jurisdiction, the South Bay map in the BCDC report shows that part [sic] the area is vulnerable to a 16-inch rise in sea level and a larger part of the area is vulnerable to a 55-inch rise." Under the City's existing requirements, all development must stay outside the FEMA 100-year flood plain. According to T. Grindall, Community Development Director for the City of Newark, to remain in compliance with the City's regulations, all buildings must remain 11.25 feet above mean sea level (MSL).

4.3.2.3 LOCAL FRAMEWORK

CITY OF NEWARK MUNICIPAL CODE - TREES

Under Title 17 - Zoning, of the City of Newark's Municipal Code, Ordinance 17.36.090, "Special Conditions," pertains to trees in open space districts. "Open space district" means any area of land or water designated "O" and subject to the of land or water devoted to open space use as defined in this section, and which is designated in or consistent with the open space and conservation element of the general plan for open space use. These "Special Conditions" within open spaces are: Removal of live trees five inches or more in diameter at the base shall be prohibited except with the approval of the park superintendent or with the granting of a use permit as applicable, or, in the case of public park or public wildlife sanctuary facilities other than those owned by the city, with the approval of authorized agents or officials of the public agency owning the facilities (Ord. 92.45 § 6 (part), 1974; Ord. 92 § 21.8, 1965).

Under Title 8 – Health and Safety, Chapter 8.16, Preservation of Trees on Private Property, the following section regarding trees is pertinent to this project: 8.16.020 Permit Required. The section states: No person shall cut down, destroy, remove or move any tree which shall include any live woody plant having one or more well defined perennial stems with a trunk diameter of six inches or greater, measured at four feet above ground level growing within the city limits on any parcels of land except developed residential parcels of land ten thousand square feet or less in area, unless a permit to do so has been obtained from the public works director (Ord. 63 § 2 (part), 1979).

In accordance with 8.16.030, Permit, Inspection of premises upon application, upon receiving any such application for permit, the public works director shall inspect the premises involved and the surrounding area and shall ascertain whether or not the tree or trees serve a windbreak function upon which a substantial number of persons depend (Ord. 163 § 2 (part), 1979).

In accordance with 8.16.040 Permit Issuance, following investigation, the permit shall be issued unless the public works director finds that any such tree is in a reasonably healthy condition and is necessary in order to preserve the health, safety and welfare of a substantial number of persons in the community by serving a windbreak function; or that the public interest will be otherwise unduly prejudiced by the destruction or removal of any such tree; and that the public interest in preservation of any such tree is not outweighed by the individual hardship on the

applicant in the event the application is denied. In applying the standards set forth in this chapter, nothing shall be deemed to prevent the public works director from issuing a permit to destroy or remove part of the trees involved in an application, while denying a permit as to the remainder (Ord. 163 § 2 (part), 1979).

4.3.3 ENVIRONMENTAL ANALYSIS

4.3.3.1 THRESHOLDS OF SIGNIFICANCE

CALIFORNIA ENVIRONMENTAL QUALITY ACT

According to Appendix G of the CEQA Guidelines, the proposed project would have significant impacts on biological resources if it would:

- ◆ Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or U.S. Fish and Wildlife Service (USFWS).
- ◆ Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFG or USFWS.
- ◆ Have a substantial adverse effect on federally protected “wetlands” or “Waters of the U.S.” as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- ◆ 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, such as a tree preservation policy or ordinance.
- ◆ Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

CLEAN WATER ACT/PORTER-COLOGNE WATER QUALITY CONTROL ACT

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the USACE regulates the discharge of dredged or fill material into waters of the U.S., which includes wetlands, as discussed in the bulleted item above, and also includes “other waters” (stream channels, rivers) (33 CFR Parts 328 through 330). Substantial

impacts on USACE regulated areas on a project site would be considered a significant adverse impact. Similarly, pursuant to Section 401 of the Clean Water Act, and to the Porter-Cologne Water Quality Control Act, the RWQCB regulates impacts to waters of the state. Thus, substantial impacts on RWQCB regulated areas on a project site would also be considered a significant adverse impact.

SECTION 1602 OF THE CALIFORNIA FISH AND GAME CODE

Pursuant to Section 1602 of the California Fish and Game Code, CDFG regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream which CDFG typically considers to include riparian vegetation. Any proposed activity that would result in substantial modifications to a natural stream channel would be considered a significant adverse impact.

4.8.3.2 AREAS OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or not reasonably foreseeable:

- ◆ Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Dumbarton TOD Specific Plan area is not located within a Habitat Conservation Plan or Natural Community Conservation Plan and, thus, would not conflict with the provisions of any such plan.

4.3.3.3 POTENTIAL IMPACTS AND MITIGATION MEASURES

SPECIAL-STATUS SPECIES

- 4.3-1 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on the salt marsh harvest mouse.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The salt marsh harvest mouse is a federal and state listed endangered species. It is found in salt marsh habitats that are dominated by pickleweed. Monk & Associates biologists hold permits/authorizations from the USFWS and CDFG allowing them to work with the salt marsh harvest mouse; Monk & Associates biologists have over 15 years of experience working with this endangered mammal.

Based on Monk & Associates' field survey, it is unlikely that the project site parcels provide the necessary habitat components to support a salt marsh harvest mouse population (that is, one hundred percent cover or, at a minimum, 60 percent pickleweed cover; a cover depth of 30 to 50 centimeters at summer maximum; complexity in the form of fat hen and alkali heath or other halophytes [salt-tolerant plants]). However, since the field survey was general, at the time specific development proposals are developed for parcels within the project site that support salt marsh vegetation, specifically, pickleweed, these parcels shall be evaluated further as to their suitability for the salt marsh harvest mouse. It may be possible that some of the pickleweed dominated areas could support the salt marsh harvest mouse. Hence, development of such parcels could constitute a potentially significant adverse impact on the salt marsh harvest mouse. The Torian property is an exception to this impact. The Torian property has been studied by several salt marsh harvest mouse biologists over the years (Live Oak Associates biologists, Zentner and Zentner biologists and Monk & Associates) and a determination has been made that this property does not provide the habitat components suitable for the salt marsh harvest mouse (that is, the Torian property is not a historic salt marsh, and does not to provide the contiguous salt marsh habitat necessary to support this species). This impact could be mitigated to a less than significant level with Mitigation Measure 4.3-1.

Mitigation Measure

- 4.3-1 In order to avoid potentially impacting the salt marsh harvest mouse, prior to any site grading or development, a federal and state permitted salt marsh harvest mouse biologist shall conduct a “Habitat Assessment” to determine if the parcel where work is proposed provides suitable habitat for the salt marsh harvest mouse. The exception would be the Torian property where this would be unnecessary because it has already been studied. If a qualified, CDFG and USFWS permitted salt marsh harvest mouse biologist renders a conclusion that no impacts to the salt marsh harvest mouse would occur from development of the project site, the standards of care dictated by CEQA will be met and no further action shall be warranted.

However, if the permitted biologist believes the project could impact the salt marsh harvest mouse or if the biologist that prepares the assessment does not hold current permits from CDFG and USFWS that allow work with the salt marsh harvest mouse, then the Habitat Assessment prepared for the project site parcels would need to be submitted to USFWS and CDFG for their review and comment. These two agencies administer the FESA and CESA (respectively) and oversee the protection of this species. If the non-permitted biologist determines that habitat conditions are not suitable for the salt marsh harvest mouse, and the USFWS and CDFG (the regulatory agencies with jurisdictional authority over this listed species) concur with these findings in writing via a letter or email, then no further regard for the salt marsh harvest mouse would be necessary.

However, if a permitted biologist determines that the project site’s habitat conditions are suitable for the salt marsh harvest mouse, and the project applicant wishes to pursue development of the parcel, the Habitat Assessment shall be submitted to the USFWS and CDFG and these agencies will be contacted to determine if they will allow a live-trapping study on the parcel to determine this mouse’s presence or absence.

Since the salt marsh harvest mouse is a “fully protected” mammal species pursuant to CDFG Code §4700, CDFG typically does not allow live-trapping for this species (unless it is a research proposal) since live-trapping/handling the animals constitutes “harassment” (a form of “take” under the Endangered Species Acts). If CDFG and/or USFWS do not allow a trapping study to determine the salt marsh harvest mouse’s

presence/absence, yet they believe that habitat conditions on a project site are suitable to support this mouse, they typically assume this mouse's presence on the site and require the project applicant to enlist in precautionary preconstruction methods to avoid take of this state and federal listed mouse. Since "take" of fully protected mammals is not allowed under California Fish and Game Code, an "incidental take" permit cannot be issued authorizing take of this species; hence, the need for precautionary preconstruction measures as described below. In addition to the measures detailed below, it shall be necessary to preserve/acquire suitable habitat for the salt marsh harvest mouse at a minimum 1:1 mitigation ratio (that is, for each acre of habitat impacted, one acre of suitable habitat onsite or offsite shall be preserved) or at a ratio as required by CDFG and USFWS.

Preconstruction measures would include hand removal of all suitable salt marsh vegetation from the project area and excluding the suitable habitat area from the remainder of the project area by installing "mouse-proof" fencing. These methods are described in detail below and would only be necessary and/or allowed if:

- ◆ A permitted biologist determines that suitable habitat is present on the project site and,
- ◆ USFWS and CDFG concur with this determination and do not allow live-trapping to determine the mouse's presence/absence, but require vegetation stripping to remove suitable habitat conditions.

As approved by the CDFG and USFWS, all suitable vegetation that could support the salt marsh harvest mouse within the proposed development footprint shall be removed by hand prior to the initiation of grading or other construction activities. This will remove the attraction of the development site to salt marsh harvest mouse. A qualified biologist shall be onsite to monitor vegetation clearing to ensure no mice are harmed. The area that is cleared for the development would be minimized to the extent possible. The vegetation would be stockpiled in an area away from the work activities. In addition, a mouse-proof fence shall be installed and maintained around the cleared area to prevent mice from entering the work area. Fencing has to be climb-proof (for example, smooth plastic, not silt fencing) and installed in such a manner so that the salt marsh harvest mouse cannot dig under the fence. The salt marsh harvest mouse

is known to be an agile climber, often climbing vegetation to escape rising tidal waters, but rarely digs extensively. Regardless, fencing material must account for both behaviors.

The optimal salt marsh harvest mouse fence shall be constructed using eight-millimeter plastic sheeting that is sandwiched between wooden stakes and buried in a minimum six-inch deep trench. The stakes shall screw together firmly sandwiching the plastic in place. It is mandatory to sandwich the plastic between stakes if the fence is to last through even moderate winds. The finished installed fence shall be three feet above the ground. Plastic sheeting is smooth and non-climbable, and by burying the sheeting and stapling it to the ground at three inch intervals, it prevents rodents from going underneath the fence. However, the integrity of plastic fencing only lasts for a couple of months, or perhaps three months at the longest. Accordingly, the timeframe for completing the project must be within a three-month window or the fencing shall be replaced.

Prior to installing the salt marsh harvest mouse fence, all vegetation must be cleared from alongside the fence line route. Vegetation removal shall be pre-approved by CDFG and USFWS. Once the vegetation has been removed and the exclusion fencing installed, an “as-built” report, complete with photographs, shall be prepared by a qualified biologist and submitted to the City Community Development Department.

Level of Significance After Mitigation: Less Than Significant

4.3-2 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on nesting raptors.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Suitable nesting habitat for white-tailed kite, red-tailed hawk, northern harrier, and burrowing owl occurs on the project site. Since the burrowing owl is a California species of special concern that has formal CDFG mitigation requirements, impacts and mitigation for the burrowing owl are discussed under Impact 4.3-3 below.

The white-tailed kite is fully protected under CDFG Code (§3511). The northern harrier is a state species of special concern. The white-tailed kite, the red-tailed hawk, and the northern harrier are also protected under the Migratory Bird Treaty Act (50 CFR 10.13) and their nest, eggs, and young are protected under California CDFG Code §§3503, 3503.5, 3800, and 3513. Any project-related impacts on these species or their nests would be considered a significant adverse impact.

Potential impacts on these species from the proposed project include loss of nesting habitat, disturbance to nesting birds, and possibly death of adults and/or young. No nesting raptors (birds of prey) have been observed on the project site, although no formal surveys during the nesting season have been conducted. In the absence of survey results indicating that raptors are not nesting on the project site, impacts on nesting raptors are regarded as potentially significant pursuant to CEQA. These impacts could be mitigated to a level considered less than significant by Mitigation Measure 4.3-2.

Impacts on unoccupied nesting habitats would not be considered significant as there are other local and regional nesting habitats available for use by these species that could be used in subsequent nesting seasons. Consequently no mitigation is warranted for impacts on unoccupied nesting habitats.

Mitigation Measure

4.3-2 In order to avoid impacts on nesting raptors, a nesting survey shall be conducted on individual project site parcels prior to commencing with earth-moving or construction work if this work would occur during raptor nesting season, that is, between February 1 and August 31. The raptor nesting survey shall include examination of all trees on or within 300 feet of the entire project site, not just trees slated for removal, since ground vibrations and noise from earth-moving equipment can disturb nesting birds and potentially result in nest abandonment. Since northern harriers are ground nesting raptors, the nesting survey shall also include systematic walking transects across all suitable ground on the project site parcels.

If nesting raptors are identified during the surveys, orange construction fence shall be installed to establish a 300-foot radius around the nest unless a qualified biologist determines that a lesser distance will adequately protect the nest (refer to discussion below for more detail). If the tree or

nest is located off the project site, then the buffer shall be demarcated per the above where the buffer intersects the project site.

The size of the non-disturbance nesting buffer may be altered if a qualified raptor biologist conducts behavioral observations and determines the nesting raptors are well acclimated to disturbance. If this occurs, the raptor biologist shall prescribe a modified buffer that allows sufficient room to prevent undue disturbance/harassment to the nesting raptors. If the buffer is reduced, the qualified raptor biologist shall remain onsite to monitor the raptors' behavior during heavy construction in order to ensure that the reduced buffer doesn't result in take of eggs or nestlings. No construction or earth-moving activity shall occur within the established buffer until it is determined by a qualified raptor biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 1. This date may be earlier or later, and would have to be determined by a qualified raptor biologist. If a qualified biologist is not hired to monitor the nesting raptors then the full 300-foot buffers shall be maintained in place from February 1 through the month of August. The buffer may be removed and work may proceed as otherwise planned within the buffer on September 1.

Level of Significance After Mitigation: Less Than Significant

4.3-3 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on the western burrowing owl.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The project site parcels provide suitable nesting habitat for the western burrowing owl. This owl has not been observed onsite but protocol-level surveys have not been completed and this species is known from the area and could move onto the project site in the future. The western burrowing owl is a California Species of Special Concern. This raptor (that is, bird of prey) is also protected under the Migratory Bird Treaty Act (50 CFR 10.13) and its nest, eggs, and young are

protected under CDFG Code §§3503, 3503.5, and 3800. Any future development activities within the project site may result in impacts on the western burrowing owl that would be potentially significant, including loss of nesting habitat, disturbance to nesting birds, and possibly death of adults and/or young. This impact could be mitigated to a level considered less than significant by Mitigation Measure 4.3-3.

Mitigation Measure

4.3-3 Western burrowing owl surveys shall be conducted by a qualified western burrowing owl biologist 90 days prior to construction of any project within the project site and again 30 days prior to construction of a project as described below to ensure there are no impacts on burrowing owls. Burrowing owl surveys conducted according to the methodologies prescribed by CDFG in their 1995 Staff Report on Burrowing Owl Mitigation are more likely to be accepted by CDFG. The survey methodology that will otherwise meet the standards of care required by the CEQA are provided below. These methods may not be as intensive as those methods described in the document cited above but these methods have been coordinated with CDFG biologists for other projects and are sufficient for detecting burrowing owls provided an experienced burrowing owl biologist conducts the surveys.

Using the methodology prescribed below, burrowing owl and burrow surveys shall be conducted 90 and 30 days in advance of project site disturbance. Two surveys shall be conducted 90 days before ground disturbance associated with the project and two surveys shall be conducted in the 30 day period prior to ground disturbance associated with the project. The CDFG Staff Report states that preconstruction surveys need to be completed within 30 days of grading prior to CDFG accepting a survey conclusion that no burrowing owls occur in a proposed study area (i.e., negative findings). Western burrowing owl surveys shall be conducted from two hours before sunset to one hour after, or one hour before to two hours after sunrise. All burrowing owl sightings, occupied burrows, and burrows with owl sign (e.g., pellets, excrement, and molt feathers) shall be counted and mapped. Surveys shall be conducted by walking all suitable habitat on the entire project site and (where possible) in areas within 150 meters (approximately 500 feet) of the project impact zone. The 150-meter buffer zone is surveyed to identify burrows and owls outside of the project area which may be impacted by factors such as noise and vibration (heavy equipment) during project construction.

Pedestrian survey transects shall be systematically spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines shall be no more than 30 meters (approx. 100 feet) and shall be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To effectively survey large projects (100 acres or larger), two or more surveyors shall be used to walk adjacent, parallel transects. To avoid impacts on owls from surveyors, owls and/or occupied burrows shall be avoided by a minimum of 50 meters (approx. 160 feet) if in the non-breeding months (October 1 through February 1) and 250 feet during the breeding months (February 1 through October 1). Disturbance to occupied burrows and within the established buffers shall be avoided until no burrowing owls occur on the site.

If burrowing owls are detected on the site during the breeding season (peak of the breeding season is April 15 through July 15), and appear to be engaged in nesting behavior, a fenced 250-foot buffer shall be required between the nest site(s) (i.e., the active burrow(s)) and any earth-moving activity or other disturbance in the project area. This 250-foot buffer could be decreased to 160 feet once it is determined by a qualified burrowing owl biologist that the young have fledged (that is, left the nest). Typically, the young fledge by August 31. This date may be earlier than August 31, or later, and would have to be determined by a qualified burrowing owl biologist. If burrowing owls were found on the project site, a qualified biologist shall delineate the extent of burrowing owl habitat on the site.

To mitigate impacts on burrowing owls, CDFG prescribes that six and a half acres (6.5 acres) of replacement habitat be set aside (i.e., protected in perpetuity) per pair of burrowing owls, or unpaired resident bird. Such a set-aside would offset permanent impacts on burrowing owl habitat. To illustrate the extent of mitigation land required by CDFG, this example is provided: If two pairs of burrowing owls are identified on the study area, 13 acres of mitigation land would be acquired. Or, if one pair and one resident bird are identified, 13 acres of mitigation land would be acquired. The protected lands shall be adjacent to occupied burrowing owl habitat if possible, and at a location selected in consultation with CDFG. Land identified to offset impacts on burrowing owls shall be protected in perpetuity by a suitable property instrument (e.g., a conservation easement

or fee title acquisition). A Mitigation Plan shall be prepared in consultation with CDFG for review and approval by the City.

The Mitigation Plan shall identify the mitigation site and any activities proposed to enhance the site, including the construction of artificial burrows and maintenance of California ground squirrel populations on the mitigation site. In addition, for each pair of burrowing owls found in the construction area, two artificial nesting burrows shall be created at the mitigation site. The Plan shall also include a description of monitoring and management methods proposed at the mitigation site. Monitoring and management of any lands identified for mitigation purposes shall be the responsibility of the applicant for at least five years. An annual report shall be prepared for submittal to CDFG and the City by December 31 of each monitoring year. Contingency measures for any anticipated problems should be identified in the plan.

Note: CDFG would approve a passive western burrowing owl eviction plan to remove owls from the project site during the non-breeding season (i.e., from October 1 through February 1) provided a mitigation plan for burrowing owls is implemented in coordination with CDFG.

Level of Significance After Mitigation: Less Than Significant

- 4.3-4 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on the tricolored blackbird, saltmarsh common yellowthroat, and other nesting passerine birds.**

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Common passerine birds and other birds with special-status, such as the saltmarsh common yellowthroat and tricolored blackbirds, could be impacted by any future development activities within the project site, including loss of nesting habitat, disturbance to nesting birds, and possibly death of adults and/or young. These birds and their nests are protected under CDFG Code §§3503, 3503.5, and the Migratory Bird Treaty Act. The saltmarsh common yellowthroat and the tricolored blackbird are state “species of special concern” and thus are afforded additional consideration in any review conducted pursuant to CEQA. Based on the protections offered to nesting birds, impacts on nesting birds, their eggs, and/or young caused by implementation of the proposed project would be regarded as potentially significant, but could be mitigated to level considered less than significant by Mitigation Measure 4.3-4. If initial ground disturbance and vegetation removal occurs outside of the nesting season, no mitigation is required.

Mitigation Measure

- 4.3-4 In order to avoid impacts on nesting passerines, a nesting survey shall be conducted on individual project site parcels prior to commencing initial earth-moving or construction work on that parcel if this work would occur during the passerine nesting season, that is, between March 1 and September 1. The nesting survey shall also survey lands within 100 feet of the parcel being developed. The nesting surveys shall be completed approximately 15 days prior to commencing with the work. If special-status birds, such as tricolored blackbirds and/or salt marsh common yellow throat, are identified nesting on or near the project site, a 100-foot radius around all identified active nests shall be demarcated with orange construction fencing to establish a non-disturbance buffer. If an active nest is found offsite, the intersecting portion of the buffer that is onsite shall be fenced. No construction or earth-moving activity shall occur

within this 100-foot staked buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones.

If common (that is, not special-status) birds, for example, red-winged blackbird, are identified nesting on or adjacent to the project site, a non-disturbance buffer of 75 feet shall be established or as otherwise prescribed by a qualified ornithologist. The buffer shall be demarcated with orange construction fencing. Disturbance around an active nest shall be postponed until it is determined by the qualified wildlife biologist that the young have fledged and have attained sufficient flight skills to leave the area.

Typically, most birds in the region of the project site are expected to complete nesting by August 1. However, in the region many species can complete nesting by the end of June or in early to mid-July. Regardless, nesting buffers shall be maintained until August 1 unless a qualified wildlife biologist determines that young have fledged and are independent of their nests at an earlier date. If buffers are removed prior to August 1st, the biologist conducting the nesting surveys shall prepare a report that provides details about the nesting outcome and the removal of buffers. This report shall be submitted to the City project planner prior to the time that buffers are removed if the date is before August 1.

Level of Significance After Mitigation: Less Than Significant

SPECIAL-STATUS PLANTS

4.3-5 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on special-status plant species.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The project site provides suitable habitat for special-status plant species. Suitability does not infer presence only that conditions are present which could support these

species. To prove absence of these species formal surveys must be conducted at appropriate times of the year. The parcels within the project site boundaries provide suitable habitat for: brittlescale, San Joaquin saltbush, Congdon's tarplant, Hoover's button-celery, caper-fruited tropidocarpum, saline clover, and Point Reyes bird's beak. Future development activities within the project site could result in the loss of these species. Until such time that formal surveys are conducted that prove absence of these species, impacts on these species are regarded as potentially significant pursuant to CEQA. These impacts could be mitigated to levels considered less than significant by Mitigation Measure 4.3-5.

Mitigation Measure

4.3-5 Prior to City approval of any specific development, special-status plant surveys shall be conducted in appropriate habitats during the appropriate period in which the species are most identifiable. These surveys shall be in compliance with all CDFG (2000), USFWS (1996), and CNPS (2001) published survey guidelines. Project construction shall not be initiated until all special-status plant surveys are completed and subsequent mitigation, if necessary, is implemented.

If special-status plant species are found during surveys, those individuals or populations shall be avoided to the maximum degree possible. If avoidance is not possible while otherwise obtaining the project's objectives, then other suitable measures and mitigation shall be developed in consultation with the agencies that are responsible for protection of that plant species based on its protection status [i.e., City (protected by CEQA), CDFG (protected by California law/regulation), or USFWS (protected by federal law/regulation)]. Appropriate mitigation prescriptions for impacts on special-status plants shall be included as conditions of project approval as detailed below.

Special-status plant surveys shall be completed as described above prior to breaking ground on any parcel within the project site. A special-status plant survey report that includes the methods used, survey participants, and findings shall then be prepared and submitted to the City demonstrating absence of special-status plants at least 30 days prior to breaking ground. The special-status plant report shall be reviewed by a City planner or biologist. If the report documents that there are no special-status plants on the particular project site parcel surveyed, then there would be no further mitigation and the project may proceed,

provided all other applicable permits and authorizations are obtained for the project. However, if a special-status plant is found on the project site, the following mitigation measures shall also be implemented as a condition of project approval.

If special-status plant species are found during surveys, project development plans shall consider avoidance to the extent practicable. If avoidance is not practicable while otherwise obtaining the project's objectives, then other suitable measures and mitigation shall be implemented as detailed below.

A mitigation compliance report shall be submitted to the City planning staff or staff biologist at least 30 days prior to breaking ground. The compliance report shall detail the avoidance and other mitigation measures that have been implemented by the project. The City may approve grading/site disturbance in a quicker timeframe than 30 days if compliance with the mitigation measures can be verified by the City sooner than 30 days.

The following measures shall be implemented if special-status plants are found on the project site:

- ◆ Initially the feasibility of avoidance shall be evaluated as noted above.
- ◆ If avoidance is not feasible, a mitigation plan shall be developed in consultation with CDFG personnel if it is a state listed (i.e., protected pursuant to the CESA) or a CNPS List 1B or List 2 plant. If the plant is state listed, an incidental take permit (i.e., a 2081 Agreement) shall be acquired for the project from CDFG prior to any grading within the project area. A copy of this permit shall be provided to the appropriate department within the City prior to any grading within the project area. Any conditions for the project established by CDFG in the 2081 Agreement shall become conditions of the project also enforceable by the City.
- ◆ If the plant is federally listed (i.e., protected pursuant to the Federal Endangered Species Act), the project sponsor shall formally notify the USFWS within five days of the finding and this agency's permitting instructions shall be incorporated into the project conditions of approval. As required in-practice by the USFWS, an "incidental take" permit may be necessary from the USFWS for any proposed impacts on any federally listed plants found within the

project site. A copy of this permit or a letter from the USFWS that otherwise states this agency is satisfied with the avoidance and/or mitigation measures shall also be provided to the appropriate department at the City prior to the time the project site can be graded.

- ◆ If a plant is found on the project site that is a CNPS List 1B or 2 species, and the species is not otherwise protected pursuant to state or federal regulations, prior to construction within the project area, a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. Half of the seeds and top soils collected shall be appropriately stored in long-term storage at a botanic garden or museum (for example, Rancho Santa Ana Botanic Garden). The other half of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months) in an area of the subject property or off-site, protected property that will not be impacted by the project (if the project has a designated off-site mitigation site for impacts on other special-status species, the plants can be seeded on the mitigation site). This area shall be fenced with permanent fencing (for example, chain link fencing) to ensure protection of the species. The applicant shall hire a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting effort. These reports shall be submitted to the City and appropriate resource agency (CDFG and/or USFWS) no later than December 1st each monitoring year.

These steps shall be implemented prior to site disturbance. If the seeding/transplanting effort fails, the stored seeds and top soils can be taken out of long-term storage and sown in another location (either onsite or offsite) deemed suitable by CDFG. This seeding effort shall then be monitored for an additional three year period to ensure survivorship of the new population. Annual monitoring reports shall be submitted to the City for the three year period.

A CNDDDB form shall be filled out and submitted to CDFG for any special-status plant species identified within the project site. Any

mitigation plan developed in consultation with CDFG shall be implemented prior to the initiation of grading or issuance of a development permit.

In lieu of the above prescribed mitigation, as allowed in writing by the City (for CEQA protected species only) and/or CDFG (for CEQA and/or state listed species), mitigation requirements may be satisfied via the purchase of qualified mitigation credits or the preservation of offsite habitat. If the species in question is federally listed, then USFWS would also have to agree in writing typically through issuance of a Biological Opinion that the purchase of qualified mitigation credits or the preservation of offsite habitat would constitute satisfactory mitigation compensation.

Level of Significance After Mitigation: Less Than Significant

WETLANDS AND WATERS OF THE STATE/U.S.

4.3-6 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on wetlands and waters of the State/U.S.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The proposed project would likely result in impacts to waters of the State/U.S. Development of the proposed project on Torian would result in the fill of 7.2 acres of waters of the U.S./State. Fill on Cargill in accordance with the proposed project may also result in the fill of waters of the U.S./State. Development of the remainder of the Dumbarton TOD Specific Plan area would likely result in the fill of additional waters of the U.S./State. Development would likely occur over an extended period of time though, and wetland impacts would likely to be spread over years to decades. While the exact extent and timing of impacts from the proposed project that would occur on waters of the U.S./State is unknown, such impacts would be regarded as a significant adverse impact, but could be mitigated to a level considered less than significant by Mitigation Measure 4.3-6.

Mitigation Measure

- 4.3-6 Wetland mitigation shall, to the extent not already completed, require a wetland delineation conducted according to the 1987 USACE Wetland Delineation Manual (U.S. Army Corps of Engineers 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Coast Region (Corps 2008) prior to City approval of any specific development proposal. This delineation shall be submitted to the USACE for verification. Once that map is “verified,” the full extent of waters of the U.S./State would be known and the extent of impacts on regulated areas ascertained.

Authorization from the Corps and the RWQCB (for example, a Nationwide Permit and a Certification of Water Quality) shall be obtained as necessary/required by these agencies prior to filling any waters of the U.S./State on the project site.

Impacts shall also be minimized by the use of Best Management Practices (BMPs) to protect preserved waters of the U.S./State and to ensure that water quality standards are not compromised in preserved wetlands and other waters within the watershed. These practices can include installing orange construction fencing buffers, straw wattles to keep fill from entering preserved/avoided wetlands and other waters, and other protective measures. During project construction, a biological monitor shall be onsite to monitor the integrity of any preserved wetlands and other waters during mass grading or filling of the project site.

For those wetland areas that are not avoided, mitigation compensation wetlands shall be completed. As approved by the USACE and the RWQCB, the project sponsor may purchase mitigation credits from an approved mitigation bank or an approved in-lieu fee mitigation entity at a minimum 1:1 ratio.

As an alternative to the purchase of credits in a mitigation bank, wetlands may be created onsite and, if so, shall have an equal or higher functional value than those wetlands affected by the project (known as in-kind replacement). If wetlands cannot be created in-kind and onsite, other alternatives shall include off-site and/or out-of-kind. In any case, mitigation requirements for wetland areas that are not avoided shall be that all impacted wetlands are replaced at a minimum 1:1 ratio (for each

square foot of impact, one square foot of wetland would be restored/created) or at a ratio determined by the RWQCB and USACE at the time permits are issued. Mitigation requirements would be based upon the existing conditions of the wetlands impacted. Where practicable, wetland plant/animal populations shall be relocated from the wetlands that would be impacted to any re-created wetlands. Topsoils shall also be removed from wetlands that would be impacted if practicable, and placed into the re-created wetlands. These topsoils would contain a seed bank of the impacted plant species which would germinate with fall/winter hydration of the re-created wetlands.

If wetlands are restored/created, adequate compensation shall include creating wetlands at a suitable location that meet the following performance standards:

- ◆ The wetlands shall remain inundated or saturated for sufficient duration to support a predominance of hydrophytic vegetation.
- ◆ The wetlands shall exhibit plant species richness comparable to existing wetlands.
- ◆ The wetlands shall replace the lost wetlands at a minimum ratio of one acre created for each acre, or fraction thereof, permanently impacted.
- ◆ The developer shall provide for the protection of the mitigation areas in perpetuity, either through deed restrictions or conservation easements.
- ◆ The developer shall establish a five-year program to monitor the progress of the wetland mitigation toward these standards. At the end of each monitoring year, an annual report shall be submitted to the City, the RWQCB, and the USACE. This report shall document the hydrological and vegetative condition of the mitigation wetlands, and shall recommend remedial measures as necessary to correct deficiencies.

Level of Significance After Mitigation: Less Than Significant

WILDLIFE CORRIDORS

- 4.3-7 Future development of the project site allowed by the Dumbarton TOD Specific Plan would have a less than significant impact on wildlife corridors.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

As noted in the setting section, the project site open space does not constitute a wildlife movement corridor per se, although local wildlife likely use the area to move to and from the project site's ruderal habitat to local subdivisions. The loss of this area for movement is not a significant adverse impact as these species, raccoons, rats, skunk, opossums, are capable of moving through developed areas.

Mitigation Measure

- 4.3-7 No mitigation required.

Level of Significance After Mitigation: Not applicable.

PROTECTED TREES

- 4.3-8 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a potentially significant adverse impact on protected trees.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The following live trees are protected under the City's Municipal Code:

- ◆ Live trees in open space areas (areas designated “O” or open space lands) that are five inches or more in diameter at the base; and,
- ◆ Live, woody plants having one or more well defined perennial stems with a trunk diameter of six inches or greater measured four feet above the ground (diameter at breast height [DBH]) growing within the city limits on any parcels of land except developed residential parcels of land ten thousand square feet or less.

Removal of trees from park lands or open space designated areas is prohibited except with the approval of the park superintendent, or with the granting of a use permit as applicable. Additionally, cutting down, destroying, removing, or moving any protected tree on private property within the City limits (as defined above), unless a permit to do so has been obtained from the public works director (Ord. 63 § 2 (part), 1979) is prohibited. Future development activities within the project site could result in the removal of trees. Removal of such trees would constitute a potentially significant impact that could be mitigated to a less than significant level by Mitigation Measure 4.3-8.

Mitigation Measure

4.3-8 A tree permit shall be obtained from the City prior to the removal of any tree protected by City ordinance on project site parcels. To offset impacts resulting from the removal of these trees, replacement trees shall be planted in designated open space areas on the subject parcel. Tree replacement shall be at a 1:1 ratio (that is, for each tree removed, one tree shall be planted as a replacement). Replacement trees shall be native California species that are native to the Newark area (for example, redwood trees are native to California but not to Newark).

A Tree Management Plan shall be prepared for any project on any project site parcel where tree removal occurs. Preparation of this plan and subsequent planting and monitoring shall be a condition of project approval and shall be tied to a security bond or cash deposit posted by the developer with the City. This plan shall include a planting detail that specifies where all trees would be planted on the subject parcel. The methods used to plant trees shall also be specified. Adequate measures shall be established to minimize predation of planted trees by rodents including, but not limited to, pocket gophers (*Thomomys bottae*) and/or California ground squirrels (*Spermophilus beecheyi*).

All planted trees shall be provided with a buried, irrigation system that shall be maintained over a minimum three-year establishment period. The irrigation system shall be placed on automatic electric or battery operated timers so that trees are automatically watered during the dry months of the establishment period. At the end of the three-year establishment period, the irrigation system could be removed, if necessary. The planted trees' health shall be monitored annually for five years by a qualified biologist or arborist. Annual monitoring reports shall be submitted to the City.

At the end of a five-year monitoring period, at least 80 percent of planted trees shall be in good health. If the numbers of planted trees falls below an 80 percent survival rate, additional trees shall be planted to bring the total number of planted trees up to 100 percent of the original number of trees planted. Irrigation and follow-up monitoring shall be established over an additional three year period after any replanting occurs. Any replanting and follow-up monitoring shall be reported in annual reports prepared for the City, Community Development Department. A performance bond, letter of credit, or other financial instrument shall be established to pay for any remedial work that might need to occur, if the prior effort fails.

Level of Significance After Mitigation: Less Than Significant

4.3.3.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

VEGETATION AND WILDLIFE RESOURCES

4.3-9 Future development of the project site allowed by the Dumbarton TOD Specific Plan could have a cumulatively considerable contribution to the loss of vegetation and wildlife resources.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Because of the already urbanized setting of the project site, development of the project site would have few, if any, indirect and interrelated impacts on adjacent undeveloped lands. However, implementation of individual projects within the Specific Plan area would contribute to a cumulative loss of seasonal brackish/freshwater marsh habitats, salt marsh habitats, and ruderal grassland (anthropogenic) communities in the region. Implementation of future development projects allowed under the Dumbarton TOD Specific Plan would also result in cumulative impacts on common plant and animal species. Additionally, the marsh habitats, ornamental trees, and ruderal grassland communities of the Specific Plan area may also be important for several special-status plant and animal species such as the burrowing owl, San Joaquin salt bush, brittle scale, Congdon's tarplant, Hoover's button-celery, red-tailed hawk, northern harrier, salt marsh common yellowthroat, or tricolored blackbird (refer to Section 4.3.3.3). There are other proposed projects in Alameda County that would/are impacting similar resources to those that would be impacted by the project. Project-related impacts would be considered cumulative with other projects in the region. The mitigation measures prescribed above (Mitigation Measures 4.3-1 through 4.3-8) would offset cumulative impacts on special-status species, wetlands, trees, and plant communities/wildlife habitats to levels regarded as less than significant.

Construction of future development projects allowed under the Dumbarton TOD Specific Plan would likely result in cumulative impacts on "waters of the U.S. and State" that are regulated by the USACE and the RWQCB (respectively). On a regional basis, these impacts would add to other development related losses of

“waters of the U.S. and State.” Mitigation that includes creation and enhancement of impacted “waters of the US” would offset this cumulative impact to a level regarded as less than significant (Mitigation Measure 4.3-6).

Mitigation Measure

4.3-9 Implement Mitigation Measures 4.3-1 through 4.3-8.

Level of Significance After Mitigation: Less Than Significant

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4.4 CULTURAL RESOURCES

This section evaluates potential impacts on cultural resources that could result from implementation of the Dumbarton Transit Oriented Development (TOD) Specific Plan. The description of the affected environment, analysis of impacts, and recommended mitigation is based on information obtained from: *The Centennial History of Newark, 2001 Edition*, Bruce MacGregor, (1976), the City of Newark (City) website (<http://www.newark.org/visitors/history/>), accessed March 14, 2011, *Archaeological Records Search and Field Review, 43-Acre Property – Willow Street and Vicinity, City of Newark, Alameda County*, Basin Research Associates, (October 2007), and archival records research conducted by the Northwest Information Center (NWIC), summarized in a letter to RBF Consulting, titled, *Records Search Results for the Proposed Dumbarton Transit Oriented Development (TOD) Specific Plan Project, Newark, Alameda County, California*, March 7, 2011.

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 PREHISTORIC SETTING

Prehistoric sites within the San Francisco Bay Area are generally located near the edge of historic bay margins and inland near intermittent and perennial watercourses. Due to the presence of abundant wildlife, such as shellfish, fish, birds, and other animals, bay margins in particular were desirable places for the prehistoric populace of the Bay Area to live. This is evidenced by the numerous aboriginal village and camp sites that have been uncovered in the bay margins. There are many small and large prehistoric sites recorded within several miles of the Dumbarton TOD Specific Plan area.

4.4.1.2 ETHNOGRAPHIC SETTING

Information in this section was derived from: *The Ohlone: Past and Present Native Americans of the San Francisco Bay Region*, Lowell John Bean, editor, (1994); *Costanoan, in Handbook of North American Indians, vol. 8 (California)*, by Richard Levy (1978); and information provided by the NWIC.

The Specific Plan area lies within the ethnographic territory of the Ohlone. The territory of the Ohlone extended along the coast from the current day locations of the Golden Gate Bridge in the north to just beyond Carmel in the south, and as much as 60 miles inland. The Ohlone are a linguistically defined group speaking eight different but related languages. The Ohlone languages, together with Miwok, comprise the Utian language family of the Penutian stock. The Ohlone's political organization was by tribelet, which consisted of one or more villages and camps

within a territory generally designated by geographic features. Tribelets generally had 100 to 250 members. The Chochenyo- (also called Chocheño, Chocenyó and East Bay Costanoan) speaking Ohlone tribal groups resided in the East Bay, primarily in the western portion of what is now Alameda County and Contra Costa County, including the vicinity of the present day Specific Plan area.

The Ohlone were hunter-gatherers and relied on acorns and seafood. The coastal Ohlone appear to have exploited the wetland areas in particular; their primary food sources consisted of wetland plants, shellfish, birds, and mammals. They also exploited a wide range of other foods, including various seeds (the growth of which was promoted by controlled burning), buckeye, berries, roots, land and sea mammals, waterfowl, reptiles, and insects. The Ohlone used tule balsas for watercraft, as well as bow and arrow, cordage, bone tools, and twined basketry to procure and process their foodstuffs.

Coastal Native American habitation sites in Alameda County, such as the Ohlone, are often marked by the presence of midden soil deposits, which are a buildup of organic debris and contain marine shells and animal bones. Other types of features that distinguish Native American activity areas are scatters of “flakes” of chipped material that resulted from the manufacturing of chipped stone tools and bedrock milling features (mortar depressions). Native American cultural resources in western Alameda County are typically found near the bayshore and adjacent to other seasonal and perennial watercourses. On the project site, a creek historically ran through the southern portion of the Torian property.

4.4.1.3 HISTORIC SETTING

The first significant European settlement of California began along the coast during the Spanish Period (1769 to 1821). In 1797, the Spanish established Mission San Jose in the area of present-day Fremont. The area that is now Newark was within the lands of Mission San Jose. However, none of the adobe dwellings or other Hispanic Era features, including roads were located in or adjacent to the Specific Plan area. After the 1848 discovery of gold at Sutter’s Mill in Coloma, settlers began arriving in the present day Bay Area in great numbers.

Among the first to settle in the Newark area was Origin Mowry, who in 1850 established Mowry’s Landing, for a time known as Mowry’s Creek, south of the Specific Plan area. Landings such as Mowry’s, as well as Mayhew’s Landing (now known as Jarvis Landing) to the north, provided the main source of commerce to the area. In 1859, Alexander Forbes, a San Francisco capitalist, acquired 1,500

acres, including the Specific Plan area, from Joseph Mayhew, namesake of the Mayhew Ranch and Landing. It was later acquired by E.B. Perrin in 1870. E.B. Perrin and his brother started the Green Point Dairy Landing and Transportation Company, producing and transporting milk, butter, and cheese. The dairy and its grazing lands occupied “almost half” of the former Forbes tract from present day Jarvis Avenue to south of Thornton Avenue, including the Specific Plan area.

In 1875, Perrin’s Newark Land Company surveyed a town site named “Newark,” approximately in the present-day location of the Specific Plan area. However, this location did not materialize into a town at that time. In 1876, the Pacific Land Investment Company, which included James Fair, director of the South Pacific Coast Railroad (SPCR) and others, purchased 4,500 acres including E.B. Perrin’s 1,500 acres and Dumbarton Point, which is located just west of the Specific Plan area, next to the San Francisco Bay. Fair relocated and resurveyed the town site of Newark on the future rail corridor to the east of Perrin’s site. Tree named streets ran north to south (e.g. Willow Street within the Specific Plan area), while streets named after pioneers ran east to west. The SPCR, a narrow gauge railroad, opened for service in March 1878 and is the present day location of Southern Pacific Railroad corridor and the future Dumbarton Rail Corridor (DRC) project. Railroad associated industry, including Carter Brothers railroad car “manufactory” was the first major development in the Newark town site. Other industry within the area at that time included the Crystal Salt Works and Salt Ponds, which were located southwesterly of the Newark town site and south of the present day location of the Specific Plan area. By 1878, a portion of the Newark grid is shown in and adjacent to the Specific Plan area on maps. However, no developed features were constructed within the Specific Plan area at that time.

The Specific Plan area remained primarily undeveloped until industrial uses moved in during the 1920s. Additionally, in the 1920s, the City and County of San Francisco installed a portion of the Hetch-Hetchy aqueduct underneath the northern portion of the Specific Plan area. The first industrial operations in the Specific Plan area occurred in 1929, by a predecessor of FMC Corporation. Industrial operations on the FMC property ceased by 2002 (refer to Figure 3-3 [Property Ownership Map] for a depiction of the location of the various properties within the Specific Plan area). However, some of FMC’s property has never been developed or actively used. This land consists of parcels 092-0100-004-02, 092-0101-001, and 92-0115-011 (refer to Figure 3-3).

Other industrial uses developed in the 1950s, including a brick manufacturing facility, located on the Torian property, and a chemical manufacturing, blending,

and packaging facility located on the Jones-Hamilton property. Brick manufacturing operations ceased in 1971/72 and after that time, several other businesses occupied the site, including a trucking firm from about 1970 to 1990; an automotive and van conversion facility from 1977 to 1991; a fiberglass fabrication business from about 1989 to about 1999; and, a construction company used a portion of the site for equipment storage from about 1989 to about 2002. Prior to the 1950s the Torian property was undeveloped with the exception of some limited agricultural use. Jones-Hamilton operated its facility from 1956 to 2001 and prior to 1956, the site was used for agricultural purposes.

A second wave of industrial development occurred within the Specific Plan area during the 1970s. In 1972, Baron-Blakeslee Inc., a division of the Purex Corporation, purchased and began developing the Gallade property with a chemical storage and solvent recovery facility, which operated until 1993. Otherwise, prior to 1972, the property was undeveloped. In 1973, Ashland Inc. constructed a chemical packaging and distribution facility on its property, which was undeveloped at that time. The facility operated from 1973 until January 2000. Foster Chemical Company began operating at the SHH LLC property in 1975 and ceased operations in 1987. Prior to that time, the land was undeveloped and had been used for agriculture and leased for a period of time by the E.J. Lavino Brick Company for the storage of bricks.

The other properties within the Specific Plan area have primarily been undeveloped with some exceptions. Cargill has had a trap (skeet) shooting range in the southeast portion of its property prior to World War II. From 1969 to 1995 the Newark Sportsmen's Club leased the shooting range land from Cargill and the City of Newark has leased the area north of the former gun club for use as a pistol firing range for local police departments since 1975. The Enterprise Drive LLC (Trumark Commercial) property had been developed with a building in the 1960s, but it was torn down by 1973. The property had been owned by Barr Manufacturing Corporation from 1961 to 1971, but it is not known what kind of manufacturing Barr Manufacturing Corporation engaged in or what other types of operations occurred on the property.

The majority of the past industrial uses have been torn down and the Specific Plan area is currently primarily vacant with the exception of a chemical blending and distribution facility located in the northeastern corner on the Gallade property, a storage area for base-rock and tractor trailers used in construction projects located in the northeastern portion on the SHH LLC property, and a dog training facility and a police pistol firing range located in the south central portion on the Cargill

property. In addition, there are some buildings remaining on FMC's property and on the SHH LLC property.

4.4.1.4 PALEONTOLOGICAL SETTING

Paleontological resources are the fossilized remains of plants and animals. The age and abundance of fossils depends on the location, topographic setting, and particular geologic formation in which they are found. Fossil remains of plant and land animals have been found at a number of sites in younger alluvial deposits in Alameda County both north and west of the Specific Plan area.

According to the 1992 USGS Geologic Map of the Newark 7.5 Minute Quadrangle, Alameda County, California, the Specific Plan area is located within a westward sloping alluvial plane and is mapped as being underlain by Holocene floodbasin deposits (Qhb) and Holocene estuary deposits (Bay mud). Many paleontologists consider Holocene biologic remains too young to qualify as fossils in the strict sense. Using this definition, the Holocene units of the Specific Plan area are too young to contain fossils; for example, bay mud has been known to contain Holocene aged molluscan fossils, but such fossils are not considered significant. Consequently, the paleontological sensitivity of these units is considered low.

4.4.1.5 KNOWN CULTURAL RESOURCES

LISTED RESOURCES

No National Register of Historic Places (National Register or NRHP) or California Register of Historical Resources (California Register or CRHR) listed, determined, or potential archaeological sites, significant local, State, or Federal historic properties, landmarks, etc., have been identified in or adjacent to the Specific Plan area. City of Newark historic features in the general area, but not within the Specific Plan area are limited to Newark #7, the site of Mission Embarcadero, and Mayhew/Jarvis Landing. This landing is also a City of Fremont Primary Historic Resource #5 (listed as Mayhew Landing, Beard's Landing, and Mission Embarcadero).

RECORDED RESOURCES

The Specific Plan area contains no recorded archaeological resources, including prehistoric sites. Nonetheless, given the location of the Specific Plan area adjacent to historic salt marshlands at the edge of the San Francisco Bay and the historic presence of a creek within the southern portion of the Torian property (refer to

Figure 3-3), the Specific Plan area is considered to be moderately sensitive for archaeological resources.

No recorded, reported, or known Native American sites, villages, trails, traditional use areas, or contemporary use areas have been identified in, adjacent, or near the Specific Plan area. Additionally, none of the “Indian Mounds” noted by many 19th century authors and map makers were located in or adjacent to the Specific Plan area. Several cultural resource studies have been previously conducted within portions of the Specific Plan area. These studies have covered less than 25 percent of the total area and have not recorded any Native American resources. In particular, Basin Research Associates conducted an archaeological records and field review of the Torian property in September 2007 and did not encounter any evidence of prehistoric archaeological resources. That report concluded that the Torian property does not appear to be sensitive for buried prehistoric cultural resources. However, as noted above, the Specific Plan area is located near the edge of the San Francisco Bay and a creek was historically present within the southern portion of the Torian property. Thus, there is a moderate potential of identifying unrecorded Native American resources within the Specific Plan area.

No historic resources have been formally recorded or reported in or near the Specific Plan area. According to Basin Research Associates, based on their 2007 archaeological records and field review of the Torian property, the Torian property does not appear to be sensitive for buried historic cultural resources. However, according to the NWIC, given the past use within and adjacent to the Specific Plan area, there is a high potential of identifying unrecorded historic resources within the Specific Plan area. In addition, some of the remaining industrial buildings could be historically significant, depending on their age. The northern portion of the Specific Plan area is also adjacent to the Southern Pacific Railroad corridor, which connects to the Dumbarton Cutoff train bridge to the west. The bridge was built by the Southern Pacific Railroad around 1910, as the first crossing of the San Francisco Bay. It carried freight trains from 1910 to 1982 and is the alignment for the planned DRC Project. A portion of the railroad corridor between Wells and Thornton Avenues has been evaluated as eligible for inclusion on the National Register of Historic Places under criteria A, B, and C.

4.4.2 REGULATORY SETTING

4.4.2.1 FEDERAL FRAMEWORK

NATIONAL HISTORIC PRESERVATION ACT OF 1966 (16 U.S.C. 470)

The National Historic Preservation Act (NHPA) is the most comprehensive national policy on historic preservation. The NHPA, which is designed to encourage the preservation and wise use of our historic resources, establishes the policy of the U.S. Government regarding historic preservation. The NHPA defines historic preservation to include “the protection, rehabilitation, restoration, and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, or culture.” Section 106 of the NHPA requires Federal agencies to “take into account” the effect of their undertakings (projects) on historical and archaeological resources. Undertakings are projects funded or permitted by a Federal agency. The National Register, which is maintained by the National Park Service (NPS), is a compilation of cultural resources that have been nominated and accepted as having historic, architectural, archaeological, engineering, or cultural significance, at the national, State, or local level.

PALEONTOLOGICAL RESOURCES PRESERVATION ACT

The Federal Paleontological Resources Preservation Act of 2002 codifies the generally accepted practice of limited vertebrate fossil collection and limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate State or Federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

4.4.2.2 STATE FRAMEWORK

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The California Register is a Statewide program that is similar in scope to the National Register. It consists of a compilation of cultural resources that are significant within the context of local, California, or national history, but not necessarily history germane to other states. All resources listed in or formally determined eligible for the National Register are also eligible for the California Register, as are properties designated as historic resources under municipal or county ordinances or formally adopted historic surveys.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The CEQA Statute and Guidelines include procedures for identifying, analyzing, and disclosing potential substantial adverse impacts on historical resources, which include all resources (archaeological sites and historical buildings, structures, and objects) listed in or formally determined eligible for the National Register, the California Register, or listed in a local (county or municipal) register of historical resources. CEQA requires that an EIR assess the effects of the project on historical resources. If a project causes a substantial adverse change in the significance of a historical resource, the project may have a significant effect on the environment, and alternative plans or mitigation measures must be considered.

CALIFORNIA PUBLIC RESOURCES CODE

California Public Resources Code Section 5097.5 prohibits excavation or removal of any “vertebrate paleontological site, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.” Public lands are defined to include lands owned by or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof. Section 5097.5 also states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Section 5097.98 of the California Public Resources Code prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn, and sets penalties for such acts. Additionally, Section 5097.98, as amended by Assembly Bill 2641, states:

- (a) Whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the

Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

- (b) Whenever the commission is unable to identify a descendent, or the descendent identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendent and the mediation provided for in subdivision (k) of Section 5097.94 fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall re-inter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.

4.4.3 ENVIRONMENTAL ANALYSIS

4.4.3.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on cultural resources if it would:

- ◆ Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- ◆ Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5;
- ◆ Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- ◆ Disturb any human remains, including those interred outside of formal cemeteries

4.4.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

CULTURAL RESOURCES

- 4.4-1 Project implementation may cause a substantial adverse change to an unknown historical or archaeological resource, or result in the damage or destruction of unknown paleontological resources or human remains.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

There are no NRHP or CRHR listed, determined, or potential archaeological sites, significant local, State, or Federal historic properties, landmarks, etc., in or adjacent to the Specific Plan area. Furthermore, there are no recorded archaeological resources, including prehistoric sites and no recorded, reported, or known Native American sites, villages, trails, traditional use areas, or contemporary use areas in, adjacent, or near the Specific Plan area. In addition, no historic resources have been formally recorded or reported in or near the Specific Plan area. Moreover, the Specific Plan area has a low sensitivity for paleontological resources. Several cultural resource studies, covering approximately 25 percent of the total Specific Plan area, have not recorded any archaeological resources (including prehistoric resources and human remains) or historic resources. Thus, site grading and construction activities are not anticipated to result in impacts on archaeological, historical, or paleontological resources.

Nonetheless, given the location of the Specific Plan area adjacent to historic salt marshlands at the edge of the San Francisco Bay and the historic presence of a creek within the southern portion of the Torian property (refer to Figure 3-3), the Specific Plan area is considered to be moderately sensitive for archaeological resources, including prehistoric resources and human remains. In addition, according to the NWIC, given the past use within and adjacent to the Specific Plan area, there is a high potential of identifying unrecorded historic resources within the Specific Plan area. It is also possible that some of the remaining industrial buildings could be historically significant depending on their age. Consequently, there is a possibility that potentially significant unrecorded archaeological resources, including prehistoric resources and human remains, as well as historic resources, are present beneath the ground surface, and that such resources could be exposed during the construction of future development allowed by the Specific Plan. Any ground disturbing activities have the potential to damage or destroy potentially significant unknown cultural resources.

Although no paleontological resources are known to exist within the Specific Plan area and it has a low sensitivity for paleontological resources, the presence of unknown paleontological resources cannot be ruled out. Ground disturbing activities have the potential to damage or destroy unknown paleontological resources.

Implementation of Mitigation Measure 4.4-1a, identified below, would reduce potential impacts on significant unknown cultural resources to less than significant.

The northern portion of the Specific Plan area is also adjacent to the Southern Pacific Railroad corridor, which connects to the Dumbarton Cutoff train bridge to the west. A portion of the railroad corridor between Wells and Thornton Avenues has been evaluated as eligible for inclusion on the National Register under criteria A, B, and C. Thus, it is possible that the portion of the railroad corridor adjacent to the Specific Plan area could also be eligible for inclusion on the National Register. Therefore, it is recommended by the NWIC that this resource be assessed using National Register eligibility criteria by a professional archaeologist meeting the Secretary of the Interior's Standards. Mitigation Measure 4.4-1b would implement this recommendation.

Mitigation Measures

4.4-1a Prior to the issuance of grading permits for future development allowed within the Dumbarton TOD Specific Plan area, project sponsors shall retain qualified archaeologists meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist. The qualified archaeologists shall train the construction crew on the mechanisms used to identify cultural resources and to caution them on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts or human remains from the project sites.

If subsurface deposits believed to be cultural or human in origin are discovered during the construction of future development projects within the Dumbarton TOD Specific Plan area, then all work shall halt within a 200-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained at the project sponsor's expense to evaluate the significance of the find. Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either: 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the National Register of Historic Places or the California Register of Historical Resources.

If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project sponsor shall arrange for either: 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility and, if eligible, data recovery as mitigation. The determination shall be formally documented in writing and submitted to the lead agency and filed with the Northwest Information Center as verification that the provisions in this mitigation measure have been met.

If human remains of any kind are found during construction activities, all activities shall cease immediately and the Alameda County Coroner shall be notified as required by State law (Section 7050.5 of the Health and Safety Code). If the coroner determines the remains to be of Native American origin, he or she shall notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the most likely descendant(s) (MLD) to be consulted regarding treatment and/or reburial of the remains (Section 5097.98 of the Public Resources Code). If an MLD cannot be identified, or the MLD fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to the remains, the City shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. Work can continue once the MLD's recommendations have been implemented or the remains have been reburied if no agreement can be reached with the MLD (Section 5097.98 of the Public Resources Code).

- 4.4-1b Prior to approval of Tentative Subdivision Maps for any development within the Dumbarton TOD Specific Plan area that would directly affect any existing buildings or structures or the Union Pacific Railroad corridor, or is proposed within 100 meters (328 feet) of any existing buildings or structures or the Union Pacific Railroad corridor, the resource shall be evaluated for inclusion in the National Register by a qualified professional archaeologist familiar with the architecture and history of Alameda County.

If the building or structure is considered eligible for inclusion in the National Register, then the project sponsor shall submit a study prepared by a qualified historian or architectural historian to determine whether the proposed project would materially alter in an adverse manner those physical characteristics of the known historical resource that conveys its historical significance. If the building or structure is not eligible, then it is

not a historical resource as defined by CEQA, and no mitigation measures would be required.

Level of Significance After Mitigation: Less Than Significant.

4.4.3.3 CUMULATIVE IMPACTS AND MITIGATION MEASURES

CULTURAL RESOURCES

4.4-2 Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable cultural resource impacts.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The analysis of cumulative cultural impacts considers the larger context of future development of the City as envisioned by the General Plan and relies upon the projections of the General Plan, as most recently updated, and General Plan EIR. Cumulative cultural resource impacts would result from incremental changes that damage or destroy cultural resources within the Newark area. The proposed project has the potential to damage or destroy potentially significant unknown or unrecorded cultural resources. Mitigation Measures 4.4-1a and 4.4-1b would help to protect potentially significant unknown or unrecorded historical resources from damage, destruction, or information loss as a result of future development within the Specific Plan area. Therefore, implementation of these mitigation measures, along with implementation of similar mitigation measures by other projects in City's Planning Area, would prevent the project from contributing to cumulatively considerable historical resources impacts.

Mitigation Measure

4.4-2 Implement Mitigation Measures 4.4-1a and 4.4-1b.

Level of Significance After Mitigation: Less Than Significant

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4.5 GEOLOGY AND SOILS

This section describes the geologic and seismic conditions within the Dumbarton Transit Oriented Development (TOD) Specific Plan area and evaluates the potential geologic hazards, soils and/or seismic impacts that could result from implementation of the proposed project. Mitigation measures for potential impacts are identified where applicable. The information in this section was obtained from the City of Newark General Plan (General Plan) and geotechnical studies prepared by Berlogar Geotechnical Consultants, Crawford Consulting, Inc., ENGEOTECH, Inc. (currently ENGEO Inc.), Treadwell and Rollo, and URS. These studies include:

- ◆ Berlogar Geotechnical Consultants, *Due Diligence Level Geotechnical Investigation, Cargill Hill Parcel, Hickory Street, Newark, California*, August 27, 2010.
- ◆ Berlogar Geotechnical Consultants, *Due Diligence Level Geotechnical Investigation, Torian Parcel, Willow Street and Perrin Avenue, Newark, California*, December 22, 2009.
- ◆ Berlogar Geotechnical Consultants, *Naturally Occurring Asbestos Investigation Hill Parcel of the Cargill Salt Property Southwest Corner of Enterprise Drive and Hickory Street Newark, California*, October 12, 2007.
- ◆ Berlogar Geotechnical Consultants, *Addendum to Naturally Occurring Asbestos Investigation, Design and Construction Considerations, Hill Parcel of the Cargill Salt Property Southwest Corner of Enterprise Drive and Hickory Street Newark, California*, November 9, 2007.
- ◆ Berlogar Geotechnical Consultants, *Preliminary Geotechnical Investigation, Hill Parcel, Enterprise Drive and Hickory Street, Newark, California*, December 12, 2006.
- ◆ Crawford Consulting, Inc., *Preliminary Data Submittal, Environmental Site Assessment Sampling Program, Torian Parcels at 37555 Willow Street, SLIC Site #742, Newark, California*, August 29, 2006.
- ◆ ENGEO, *Torian Parcels Geotechnical Summary*, July 2007.
- ◆ ENGEOTECH, Inc., *Soil and Foundation Investigation for Proposed Industrial Building, Enterprise Drive, Newark, California*, February 1999.
- ◆ Treadwell&Rollo, *Hazardous Material and Geotechnical Evaluation, Newark Specific Plan, Newark, California*, October 19, 1998.
- ◆ URS, *Revised Final Remedial Action and Cleanup Standards for Soil and Groundwater, Asbland Chemical Inc., 8610 Enterprise Drive, Newark, California*, May 27, 2005.
- ◆ URS, *Soil Backfill Activities, Former Asbland Chemical Company, 8610 Enterprise Drive, Newark, California*, May 29, 2009.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGIONAL GEOLOGY

The City of Newark (City) is located within the tectonically active Coast Ranges geomorphic province of California, which consists of a parallel series of ridges and valleys. In the San Francisco Bay Area, many of the ridges are composed of Jurassic and younger marine sediments that have folded and faulted along northwest/southeast trending faults in the area. Many large active faults exist in the area, including the San Andreas, Calaveras and Hayward Faults.

The City is located in a portion of the province that is near the edge of the San Francisco Bay in an area that is characterized by an alluvial plain sloping gently westward toward the Bay at a gradient ranging from ten to 20 feet per mile, with little topographic relief. Underlying the City are deep deposits of sand, gravel, silt, and clay alluvial and fluvial soils, which were eroded from the hills to the east and deposited by streams and rivers flowing into the plain. The surrounding hills are composed of Franciscan Assemblage bedrock of Jurassic/Cretaceous age. The Franciscan Assemblage bedrock may vary from chert, sandstone and shale to greenstone, serpentinite and several other rock types. The thickness of the alluvial or stream deposited soils under the City ranges up to 600 feet, but thins to approximately 100 feet in the northwestern portion of the City. Resting upon these thick alluvial deposits along the western edge of the City are relatively shallow, fine grained deposits of organic rich clays and silts (with some sands locally) that were deposited in poorly drained depressions between streams (interfluvial basin deposits) and marshy areas along the edge of the Bay.

4.5.1.2 SITE GEOLOGY

SURFACE CONDITIONS

The topography of the Specific Plan area is generally flat with elevations ranging from approximately five to 15 feet above mean sea level (MSL). However, there are some isolated bedrock outcroppings, stockpiles and levees where elevations are as high as approximately 40 feet above MSL.

To the northwest of the Specific Plan area, the Coyote Hills form a northwest-trending ridgeline of Cretaceous-aged Franciscan Complex bedrock. The Specific Plan area has two relatively small bedrock outcrops that are the southeastern extension of the Coyote Hills rocks and have been mapped as serpentinite by the

U.S. Geological Survey. In 2007, Berlogar Geotechnical Consultants identified the northern rock outcrop as sedimentary rocks, and the southern outcrop as serpentinite. These outcrops are located on the Cargill property. Refer to Figure 3-3 (Dumbarton TOD Specific Plan Property Ownership Map) in Chapter 3 (Project Description) for a depiction of where the Cargill property is located within the Specific Plan area.

SUBSURFACE CONDITIONS

In general, the Specific Plan area is underlain by alluvium consisting of interfluvial fresh water basin deposits. The soils within the Specific Plan area are composed of sand, silt and clay deposited by streams. According to the “Soil Survey of Alameda County Area, California” (soil survey) published by United States Department of Agriculture Soil Conservation Service and Forest Service (1981), the majority of the Specific Plan area is underlain by Pescadero Clay, while a small portion in the northeastern half is underlain by Marvin silt loam, saline alkali, and a small portion in the northwest is underlain by Reyes clay. However, portions of the Specific Plan area contain imported fill material as well.

According to geotechnical investigations of the Cargill property conducted by Berlogar Geotechnical Consultants in 2006 and 2010, the flatter portions of the property appear to have a mantle of stiff to very stiff gray silty clay. The upper soils are typically moderately expansive. The northwestern portion of the site is underlain by primarily clayey soils with interbedded layers and lenses of sandy soil to a depth of about 30 feet, where bedrock or very stiff soil is encountered. The remainder of the site is underlain by clayey soils, with bedrock or stiff soil encountered about 15 to 20 feet deep. A thin layer (one and a half to two feet) of medium dense silty sand was encountered near the eight-foot depth of two borings and another boring encountered serpentinite at a depth of about 28 feet. Groundwater was anticipated to be at depths of six to eight feet below the existing grade in the flat area of the property. The groundwater level should be expected to change depending on time of year, rainfall amounts, tidal fluctuations, local irrigation practices, and the water level in the adjacent drainage ditches and ponds.

In 2007, Berlogar Geotechnical Consultants conducted a field investigation of the two rock outcroppings on the Cargill property. The results of the investigation indicate that approximately 25 feet of fill material has been placed on the west side of the northernmost outcrop, while the central portion of the southern outcrop has been mass graded and a berm for a shooting range has been constructed along its eastern side. In addition, Berlogar determined that the northern rock outcropping

contained a mixture of clayey and silty gravel, silty clay, sandy clay, and clayed sand, underlain by sandstone and claystone bedrock. However, serpentinite type material was not encountered. The southern rock outcropping was found to be composed of serpentinite, with silty sand material around the outcrop. Lab testing conducted on samples taken from the southern rock outcropping identified naturally occurring asbestos (NOA). The source of the asbestos was determined to be chrysotile, which is a mineral variation of serpentine. Section 4.7 (Hazards and Hazardous Materials) - describes the NOA occurrence in further detail.

A field investigation and subsequent laboratory testing of the soils on the Enterprise Drive LLC (Trumark Properties) property (refer to Figure 3-3) conducted in 1999 by ENGEOTECH (currently known as ENGEO), found that the surface and subsurface soils vary over the site. The surface and near-surface soils consist of silty clays of dark brown color. The extent of this layer varies from four to five feet. Between the surface soil to about 12 feet, the soils consist mostly of silty clays of light brown color. From 12 to 18 or 20 feet the soils consist mostly of sandy clays of light brown color. The density and stiffness of different layers increased with depth. Free ground water was encountered at about 12 feet below ground surface (bgs).

According to a geotechnical summary prepared for the Torian property (refer to Figure 3-3) in 2007 by ENGEO and a due diligence level geotechnical investigation conducted by Berlogar Geotechnical Consultants in 2009, native soil at the site consists of silty clay to about seven feet, interbedded layers and lenses of sand, silty sand and sandy silt to about 60 feet, and stiff silty clay from 60 to 100 feet. A portion of the Torian property was excavated in the past and subsequently filled with a variety of materials and fill soil and soil was imported and placed in many areas of the site. Groundwater is about six to eight feet deep, with historical high groundwater about five feet deep.

As noted previously, fill material is present on the Cargill property, adjacent to the two rock outcrops. In addition, imported fill material is present in portions of the Specific Plan area that have undergone remediation activities to address contamination in soils due to past industrial uses. The Ashland, Gallade, and SHH LLC properties have all conducted soil excavation and treatment. Within these sites, excavated areas were either filled with general fill material (import) or treated soil from the subject property (when determined suitable for reuse), as well as aggregate base (AB) materials or recycled concrete. Following backfilling activities, soils underwent pre-compaction and compaction to meet required standards.

4.5.1.3 POTENTIAL GEOLOGIC HAZARDS

FAULTS AND SEISMICITY

The City is located in the San Francisco Bay Area, which is in one of the most seismically active regions in the United States. The major active faults in the area are the San Andreas, Calaveras and Hayward Faults. The San Andreas Fault is approximately 13 miles west/northwest, the Calaveras Fault is approximately 11 east and the Hayward Fault is approximately six miles east of the Specific Plan area. The Silver Creek Fault, which is a minor, potentially active fault, is located approximately half a mile west of the Specific Plan area. Previous investigations of this fault have concluded that it shows evidence of movement within the past two million years, but probably not more recently than 70,000 years.

Special Publication 42 (Interim Revision 2007), "*Fault Rupture Hazard Zones in California*," prepared by the California Department of Conservation, California Geological Survey, describes active faults and fault zones pursuant to the Alquist-Priolo Earthquake Fault Zoning Act. According to Special Publication 42, the Dumbarton TOD Specific Plan area is not within or near an Alquist-Priolo special study zone. Moreover, during Berlogar's geotechnical investigation of the Cargill Property conducted in 2006, there was no evidence of a fault crossing or trending across the site. In addition, in 2004, URS investigated the possibility of faulting in the Specific Plan area, specifically under the Ashland property and did not find any evidence of faulting beneath that site. Since earthquakes cause ground rupture along fault lines and no known active faults pass through the Specific Plan area, it is unlikely that the Specific Plan area would be subject to ground rupture. However, it is more likely that the Specific Plan area would experience moderate ground shaking caused by earthquakes occurring along offsite faults. The Hayward Fault is closest to the Specific Plan area and considered capable of causing the strongest ground shaking at the site.

Ground shaking, rather than surface fault rupture, is the cause of the most damage during earthquakes, and can cause severe damage to structures located relatively long distances away from faults. The Specific Plan area could be affected by ground shaking due to movement along any of the active faults in the region, and a large magnitude earthquake has the potential to cause significant ground shaking within the Specific Plan area. The intensity of ground shaking felt at the site from future earthquakes would depend on several factors, including the distance of the site to the earthquake epicenter, the magnitude and duration of the earthquake, and the character of the underlying soil and/or bedrock. In general, the greater the distance

to the earthquake epicenter, the lesser the intensity of the ground shaking that is anticipated. Sites underlain by thick, loose soils, such as alluvium and artificial fill, tend to amplify and prolong ground shaking, while bedrock is less susceptible.

LIQUEFACTION

Liquefaction is the transformation of soil from a solid state to a temporary fluid-like state. It occurs when certain types of soil material lose their strength, usually as a result of strong ground shaking caused by an earthquake or other cyclic loading (force). Liquefaction could result in sand boils at the ground surface, differential ground settlement, and lateral movement of the ground surface, all of which could cause potential damage to structures and endanger public safety. Soil most susceptible to liquefaction is generally clean, loose, uniformly graded sandy soil, although gravelly soil, silts, and some clay-rich soil may be prone to liquefaction under certain conditions. In general, the younger and looser the soil and the higher the water table, the more susceptible the soil is to liquefaction.

The geotechnical investigation at the Cargill property conducted by Berloger identified very minor layers or lenses of saturated sand with grain size distributions and densities conducive for liquefaction to occur and concluded the potential for liquefaction to significantly impact this site appears low. In addition, ENGEO's geotechnical investigation of the Enterprise Drive LLC (Trumark Properties) property found that all soil layers consisted of materials that were medium stiff and stiff in nature and clay binder existed throughout the depths explored. Based on the results of their investigation, ENGEO concluded that there is a low potential for liquefaction at the site. According to the geotechnical summary prepared for the Torian property by ENGEO and the geotechnical report prepared by Berloger Geotechnical Consultants for the same property, that property has potentially liquefiable soils.

LANDSLIDES

Earthquakes can trigger landslides, particularly upon steep slopes where previous slide activity has occurred. Landslides can pose great risks to structures, including completely dislodging structures. The topography at all of the Specific Plan area is relatively flat, with the exception of some isolated bedrock outcroppings, stockpiles, and levees where elevations are as high as approximately 40 feet above MSL. However, in general, the potential for landslides is low.

SUBSIDENCE/DIFFERENTIAL GROUND SETTLEMENT

Subsidence is the relatively even downward movement of the ground surface with limited or no horizontal movement. It can be caused by a variety of factors, such as groundwater or gas or oil extraction. Differential settlement results in uneven settlement of the ground caused by seismic shaking or consolidation of soft/loose soil adjacent to hard/dense soil. Subsidence is not considered an issue for the Specific Plan area since groundwater, gas, or oil is not and would not be extracted. Berloger's geotechnical investigation of the Cargill and Torian properties concluded that differential settlement is possible at these sites. Both sites are considered to be underlain by potentially liquefiable soils, which can cause differential settlement. Differential ground settlement at the Cargill property could also be caused by the consolidation of soft/loose soil adjacent to the bedrock outcrops, which essentially would not consolidate. Structures straddling the transition from deep soft/loose soils to bedrock could experience differential settlement. The Torian property and potentially other properties within the Specific Plan area could experience differential ground settlement from excavations that were backfilled with fill and other material in the past. Additionally, fill placed at the sites to raise the ground surface could contain heterogeneous mixtures of materials, which would consolidate differentially, possibly causing differential ground settlement. Differential ground settlement could result in structural damage to buildings, pipelines, and other structures.

EXPANSIVE SOILS

Expansive soils swell substantially when wet and shrink when dry. Soil expansion can damage structures by cracking foundations, causing settlement, and distorting structural elements. The clayey soils found within the Specific Plan area have a high shrink/swell potential.

SOIL EROSION

Soil erosion occurs when soil is loosened and is transported elsewhere, typically by wind or water. It is a natural process, which can be accelerated by ground disturbance, such as vegetation removal due to construction or as a result of a fire. Construction activities associated with future development allowed by the Specific Plan have the potential to increase the chances of erosion.

NATURALLY OCCURRING ASBESTOS

As noted previously, the southern rock outcrop on the Cargill property is composed of serpentine bedrock that contains NOA. As such, the area around the southern rock outcrop should be considered to contain possible State-regulated

concentrations of NOA. At such time as the site is modified or developed, all earthmoving and trenching would be required to comply with regulatory requirements then in effect. Refer to Sections 4.2 (Air Quality) and 4.7 (Hazards and Hazardous Materials) for a discussion of impacts associated with NOA and recommended mitigation measures.

4.5.2 REGULATORY SETTING

4.5.2.1 STATE FRAMEWORK

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to prevent the construction of buildings used for human occupancy on the surface trace of active faults (those having evidence of surface displacement within about the last 11,000 years). It requires the State Geologist to delineate earthquake fault zones around the surface traces of active faults and publish maps showing these zones.

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. The Act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design.

CALIFORNIA BUILDING CODE

The California Building Code (CBC) is contained in the California Code of Regulations (CCR), Title 24, Part 2. Title 24 is assigned to the California Building Standards Commission, which is responsible for coordinating building standards. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The CBC is based on the International Building Code. The 2010 CBC is based on the 2009 International Building Code (IBC) published by the International Code Conference. In addition, the CBC

contains necessary California amendments which are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes ways for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes.

4.5.2.2 LOCAL FRAMEWORK

CITY OF NEWARK GENERAL PLAN

The City of Newark General Plan contains a number of conditions, actions, and programs to help minimize the effects of seismic and geologic hazards. In particular, all new construction in the City is required to conform to the CBC and geotechnical reports are required for development in areas where potentially serious geologic risks exist.

4.5.3 ENVIRONMENTAL ANALYSIS

4.5.3.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on geology and soils if it would:

- ◆ Expose people or structures to potentially 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 formation unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse;
- ◆ Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2004), creating substantial risks to life or property;
- ◆ Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

4.5.3.2 AREAS OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or not reasonably foreseeable:

- ◆ Expose people or structures to potentially 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

As there are no identified faults running through the Dumbarton TOD Specific Plan area, the risk of ground rupture is non-existent.

- ◆ Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

Future development allowed by the Dumbarton TOD Specific Plan would connect to the municipal sewer system and would not require the construction of septic tanks or an alternative wastewater disposal system.

4.5.3.3 POTENTIAL IMPACTS AND MITIGATION MEASURES

SEISMIC HAZARDS

- 4.5-1 **The proposed project could expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death as a result of seismic-related ground shaking, liquefaction, or landslides.**

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Future development within the Dumbarton TOD Specific Plan area would involve construction of structures in a seismically active area. While surface rupture from a known fault is unlikely to occur, the Specific Plan area would likely experience moderate ground shaking as a result of earthquakes occurring on offsite faults. Earthquake related ground shaking may cause concrete slabs, building walls, and pavement placed on the site to crack, potentially threatening the integrity of

structures and safety of people present at the time of the earthquakes. Moreover, ground motion has the potential to initiate secondary events such as liquefaction or landslides, which could also threaten the integrity of structures placed on the site and the safety of people present at the time of the earthquakes. There is a low potential for liquefaction at the Enterprise Drive LLC (Trumark Properties) property. However, Torian, Cargill, and possibly other properties within the Specific Plan area are underlain by potentially liquefiable soils. Landslides are a possibility at the northern rock outcrop on Cargill's property and also along levees.

The likelihood of ground shaking and seismic-related liquefaction and landslide impacts can be reduced if future development is constructed in accordance with the recommendations of a geotechnical engineering report and the CBC. Using standard construction techniques and following the recommendations of a site-specific geotechnical investigation and applicable codes and requirements, structures can be designed and built to withstand the geologic hazards listed above. Although some structural damage is not typically avoidable, building codes and local construction requirements help to protect against building collapse and personal injury during seismic events. Future development would be required to comply with applicable regulations, such as the CBC, and the requirements of the Newark General Plan Environmental Safety Element. The following mitigation measure requires a design-level geotechnical investigation for all future development in the Dumbarton TOD Specific Plan area to further reduce potential ground shaking and seismic-related liquefaction and landslide hazards to less than significant.

Mitigation Measure

4.5-1 Future developers within the Specific Plan area shall have a design-level geotechnical engineering investigation performed for their individual property or properties prior to its (their) development. The mitigation measures specified by the design-level geotechnical engineering investigations shall become conditions to the issuance of grading permits for such individual property. The design-level geotechnical engineering investigations shall only address each specific individual property proposing construction, unless future developers mutually agree to include more than one property in a single investigation.

The design-level geotechnical engineering investigations shall take into consideration the specific locations and types of development, as

well as specific soil and rock conditions identified by subsurface investigation and laboratory testing. The likely mitigation measure recommendations of the design-level geotechnical engineering investigations regarding the design and construction of project-related development are regularly employed, have known and proven efficacy, and could include without limitation, one or more of the following:

- ◆ Removing the soft/loose soil by excavating the soil and backfilling the excavation with compacted soil, thus densifying the soft/loose soil;
- ◆ Supporting structures on deep foundations, such as piles or piers;
- ◆ Improving the soft/loose soils by various methods, such as dynamic deep compaction, constructing surcharge fills, installing wick drains, grouting, and other methods;
- ◆ Strengthening structures to withstand seismic shaking and differential ground settlement; and/or,
- ◆ Other methods as determined by the geotechnical engineer in the geotechnical report to be prepared for the sites.

Level of Significance After Mitigation: Less Than Significant.

SOIL EROSION

4.5-2 Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in substantial soil erosion or the loss of topsoil.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Future development of the Dumbarton TOD Specific Plan area would involve vegetation removal, grading, and potentially earth excavation, which would expose soils and increase the potential for soil erosion from wind or stormwater runoff. Erosion can be controlled using standard construction practices, based on a site-specific geotechnical study that is required by Mitigation Measure 4.5-1. In addition, adherence to applicable State and local regulations, codes, and requirements, as identified in Section 4.8 (Hydrology, Drainage, and Water Quality)

would ensure that impacts associated with construction-related soil erosion would be less than significant.

Mitigation Measure

4.5-2 Implement Mitigation Measures 4.5-1 and 4.8-3.

Level of Significance After Mitigation: Less Than Significant

UNSTABLE SOILS

4.5-3 Future development within the Dumbarton TOD Specific Plan area could be located on a geologic formation unit or soil that is unstable, or that would become unstable as a result of construction and potentially result in subsidence or differential settlement.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Specific soil conditions on all the properties within the Specific Plan area are currently unknown. However, the properties within the Specific Plan area most likely have a low potential for subsidence. The potential for differential ground settlement exists for the Cargill and Torian properties, and most likely for the other properties within the Specific Plan area. Differential settlement could damage structures. Future development of the project site allowed by the Dumbarton TOD Specific Plan would require preparation of site-specific geotechnical investigations pursuant to Mitigation Measure 4.5-1. Implementation of recommendations contained in these investigations would ensure that impacts associated with unstable soil would be less than significant.

Mitigation Measure

4.5-3 Implement Mitigation Measure 4.5-1.

Level of Significance After Mitigation: Less Than Significant

EXPANSIVE SOILS

- 4.5-4 The proposed project could be located on expansive soil, as defined in table 18-1-b of the California Building Code (2004), creating substantial risks to life or property.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The project site is underlain by clayey, expansive soil that has a high shrink/swell potential. Expansion and contraction of soils could create some structural damage. As identified by Mitigation Measure 4.5-1, future development would require a design-level geotechnical investigation, which would address the presence of expansive soil. Recommendations for mitigation of expansive soil would be based on the findings of the investigation. Such mitigations might include replacing the expansive soil with non-expansive soils under structures, treating the soil with lime or cement to reduce the expansion potential, or construction foundations to withstand the differential heave and shrinkage associated with expansive soils.

Mitigation Measure

- 4.5-4 Implement Mitigation Measure 4.5-1.

The likely mitigation measure recommendations of the design-level geotechnical engineering investigations regarding the design and construction of project-related development are regularly employed, have a known and proven efficacy, and could include without limitation one or more of the following: treating the soil with lime or cement to reduce the expansion potential, or construction foundations to withstand the differential heave and shrinkage associated with expansive soils.

Level of Significance After Mitigation: Less Than Significant

4.5.3.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

SEISMIC AND SOIL HAZARDS

- 4.5-6 Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable seismic or soils hazards.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The analysis of cumulative geology and soils impacts considers the larger context of future development of the City as envisioned by the General Plan and relies upon the projections of the General Plan, as most recently updated, and General Plan EIR. As described above, future development allowed by the Dumbarton TOD Specific Plan would not result in significant effects associated with seismic or soil hazards with adherence to applicable State and local regulations, codes and requirements, and the implementation of Mitigation Measures 4.5-1 and 4.8-3. Other individual development projects would be reviewed for seismic safety and would be required to comply with local regulations, codes, and requirements. Moreover, none of the cumulative projects would reasonably be expected to be affected by the exact same seismic or soil impacts as the proposed project due to the unique characteristics of each project and site. Therefore, the proposed project's geology and soils impacts would not be cumulatively considerable.

Mitigation Measure

- 4.5-6 Implement Mitigation Measures 4.5-1 and 4.8-3.

Level of Significance After Mitigation: Less Than Significant

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4.6 GREENHOUSE GAS EMISSIONS

This section evaluates greenhouse gas (GHG) emissions associated with the proposed project and analyzes project compliance with applicable regulations. Consideration of the project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, is included in this section.

The proposed Dumbarton Transit Oriented Development (TOD) Specific Plan is part of a regional effort to reduce vehicle trips and GHG emissions, support transit and enhance the quality of life in the region. It is a Priority Development Area as part of the Sustainable Communities Strategy development.

4.6.1 ENVIRONMENTAL SETTING

The natural process through which heat is retained in the troposphere is called the “greenhouse effect.”¹ The greenhouse effect traps heat in the troposphere through a three fold process as follows: Short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This “trapping” of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

4.6.1.1 GLOBAL CLIMATE CHANGE GASES

The most abundant GHGs are water vapor and carbon dioxide (CO₂). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation. The GWP of a gas is determined using CO₂ as the reference gas with a GWP of 1.

GHGs normally associated with the proposed project include the following:²

¹ The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

² All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. Climate Change (Intergovernmental Panel on Climate Change, *Climate Change, The*

Water Vapor (H₂O). Although water vapor has not received the scrutiny of other greenhouse gases, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a Global Warming Potential for water vapor.

Carbon Dioxide (CO₂). Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent.³ Carbon dioxide is the most widely emitted greenhouse gas and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other greenhouse gases.

Methane (CH₄). Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The Global Warming Potential of methane is 21.

Nitrous Oxide (N₂O). Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The Global Warming Potential of nitrous oxide is 310.

Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC, 1996).

³ United States Environmental Protection Agency, *Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2004*, April 2006.

Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The Global Warming Potential of HFCs range from 140 for HFC-152a to 11,700 for HFC-23.⁴

Perfluorocarbons (PFCs). Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semi conductor manufacturing. Perfluorocarbons are potent greenhouse gases with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).⁵ The Global Warming Potential of PFCs range from 6,500 to 9,200.

Sulfur hexafluoride (SF₆). Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent greenhouse gas that has been evaluated by the Intergovernmental Panel on Climate Change with a Global Warming Potential of 23,900. However, its global warming contribution is not as high as the Global Warming Potential would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively).⁶

In addition to the six major greenhouse gases discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric O₃ depleters; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant

⁴ United States Environmental Protection Agency, *High GWP Gases and Climate Change*, June 22, 2010. <http://www.epa.gov/highgwp/scientific.html#hfc>

⁵ United States Environmental Protection Agency, *High GWP Gases and Climate Change*, June 22, 2010. <http://www.epa.gov/highgwp/scientific.html#pfc>

⁶ United States Environmental Protection Agency, *High GWP Gases and Climate Change*, June 22, 2010. <http://www.epa.gov/highgwp/scientific.html#sf6>

products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The Global Warming Potentials of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.⁷

1,1,1 trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The Global Warming Potential of methyl chloroform is 110 times that of carbon dioxide.⁸

Chlorofluorocarbons (CFCs). CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the U.S. Environmental Protection Agency's (EPA) Final Rule (57 FR 3374) for the phase out of O3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent greenhouse gases with Global Warming Potentials ranging from 4,600 for CFC 11 to 14,000 for CFC 13.⁹

4.6.2 REGULATORY SETTING

4.6.2.1 FEDERAL FRAMEWORK

The Federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. Multilaterally, the United States is a strong supporter of activities under the United Nations Framework Convention on Climate Change (UNFCCC) and the IPCC.

⁷ United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, dated October 29, 2009. <http://www.epa.gov/EPA-AIR/1996/January/Day-19/pr-372.html>

⁸ Ibid.

⁹ United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, August 19, 2010. <http://www.epa.gov/ozone/ods.html>

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus around the evidence that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

In December 2007, Congress passed the first increase in corporate average fleet fuel economy (CAFE) standards. The new CAFE standards represent an increase to 35 miles per gallon (mpg) by 2020. In March 2009, the Obama Administration announced that for the 2011 model year, the standard for cars and light trucks will be 27.3 mpg, the standard for cars will be 30.2 mpg; and standard for trucks would be 24.1 mpg. Additionally, in May 2009 President Barack Obama announced plans for a national fuel-economy and GHG emissions standard that would significantly increase mileage requirements for cars and trucks by 2016. The new requirements represent an average standard of 39 mpg for cars and 30 mpg for trucks by 2016.

In September 2009, the EPA finalized a GHG reporting and monitoring system that began on January 1, 2010. In general, this national reporting requirement will provide the EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO₂ per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective emissions reduction strategies. This new program covers approximately 85 percent of the nation's GHG emissions and applies to approximately 10,000 facilities. The reporting system is intended to provide a better understanding of where GHGs are coming from and will guide development of the best possible policies and programs to reduce emissions.

Currently, the EPA is moving forward with two key climate change regulatory proposals, one to establish a mandatory GHG reporting system and one to address the 2007 Supreme Court decision in *Massachusetts v. EPA* (Supreme Court Case 05-1120) regarding the EPA's obligation to make an endangerment finding under Section 202(a) of the Federal Clean Air Act (FCAA) with respect to GHGs. *Massachusetts v. EPA* was argued before the United States Supreme Court on November 29, 2006. A coalition of 12 U.S. states and cities (including New York and California), in conjunction with several environmental organizations, challenged the EPA's refusal to regulate GHGs as a pollutant under the FCAA. The plaintiffs contended that the FCAA gives the EPA the necessary authority, and

the mandate, to address GHGs in light of the scientific evidence on global climate change. The EPA had concluded that it had no authority under existing law to regulate GHGs, and for a variety of policy reasons, it would not use that authority even if it possessed it. The U.S. Supreme Court held that the EPA has statutory authority to regulate GHG emissions from new motor vehicles. Under the FCAA, the EPA is now obligated to issue rules regulating global warming pollution from all major sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation. However, as of January 2011 there are no Federal regulations or policies regarding GHG emissions applicable to the proposed project.

4.6.2.2 STATE FRAMEWORK

CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA, which was adopted in 1988. Various Statewide and local initiatives to reduce the State's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term.

Assembly Bill 1493. In response to the transportation sector accounting for more than half of California's CO₂ emissions, Assembly Bill (AB) 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 required CARB to set greenhouse gas emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is noncommercial personal transportation in the State. The bill required that CARB set the greenhouse gas emission standards for motor vehicles manufactured in 2009 and all subsequent model years. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. CARB adopted the standards in September 2004. (See Title 13, Cal. Code of Regulations, Section 1900, 1961.)

Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1) require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily for the transportation of persons), beginning with the 2009 model year. For passenger cars and light-duty trucks with a loaded vehicle

weight (LVW) of 3,750 pounds or less, the GHG emission limits for the 2016 model year are approximately 37 percent lower than the limits for the first year of the regulations, the 2009 model year. For light-duty trucks with LVW of 3,751 pounds to gross vehicle weight (GVW) of 8,500 pounds, as well as medium-duty passenger vehicles, GHG emissions would be reduced approximately 24 percent between 2009 and 2016. These standards are intended to reduce emissions of carbon dioxide and other greenhouse gases (i.e., nitrous oxide and methane). Some currently used technologies that achieve greenhouse gas reductions include small engines with superchargers, continuously variable transmissions, and hybrid electric drive.

In December 2004, a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against CARB to prevent enforcement of 13 CCR Sections 1900 and 1961 as amended by AB 1493 and 13 CCR 1961.1 (*Central Valley Chrysler-Jeep et al. v. Catherine E. Witherspoon, in Her Official Capacity as Executive Director of the California Air Resources Board, et al.*). The automobile-makers' suit in the U.S. District Court for the Eastern District of California, contended California's implementation of regulations that, in effect, regulate vehicle fuel economy, violates various Federal laws, regulations, and policies.

On December 12, 2007, the court found that if California receives appropriate authorization from the EPA (the last remaining factor in enforcing the standard), then these regulations would be consistent with and have the force of Federal law, thus, rejecting the automobile-makers' claim. This authorization to implement more stringent standards in California was requested in the form of a FCAA Section 209(b), waiver in 2005. Since that time, the EPA failed to act on granting California authorization to implement the standards. Then Governor Schwarzenegger and then Attorney General Edmund G. Brown filed suit against EPA for the delay. In December 2007, then EPA Administrator Stephen Johnson denied California's request for the waiver to implement AB 1493. Johnson cited the need for a national approach to reducing GHG emissions, the lack of a "need to meet compelling and extraordinary conditions," and the emissions reductions that would be achieved through the Energy Independence and Security Act of 2007 as the reasoning for the denial.

The State of California filed suit against the EPA for its decision to deny the FCAA waiver. The change in presidential administration resulted in the EPA reexamining its position for denial of California's FCAA waiver and for its past opposition to GHG emissions regulation. California received the waiver on June 30, 2009.

Assembly Bill 32. The Legislature enacted AB 32 (AB 32, Nuñez), the California Global Warming Solutions Act of 2006, which was signed on September 27, 2006 to further the goals of Executive Order S-3-05. (Health & Safety Code, § 38500 et seq.) AB 32 requires CARB to adopt Statewide greenhouse gas emissions limits to achieve Statewide GHG emissions levels realized in 1990 by 2020. A longer-range goal requires an 80 percent reduction in GHG emissions from 1990 levels by 2050. CARB adopted the 2020 Statewide target and mandatory reporting requirements in December 2007, and a Statewide scoping plan in December 2008 (the AB 32 Scoping Plan). AB 32 represents the first enforceable Statewide program to limit greenhouse gas emissions from all major industries, with penalties for noncompliance. CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. The foremost objective of CARB is to adopt regulations that require the reporting and verification of Statewide greenhouse gas emissions. This program would be used to monitor and enforce compliance with the established standards. In passing the bill, the California Legislature found that:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the State from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems [California Health & Safety Code, Sec. 38500, Division 25.5, Part 1].

CARB is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. In December 2008, CARB adopted a Scoping Plan to achieve reductions in greenhouse gas emissions in California. The plan indicates how reductions in significant greenhouse gas sources would be achieved through regulations, market mechanisms, and other actions.

On December 16, 2010, CARB endorsed the long-awaited regulation implementing California's GHG cap-and-trade program. Pursuant to AB 32, and subject to a variety of final actions by the Executive Director and approval by the Office of Administrative Law (OAL), the regulations will be included within Title 17 of the

California Code of Regulation, sections 95800-96022, entitled “California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms.”

The cap-and-trade program covers approximately 80 percent of the State’s total GHG emissions and is considered a key element in achieving the overall strategy set forth in the Scoping Plan. The program, as implemented through the regulation, “caps” GHG emissions by issuing annual allowances (each covering the equivalent of one metric ton of carbon dioxide equivalent [MTCO₂eq¹⁰]) to regulated entities. Covered entities include those that meet the inclusion threshold of 25,000 MTCO₂eq per year and engage in: cement production; cogeneration; glass production; hydrogen production; iron and steel production; lime manufacturing; nitric acid production; oil and natural gas systems; petroleum refining; paper and pulp manufacturing; electricity generating facilities (including operators located in California or electricity importers); and natural gas suppliers.

The regulation also allows entities that engage in the above production and manufacturing activities to opt-in even if they do not meet the 25,000 metric ton inclusion threshold. Others may also voluntarily associate into the program. By opening the program to non-covered entities, CARB hopes to create a trading market in which investment banks, citizens groups and the general public would be allowed to hold allowances and would be subject to the registration and reporting requirements. The first compliance phase begins on January 1, 2012 through December 31, 2014, and will cover all major industrial sources, including the electricity industry and large industrial plants that manufacture glass, paper, concrete and other products. The second compliance phase begins On January 1, 2015 through December 31, 2017, and will cover distributors of transportation fuels, natural gas and other fuels. A third compliance period starts on January 1, 2018 through December 31, 2020.

As noted above, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted. In order to advise the Board, CARB staff convened an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee.

¹⁰ Carbon Dioxide Equivalent (CO₂eq) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

Executive Order S-3-05. In June 2005, then Governor Schwarzenegger established California's greenhouse gas emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: greenhouse gas emissions should be reduced to 2000 levels by 2010; greenhouse gas emissions should be reduced to 1990 levels by 2020; and greenhouse gas emissions should be reduced to 80 percent below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency (the Secretary) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce greenhouse gases. Some of the agencies involved in the greenhouse gas reduction plan include Secretary of Business, Transportation, and Housing Agency, Secretary of Department of Food and Agriculture, Secretary of Resources Agency, Chairperson of CARB, Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary is required to submit a biannual progress report to the Governor and State Legislature disclosing the progress made toward greenhouse gas emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, and the coastline and forestry, and reporting possible mitigation and adaptation plans to combat these impacts.

Executive Order S-1-07. On January 18, 2007, California further solidified its dedication to reducing greenhouse gases by setting a new Low Carbon Fuel Standard for transportation fuels sold within the State. Executive Order S-1-07 sets a declining standard for greenhouse gas emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least ten percent by 2020. The Low Carbon Fuel Standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods. The Executive Order requires the Secretary of the California Environmental Protection Agency to coordinate with actions of the California Energy Commission, CARB, the University of California, and other agencies to develop a protocol to measure the "life cycle carbon intensity" of transportation fuels.

Senate Bill 97. Senate Bill (SB) 97 of 2007 requires the California Office of Planning and Research (OPR) to develop CEQA guidelines for analysis and, if necessary, the mitigation of effects of GHG emissions to the Resources Agency. These guidelines for analysis and mitigation must address, but are not limited to, GHG emissions effects associated with transportation or energy consumption. On

December 30, 2009, the Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010. These new guidelines require a survey of existing climate change analyses performed by various lead agencies under CEQA¹¹. In his signing statement, then Governor Arnold Schwarzenegger noted:

Current uncertainty as to what type of analysis of greenhouse gas emissions is required under the California Environmental Quality Act has led to legal claims being asserted, which would stop these important infrastructure projects. Litigation under CEQA is not the best approach to reduce greenhouse gas emissions and maintain a sound and vibrant economy. To achieve these goals, we need a coordinated policy, not a piecemeal approach dictated by litigation.

Senate Bill 375. SB 375 requires metropolitan planning organizations (MPOs) to include sustainable communities strategies in their regional transportation plans. The purpose of SB 375 is to reduce greenhouse gas emissions from automobiles and light trucks, require CARB to provide greenhouse gas emission reduction targets from the automobile and light truck sector for 2020 and 2035 by January 1, 2010, and update the regional targets until 2050. SB 375 requires certain transportation planning and programming activities to be consistent with the sustainable communities strategies contained in the regional transportation plan. The bill also requires affected regional agencies to prepare an alternative planning strategy to the sustainable communities strategies if the sustainable communities strategy is unable to achieve the greenhouse gas emissions reduction targets. Then Governor Schwarzenegger signed and approved SB 375 on September 30, 2008.

SB 375 includes the ability to streamline certain projects which are consistent with an MPO's Sustainable Communities Strategy (see CEQA Guidelines, Section 15183.5, subd. (c)). CARB released its staff report on proposed regional GHG reduction targets for passenger cars and light trucks as well as its CEQA Functional Equivalent Document on August 9, 2010.

¹¹ California Natural Resources Agency, *CEQA Guidelines Amendments*, http://ceres.ca.gov/ceqa/docs/Adopted_Text_of_SB97_CEQA_Guidelines_Amendments.pdf. Accessed March 2010.

Senate Bills 1078 and 107 and Executive Order S-14-08. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. Executive Order S-14-08 was signed in November 2008, expanding the State's Renewable Energy Standard to 33 percent renewable power by 2020.

CARB Scoping Plan. On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations.¹² CARB's Scoping Plan contains the main strategies California will implement to reduce CO₂ equivalent (CO₂eq) emissions by 174 MMT, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMT of CO₂eq under a business as usual (BAU)¹³ scenario (This is a reduction of 42 MMT CO₂eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020).

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32. However, the San Francisco Superior Court has

¹² California Air Resources Board, Climate Change Scoping Plan, A Framework for Change, December 2008.

¹³ "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

recently issued a tentative ruling that if issued as proposed, would suspend the implementation of the Scoping Plan pending additional CEQA review.

In *Association of Irrigated Residents, et al. v. California Air Resources Board, et al.*, the Superior Court of California for the County of San Francisco (Superior Court) issued a "Statement of Decision" on March 18, 2011 that prevents CARB from implementing a Statewide GHG regulatory program under AB 32 until the agency complies with the requirements of CEQA. The decision partially grants a petition for a writ of mandate brought by a coalition of environmental justice organizations (Petitioners) that alleged that CARB's Scoping Plan violated both AB 32 and CEQA. Although the Superior Court denied all claims related to AB 32, the court found that CARB: 1) failed to adequately discuss and analyze the impacts of alternatives in its proposed Scoping Plan as required by its CEQA implementing regulations; and 2) improperly approved the Scoping Plan prior to completing the environmental review required by CEQA. In upholding the Petitioners' challenge on these two CEQA issues, the Superior Court issued a Peremptory Writ of Mandate and enjoined CARB from further implementation of the Scoping Plan until it complies with all CEQA requirements.

4.6.2.3 LOCAL FRAMEWORK

The City of Newark adopted a Climate Action Plan Initial Framework (CAP) on January 28, 2010. The CAP sets emission reduction goals, provides actions the City, residents, and businesses can take to reduce emissions, and describes a monitoring plan. The emission reduction goals are identified at three increments in order to achieve the reduction goals of AB 32:

- ◆ A five percent (194 MTCO₂eq) reduction from 2005 municipal emissions levels by July 2012;
- ◆ A five percent (21,680 MTCO₂eq) reduction in municipal and community emissions by July 2015; and,
- ◆ A community-wide target of a 15 percent (65,038 MTCO₂eq) decrease from 2005 levels by 2020.

The CAP includes actions the City has successfully implemented, as well as sections that guide the City, residents, and businesses to participate in future greenhouse gas emissions reduction activities. The City plans to continuously update the CAP to reflect changes in this rapidly evolving field.

4.6.3 ENVIRONMENTAL ANALYSIS

4.6.3.1 THRESHOLDS OF SIGNIFICANCE

CEQA GUIDELINES

According to the Appendix G of the CEQA Guidelines, the Dumbarton TOD Specific Plan would have a significant impact regarding GHG emissions if it would:

- ◆ Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment;
- ◆ Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases;

BAAQMD THRESHOLDS

Under *CEQA*, the BAAQMD is an expert commenting agency on air quality and GHG emissions within its jurisdiction or impacting its jurisdiction. The BAAQMD reviews projects to ensure that they would: (1) support the primary goals of the latest Air Quality Plan; (2) include applicable control measures from the Air Quality Plan; and (3) not disrupt or hinder implementation of any Air Quality Plan control measures.

In June 2010, the BAAQMD adopted their *CEQA Air Quality Guidelines* to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the Basin. The *CEQA Air Quality Guidelines* provide BAAQMD-recommended procedures for evaluating potential air quality and GHG impacts during the environmental review process consistent with CEQA requirements. In addition to providing new thresholds for GHG emissions, the revised *CEQA Air Quality Guidelines* provide updated significance thresholds for criteria pollutants and supersede the BAAQMD's previous CEQA guidance titled *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans* (1999).

The BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce Statewide GHG emissions needed to move us towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant.

Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require a BAAQMD permit to operate. If annual emissions of operational-related GHGs exceed these levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change. Table 4.6-1 (BAAQMD GHG Thresholds) presents the June 2010 adopted project-level thresholds for GHG emissions.

TABLE 4.6-1 BAAQMD GHG Thresholds

Project Type	Construction-Related	Operational-Related
Projects other than Stationary Sources ¹	None	Compliance with Qualified Climate Action Plan
		OR 1,100 MTCO ₂ eq/yr
Stationary Sources ¹	None	OR 4.6 MTCO ₂ eq/SP ² /yr
		10,000 MTCO ₂ eq/yr

MTCO₂eq/yr = metric tons of carbon dioxide equivalent per year

Notes:

1: According to the BAAQMD CEQA Guidelines, a stationary source project is one that includes land uses that would accommodate processes and equipment that emits GHG emissions and would require a BAAQMD permit to operate. Projects other than stationary sources are land use development projects including residential, commercial, industrial, and public uses that do not require a BAAQMD permit to operate.

2: SP = service population (residents + employees)

Source: Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, June 2010.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, the BAAQMD *CEQA Air Quality Guidelines* recommend quantification and disclosure of construction GHG emissions. The BAAQMD also recommends that the Lead Agency should make a determination on the significance of these construction generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals, as required by the Public Resources Code, Section 21082.2. The Lead Agency is encouraged to incorporate best management practices to reduce GHG emissions during construction, as feasible and applicable.

4.6.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS

4.6-1 Greenhouse gas emissions generated by the project would not have a significant impact on the environment.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Business As Usual Greenhouse Gas Emissions

Direct Project Related Sources of Greenhouse Gases. The proposed Dumbarton TOD project is a part of a regional effort to reduce vehicle trips, greenhouse gas emissions, support transit and to enhance the quality of life in the region. It is a Priority Development Area as a part of the Sustainable Communities Strategy development. Direct project-related GHG emissions include emissions from construction activities, area sources, and mobile sources. Table 4.6-2 (Business As Usual Greenhouse Gas Emissions Projections), presents the estimated CO₂, N₂O, and CH₄ emissions without the incorporation of project design features discussed later in this section.

The URBEMIS 2007 computer model outputs contained within the Appendix B, *Air Quality/GHG Data*, were used to calculate mobile source CO₂ emissions. The URBEMIS 2007 model relies upon trip data within Section 4.14 (Traffic) and project specific land use data to calculate emissions. Estimations are based on energy emissions from natural gas usage, as well as automobile emissions. URBEMIS2007 model outputs were used in conjunction with the BAAQMD Greenhouse Gas Model (BGM) (Version 1.1.9) to calculate GHG emissions for area sources and natural gas. GHGs associated with area sources, natural gas, and mobile sources would be 98.52 MTCO₂eq/yr, 3,479.92 MTCO₂eq/yr, and 13,534.82 MTCO₂eq/yr, respectively. Total project-related direct operational emissions would result in 17,113.26 MTCO₂eq/yr.

Indirect Project Related Sources of Greenhouse Gases. Indirect project-related GHG emissions include emissions from consumption of electricity, natural gas, and water, as well as wastewater and solid waste generation. Indirect GHG emissions were calculated using BGM and URBEMIS2007. Electricity consumption would indirectly result in 4,761.82 MTCO₂eq/yr; water and

wastewater would result in 316.53 MTCO₂eq/yr; and solid waste generation would result in 3,411.46 MTCO₂eq/yr. Total indirect emissions would result in 8,489.81 MTCO₂eq/yr; refer to Table 4.6-2.

Total Project-Related Sources of Greenhouse Gases. The total amount of project-related GHG emissions without accounting for any project design features that would reduce GHG emissions from direct and indirect sources combined would total 25,603.07 MTCO₂eq/yr.

TABLE 4.6-2 BUSINESS AS USUAL GREENHOUSE GAS EMISSIONS PROJECTIONS

Source	CO ₂		N ₂ O		CH ₄		Total Metric Tons of CO ₂ eq
	Metric Tons/year	Metric Tons/year	Metric Tons of CO ₂ eq	Metric Tons/year	Metric Tons of CO ₂ eq		
Direct Emissions							
▪ Area Source ¹	1.90	0.02	6.20	4.32	90.72	98.52	
▪ Natural Gas ¹	3,471.02	0.01	3.10	0.33	6.93	3,479.92	
▪ Mobile Source ¹	13,534.82	--	--	--	--	13,534.82	
Total Direct Emissions³	17,007.74	0.03	9.3	4.65	97.65	17,113.26	
Indirect Emissions							
▪ Electricity Consumption ¹	4,754.78	0.02	6.2	0.04	0.84	4,761.82	
▪ Water and Wastewater ¹	316.53	0	0	0	0	316.53	
▪ Solid Waste ¹	23.74	--	--	161.32	3,387.72	3,411.46	
Total Indirect Emissions²	5,095.05	0.02	6.20	161.36	3,388.56	8,489.81	
<i>Total Business As Usual Project-Related Emissions</i>			<i>25,603.07 MTCO₂eq/year</i>				

Notes:

1 – Emissions calculated using URBEMIS 2007 computer model and the BAAQMD Greenhouse Gas Model (BGM) (Version 1.1.9).

2 – Totals may be slightly off due to rounding.

Refer to Appendix B (Air Quality and GHG Data) for detailed model input/output data.

Consistency with the BAAQMD Greenhouse Gas Mitigation Measures

The proposed project incorporates several design features that are also consistent with the BAAQMD mitigation measures to reduce GHG emissions. A list of the BAAQMD mitigation measures contained in the BAAQMD's *CEQA Air Quality Guidelines* (June 2010) and the project's compliance with each applicable measure are listed in Table 4.6-3 (Project Consistency with the BAAQMD Greenhouse Gas Mitigation Measures). The proposed project would incorporate sustainable practices which include water, energy, solid waste, land use, and transportation efficiency measures. Table 4.6-3 also identifies the associated scaled percent

TABLE 4.6-3 PROJECT CONSISTENCY WITH BAAQMD GREENHOUSE GAS MITIGATION MEASURES

Project Design Feature	Project Applicability	Percent Reduction/Sector
URBEMIS MITIGATION MEASURES		
Operational Emissions Reductions		
<p>Affordable Housing: Percent of housing units that are deed-restricted below market rate housing within the project boundaries.</p>	<p>The City of Newark has an inclusionary housing ordinance that requires at least 15 percent of the units in all new residential projects to be made available as below market rate housing. The Specific Plan would meet these standards. Objective 4 of the Specific Plan specifically states that the Specific Plan would provide a range of housing options including affordable housing. The City's inclusionary housing ordinance requires that rental units subject to inclusionary requirements within a residential development be offered at the following income levels: 40 percent is for very low income, 40 percent is for low income and 20 percent is for moderate income households. The City's inclusionary housing ordinance requires that for-sale units subject to inclusionary requirements within a residential development be offered at the following income levels: 85 percent of the units are to be reserved for moderate income households while the remaining 15 percent are to be reserved for low income households. The affordable housing ordinance would be tailored to specify that moderate units shall be scattered amongst other product types, lower/very low income units constructed within the Specific Plan area are to be concentrated near the Transit Station, and an in-lieu fee shall be an option for satisfying the low and very low income requirements set by the ordinance. The inclusion of affordable housing within the Specific Plan and required by the City's inclusionary housing ordinance is also consistent with Climate Action Plan (CAP) (adopted by the City on January 28, 2010) Planning and Zoning Action Item 6.4.</p>	<p>1 (mobile)</p>

Transportation Demand Measures	
Secure Bike Parking (at least one space per 20 vehicle spaces)	There are policies in the Specific Plan to ensure that there would be secure bike parking racks, at a 1:20 ratio, within the retail and office portions of the Specific Plan area. Street Network Policy C-13 in Chapter 7 (Circulation) of the Specific Plan describes a Transportation Demand Management (TDM) program that would include requirements for short- and long-term bicycle parking in highly visible, well-lit locations that are convenient to building entrances. Pedestrian & Bicycle Circulation Policy C-28 requires the adoption of minimum bicycle parking requirements for residential and commercial projects. Specific Plan Exhibit 7.5 (Pedestrian & Bicycle Circulation) illustrates three areas of potential bicycle parking.
Information Provided on Transportation Alternatives (Bike Schedules, Maps)	A kiosk associated with the transit station would provides basic information on the type of transit available to customer as well as other information such as maps and ways for individuals to reduce their carbon footprint. Street Network Policy C-13 in the Circulation chapter of the Specific Plan describes a TDM program that would include an information campaign with flyers and other media for participating employers.
Parking Supply	The Specific Plan would provide the number of spaces required by the Metropolitan Transportation Commission (MTC) (a minimum of 500 spaces) for the transit station, as stated in Parking Policy C-21 of the Circulation chapter. Parking would also be provided for the retail and office areas, but at a reduced parking ratio as per what is currently in the City of Newark Zoning Ordinance. Specific Plan Parking Policy C-18 required the adoption of specific parking standards including allowing shared parking between the retail and office uses with different peak periods of parking demand, reducing minimum off-street parking requirements, and allowing exemptions for small retail and dining establishments in pedestrian centers. Park spaces per square foot of retail and office uses would be optimized to take advantage of adjacencies to the transit station and office/retail areas. The Specific Plan would also provide free or preferential parking for carpool, vanpool, low emission vehicles, and car share vehicles.

1
(mobile)

Area Source Emissions Reductions		
Increase Energy Efficiency Beyond Title 24	All new buildings would be constructed to Title 24 of the California Code of Regulations at a minimum. The Specific Plan encourages increased energy efficiency beyond Title 24. However, the implementation of this measure would depend on the individual homebuilders. Increasing energy efficiency is consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	20 (natural gas)
NON-URBEMIS MEASURES		
Energy Efficiency		
Plant shade trees within 40 feet of the south side or within 60 feet of the west sides of properties	The recommendation for shading is incorporated into Specific Plan Section 3.2 (Landscaping Concept), which states that shaded areas would be provided throughout the smaller parks and open spaces within the area. The planting of shade trees is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	30 (electricity)
Require cool roof materials (albedo ≥ 30)	Cool roof materials are a recommendation within the Specific Plan. The use of cool roof materials is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	34 (electricity)
Install green roofs	Green roofs are a recommendation within the Specific Plan. The installation of green roofs is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	1 (electricity)
Require smart meters and programmable thermostats	The planning principles in the Specific Plan encourage the use of programmable thermostats. The use of programmable thermostats is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	5 (electricity) 5 (natural gas)
Install solar water heaters	The installation of solar water heaters in residential and commercial buildings is a recommendation within the Specific Plan. The installation of solar water heaters is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	6 ¹ (natural gas/water heating)
Install tank-less water heaters	The installation of tank-less water heaters in residential and commercial buildings is a recommendation within the Specific Plan. The installation of tank-less water heaters is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	3 (natural gas/water heating)
Install solar panels on residential and commercial buildings	The installation of solar panels on residential and commercial buildings is a recommendation within Specific Plan Section 2.3 (Green Building). The installation of solar panels is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards). However, the amount electricity generated from solar panels has not been determined. Therefore, a reduction has not been applied for this measure.	N/A

100 percent increase in diversity of land use mix	The Specific Plan would change the mix of land uses from a more industrial/manufacturing base to retail, office, mixed-use, residential, and parks and recreational open space. The mix of land uses is also consistent with CAP Planning and Zoning Action Item 6.2.	5 (mobile)
Jobs housing balance	There is currently no housing within the Specific Plan area and only minimal jobs due to vacant industrial land and closed facilities being the predominant use. With the inclusion of 2,500 units in the Specific Plan, a transit-oriented retail center of 35,000 square-feet and 195,000 square-feet of office space, a greater jobs-housing balance would be reflected when the project meets full buildout. Incorporation of a transit station would also contribute to a better jobs-housing balance. The Specific Plan would also place housing within close proximity of these newly created jobs, resulting in fewer VMT for jobs-oriented trips. Additionally, the Silicon Valley Area imports a large number of workers and creating housing within the Silicon Valley Area would be a major benefit for the jobs housing balance.	Accounted for Above
100 percent increase in design (i.e., presence of design guidelines for transit oriented development, complete streets standards)	Within the Specific Plan, there are design guidelines for the transit station area, the retail and office areas, and all of the residential uses. It has been designed using a neo-traditional street grid system and incorporates “complete street” concepts.	3 (mobile)
100 percent increase in density	The Specific Plan would allow a maximum of 2,500 dwelling units on what is currently mostly vacant industrial land. With the Specific Plan process, the site would be rezoned from Industrial to allow residential, thereby increasing the density by 100 percent as it was not approved for residential prior to this process. The increase in density onsite is also consistent with the City’s CAP Planning and Zoning Action Item 6.2.	5 (mobile)
HVAC duct sealing	It is anticipated that heating, ventilation, and air conditioning (HVAC) duct sealing would be a requirement by the time construction of the Specific Plan comes forward. Additionally, Specific Plan Section 2.3 (Green Building) recommends HVAC options for higher efficiency equipment. This measure is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	12 (electricity/HVAC usage)

Provide necessary infrastructure and treatment to allow use of 50 percent greywater/recycled water in residential and commercial uses for outdoor irrigation	Alameda County Water District (ACWD) does not currently have a recycled water supply but they anticipate a program will be implemented by 2020. Given the lack of any definitive plans to bring recycled water mains to the area, the high density nature of the project, and the lack of large, concentrated open space areas, it is uncertain if recycled water would be available for the project. However, the Specific Plan encourages landscape irrigation to be designed and installed to purple pipe (i.e., reclaimed water) standards, and initially connected to the potable system so that they may be switched over if recycled water becomes available.	N/A
Complete streets (i.e., bike lanes and pedestrian sidewalks on both sides of streets, traffic calming features such as pedestrian bulb-outs, cross-walks, traffic circles, and elimination of physical and psychological barriers (e.g., sound walls and large arterial roadways, respectively).)	The Specific Plan provides designed standards based on the “complete streets” method. There are traffic calming measures such as bulbouts at most intersections, traffic circles at major intersections, and no sound walls or large arterial roadways within the plan area.	5 (mobile)
Maximize interior daylight	Maximizing interior daylight in residential uses is encouraged within the Specific Plan Design Guidelines and the Specific Plan planning principles. Maximizing interior daylight is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	Accounted for Above
Increase roof/ceiling insulation	Increasing the amount of roof and ceiling insulation in residential and commercial buildings is a recommendation within the Specific Plan. The increase of insulation is also consistent with CAP Business Community Action Item 5.4 (Green Building Standards).	Accounted for Above
Install low-water use appliances and fixtures	The installation of low-water use appliances and fixtures is a strongly-encouraged recommendation within the Specific Plan. Section 2.3 The Specific Plan states that all new homes would be constructed to meet Energy Star requirements, and specifically identifies high efficiency clothes washers and dishwashers as potential low-water use appliances. The installation of low-water use appliances and fixtures is also consistent with CAP Residential Community Action Items 4.3 (Energy Conservation) and 4.6 (Water Conservation), as well as Business Community Action Item 5.6 (Water Conservation).	--

Implement water-sensitive urban design practices in new construction	Best Management Practices (BMP's) are mandated policies within Specific Plan Section 7.3 (Public Utilities) for new construction and implement measures to ensure water-sensitive urban design practices are met.	--
Waste Reduction		
Provide composting facilities at residential uses	The provision of composting facilities in residential areas is a recommendation within the Specific Plan. Additionally, Specific Plan Solid Waste Management Policy I-30 recommends restaurants to use onsite composting systems if a food waste recycling program is not available. The Specific Plan would also be consistent with CAP Business Community Action Item 5.2 (Increase Commercial and Business Recycling, Composting, and Waste Reduction).	--
Create food waste and green waste curbside pickup service	Waste Management is the current waste pick-up provider and has a green waste curbside pick up program that the Specific Plan would participate in.	--
Require the provision of storage areas for recyclables and green waste in new construction	Proper disposal and recycling facilities have been recommended in the Specific Plan under Objective 2.	--
Additional Sustainability Features	The project would implement BMP's to ensure that water quality is protected, as noted within Specific Plan Section 7.3 (Public Utilities). Drought-tolerant landscaping and drip irrigation with automatic controls would also be encouraged under the Specific Plan.	--
Total Scaled Reduction²		27.92

Notes:

1. This reduction is conservatively not included in the total scaled reduction, as the BAAQMD does not allow a project to take reductions for both solar water heaters and tank-less water heaters.
2. BAAQMD reductions are presented in percentage ranges for specific sectors (i.e., transportation, natural gas). Each sector's reduction percentages are scaled proportionally to their sector of the project-generated emissions. For example, transportation emissions account for 52.86 percent of the total emissions, and a 15 percent reduction would apply to transportation related emissions. Therefore, the reduction is calculated by multiplying 0.5286 by 0.1500 for a scaled reduction of 0.0793. This was completed for each sector. The total emissions reduction applied to the project is a sum of the scaled sector reduction percentages (27.92 percent).

reduction and applicable sector based on the project's consistency with the BAAQMD mitigation measures. The reductions have been based on BAAQMD methodology presented in the BAAQMD's *CEQA Air Quality Guidelines*.

BAAQMD Sector Reduction Methodology

The BAAQMD provides GHG reduction measures and associated reduction percentages in their *CEQA Air Quality Guidelines*. Reductions are presented in percentage ranges for each measure, and apply specifically to mobile, electricity, and natural gas sectors. Reductions from BAAQMD measures are scaled proportionally to their sector of project-generated emissions. For example, if a measure would result in a 15 percent reduction in transportation-related emissions, and transportation accounts for 52.86 percent of the total emissions, then the scaled reduction would be 7.93 percent ($0.5286 \times 0.1500 = 0.0793$). This process is completed for each sector. The total emission reductions are summed and applied to the overall total project-related GHG emissions. As presented in Table 4.6-3 and Table 4.6-4 (Greenhouse Gas Emissions With BAAQMD Sector Reductions), the overall reduction percentages total 27.92 percent. Applying the BAAQMD reduction percentages from measures required by Mitigation Measure 4.6-1, GHG emissions from the proposed project would be reduced to 18,454.69 MTCO₂eq/yr.

As stated in Table 4.6-3, the Specific Plan would also be consistent with several Action Items within the City's CAP. Further, the CAP includes references to the Specific Plan and the associated green principles and regional smart growth planning efforts it will achieve (i.e., TOD development, higher density, and mix of uses). Therefore, the project would be consistent with the Action Items within the CAP, and would also reduce its GHG emissions by 27.92 percent utilizing the BAAQMD scaled reduction methodology.

TABLE 4.6-4 GREENHOUSE GAS EMISSIONS WITH BAAQMD SECTOR REDUCTIONS

Sector	Reductions Breakdown			
	% of Total GHG Business as Usual Emissions	% of Sector Reductions	Scaled Reductions Calculation ⁴	Scaled Reduction %
Transportation	52.86	15.00	$0.5286 \times 0.1500 = 0.0793$	7.93
Natural Gas	13.59	28.00	$0.1359 \times 0.2800 = 0.0381$	3.81
Electricity	18.60	87.00	$0.1860 \times 0.8700 = 0.1618$	16.18
Total Scaled Reduction			27.92	
Total Project-Related Business as Usual Emissions ^{1,2}			25,603.07 MTCO ₂ eq/yr	
Total Project-Related Emissions WITH Reduction^{1,2,3}			18,454.69 MTCO ₂ eq/yr = 2.26 MTCO ₂ eq/SP/yr	
GHG Threshold of Significance			4.6 MTCO ₂ eq/SP/yr	

Notes:

- Total project-related GHG emissions = total direct emissions + total indirect emissions (in MT CO₂eq/yr).
- Totals may be off due to rounding.
- SP = service population. The SP for the project based on the project population increase of the Specific Plan of 8,150 as noted in Section 4.10 (Population and Housing). Total project-related emissions were divided by the SP of 8,150 for the annual GHG emissions per SP.
- BAAQMD reductions are presented in percentage ranges for specific sectors (i.e., transportation, natural gas). Each sector's reduction percentages are scaled proportionally to their sector of the project-generated emissions. For example, transportation emissions account for 52.86 percent of the total emissions, and a 15 percent reduction would apply to transportation related emissions. Therefore, the reduction is calculated by multiplying 0.5286 by 0.1500 for a scaled reduction of 0.0793 (7.93 percent). This was completed for each sector. The total emissions reduction applied to the project is a sum of the scaled sector reduction percentages (27.92 percent).

Effects of Climate Change on the Project

The primary effect of global climate change has been a rise in average global tropospheric temperature of 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005.¹⁴ Climate change modeling using year 2000 emission rates shows that further warming would occur, which would include further changes in the global climate system during the current century.¹⁵ Changes to the global climate system and ecosystems and to California would include, but would not be limited to:

- ◆ The loss (melting) of sea ice and mountain snow pack resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;¹⁶
- ◆ Rise in global average sea level primarily due to thermal expansion and melting of glaciers and ice caps and the Greenland and Antarctic ice sheets;¹⁷
- ◆ Changes in weather that include widespread changes in precipitation, ocean salinity, and wind patterns, and more energetic extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;¹⁸
- ◆ Decline of the Sierra snow pack (which accounts for approximately half of the surface water storage in California) by 70 percent to as much as 90 percent over the next 100 years;¹⁹
- ◆ Increase in the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas of Los Angeles and the San Joaquin Valley by the end of the 21st century;²⁰ and
- ◆ High potential for erosion of California's coastlines and sea water intrusion into the Delta and levee systems due to the rise in sea level.²¹

¹⁴ California Environmental Protection Agency, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature (Executive Summary), March, 2006.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

While there is broad agreement on the causative role of GHGs to climate change, there is considerably less information or consensus on how climate change would affect any particular location, operation, or activity. The IPCC has published numerous reports on potential impacts of climate change on the human environment. These reports provide a comprehensive and up-to-date assessment of the current state of knowledge on climate change. Despite the extensive peer review of reports and literature on the impacts of global climate change, the IPCC notes the fact that there is little consensus as to the ultimate impact of human interference with the climate system and its causal connection to global warming trends.

The following climate change effects could affect the proposed project. However, the type and degree of the impacts that climate change would have on humans and the environment is difficult to predict at the local scale.

- ◆ Sea Level Rise. According to the San Francisco Bay Conservation and Development Commission (BCDC) climate change is expected to raise sea levels between 12 and 36 inches by the year 2100. The Specific Plan area is approximately two miles east of the San Francisco Bay and a portion of the site is within a Federal Emergency Management Agency (FEMA) 100-year flood zone. The BCDC forecasted rise in sea level could increase flood related impacts, especially from storm surge-induced flood events. Section 15.40.51 of the City's Municipal Code has flood elevation standards for lands within special flood hazard areas as defined by FEMA. Among other things, these standards require building pads of all occupied structures to be a minimum of 11.25-feet above sea level with the finished floor being a minimum of six-inches above the building pad. In addition, the City requires that the top of curb grades for residential streets must be no less than ten-feet above sea level throughout the City (Section 16.08.06 Newark Municipal Code). Additionally, the effects related to sea level rise are speculative at this time, the Specific Plan does not lie within BCDC's jurisdiction, and the BCDC forecast and any related policies are intended as guidance regarding potential, future flood risks and are not directly applicable to the Specific Plan area. If sea level rise was determined to be a significant threat, protective measures such as levees installed by regional and local governments would be available to protect urbanized areas.

The BCDC forecast expressly notes that it does not account for existing shoreline protection or wave activity and that, where necessary, future levees are an appropriate mechanism for protecting against flood damage from rises

in sea levels.²² Ultimately, the National Oceanic and Atmospheric Agency, FEMA, the United States Corps of Engineers, cities, counties and flood control districts are responsible for protecting the public and the Bay ecosystem from flood hazards. The City's Municipal Code flood elevation standards would protect against flood risks to the Specific Plan area based upon flood risks as determined by FEMA, the City and these other regional and local agencies.

- ◆ Natural Disasters. Climate change could result in increased flooding and weather-related disasters. The proposed Specific Plan is located approximately 2 miles from the San Francisco Bay and 21 miles from the Pacific Ocean and would not be exposed to intense coastal storms. The frequency of large floods on rivers and streams could also increase. The proposed Specific Plan would not impede flood flows or be susceptible to increased flooding; thus, flood-related impacts would be less than significant even under an intensified flooding scenario; refer to Section 4.8 (Hydrology, Drainage, and Water Quality) for further discussion of flooding impacts.
- ◆ Wildfires. Climate change could result in increased occurrences and duration of wildfire events. The Specific Plan area is located adjacent to an urbanized area, and is surrounded by development on the north, south, and east. Salt production and harvesting facilities are located to the west of the project area. These areas would not be susceptible to an increased risk of wildfires. The warming climate could cause more frequent wildfires of great intensity. However, as the Specific Plan area is not considered susceptible to wildland fires, wildfire risks as a result of global climate change would be less than significant.
- ◆ Air Quality. Climate change would compound negative air quality impacts in the San Francisco Bay Area Air Basin, resulting in respiratory health impacts.²³ However, this would be a regional, not a project-specific effect.

Other predicted physical and environmental impacts associated with climate change include heat waves, alteration of disease vectors, biome shifts, impacts on

²² San Francisco Bay Conservation and Development Commission, Staff Report and Revised Preliminary Recommendation for Proposed Bay Plan Amendment 1-08 Concerning Climate Change, September 3, 2010 and Shoreline Areas Vulnerable to Sea Level Rise Central Bay South Inundation Map, 2008.

²³ California Environmental Protection Agency, AB 1493 Briefing Package, 2008.

agriculture and the food supply, reduced reliability in the water supply, and strain on the existing capacity of sanitation and water-treatment facilities. While these issues are a concern for society at large, none of these impacts would have a disproportionate effect on the implementation of the proposed Specific Plan.

Conclusion

The proposed Dumbarton TOD project is a part of a regional effort to reduce vehicle trips and GHG gas emissions, support transit and enhance the quality of life in the region. It is a Priority Development Area as a part of the Sustainable Communities Strategy development. As shown in Table 4.6-4, operational-related emissions would be 25,603.07 MTCO₂eq/yr without reductions from project design features. URBEMIS2007 and the BAAQMD Greenhouse Gas Model (BGM) were used to quantify GHG emissions reductions associated with project design features from project operations. Additional emissions reductions from energy efficiency measures were calculated based on the BAAQMD *CEQA Air Quality Guidelines*. With implementation of project design features required by Mitigation Measure 4.6-1, the project would incorporate sustainable practices which include water, energy, solid waste, and transportation efficiency measures that are summarized in Table 4.6-3. Based on the reduction measures in Table 4.6-3, the proposed project would reduce its GHG emissions 27.92 percent below the business as usual scenario, and would reduce the project's operational GHG emissions to 18,454.69 MTCO₂eq/yr. With a service population of 8,150, the total GHG emissions after reductions would equate to 2.26 MTCO₂eq/yr, which is also below the 4.6 MTCO₂eq/SP/yr BAAQMD threshold. Furthermore, the project would be consistent with several of the City's CAP Action Items. Therefore, the project would not generate a significant amount of GHG emissions with implementation of Mitigation Measure 4.6-1. Mitigation Measure 4.6-1 would ensure that the project design features identified in the Table 4.6-3 are incorporated during implementation of the Dumbarton TOD Specific Plan. Impacts in this regard would be less than significant.

Mitigation Measure

4.6-1 The Specific Plan shall include, but not be limited to, the following list of potential design features. These features shall be incorporated into the Specific Plan and future buildings to ensure consistency with adopted Statewide plans and programs. The project applicant shall demonstrate the incorporation of project design features prior to the issuance of building permits.

Energy Efficiency

- ◆ Increase energy efficiency beyond Title 24 requirements.
- ◆ Plant shade trees within 40 feet of the south side or within 60 feet of the west sides of properties.
- ◆ Require the use of cool roof materials (albedo greater than or equal to 30).
- ◆ Install green roofs.
- ◆ Require smart meters and programmable thermostats.
- ◆ Install solar or tank-less water heaters.
- ◆ Make residential and commercial buildings solar ready.
- ◆ Incorporate design guidelines for transit oriented development and complete street standards.
- ◆ Implement HVAC duct sealing.
- ◆ Maximize interior daylight in residential uses.
- ◆ Increase roof and ceiling insulation.

Transportation

- ◆ Provide a minimum of 15 percent affordable housing units.
- ◆ Provide secure bike parking (at least 1 space per 20 vehicle spaces).
- ◆ Provide information to the public (i.e., bike maps and transit schedules) on transportation alternatives.
- ◆ Provide free or preferential parking for carpool, vanpool, low emission vehicles, and car share vehicles.

Level of Significance After Mitigation: Less Than Significant

CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

4.6-2 Implementation of the proposed project would not conflict with an applicable greenhouse gas reduction plan, policy, or regulation.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

According to the BAAQMD, a GHG reduction plan should:

- ◆ Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- ◆ Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
- ◆ Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- ◆ Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- ◆ Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
- ◆ Be adopted in a public process following environmental review.

As described above, the City of Newark adopted a CAP on January 28, 2010. As recommended by the BAAQMD, the City's CAP identifies goals, policies, and implementation measures that would achieve the goals of AB 32. The City has established a reduction goal of 5 percent from 2005 levels by July 2015 for municipal and community emissions. The City has also identified a longer term community-wide target of 15 percent decrease from 2005 levels by 2020.

As noted in Table 4.6-3, the Specific Plan incorporates several measures that are consistent with the City's CAP. Specifically, the Specific Plan would incorporate energy efficiency measures (i.e., shade trees, exceed Title 24 requirements, cool

roofs, green roofs, smart meters, programmable thermostats, solar or tank-less water heaters, increased insulation, and maximum daylight exposure) which would be consistent with green building Action Items of the CAP. The Specific Plan would also provide affordable housing opportunities, increase onsite density, and include a mix of uses, consistent with planning and zoning Action Items of the CAP. CAP water conservation Action Items would be addressed by installation of low-water use fixtures and appliances, drought-resistant landscaping, and drip irrigation systems. Finally, the Specific Plan includes measures recommending composting and increased recycling, consistent with CAP recycling/composting Action Items. Therefore, the Specific Plan would be consistent with several Action Items of the CAP aimed at reducing GHG emissions within the City. The Specific Plan would not conflict with the City's CAP and impacts in this regard would be less than significant.

Mitigation Measure

4.6-2 No mitigation required.

Level of Significance After Mitigation: Not applicable

4.6.3.3 CUMULATIVE IMPACTS AND MITIGATION MEASURES

4.6.3 Greenhouse gas emissions resulting from development associated with implementation of the proposed project would not impact greenhouse gas levels on a cumulatively considerable basis.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

GHG emissions contribute, on a cumulative basis, to global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature. The combination of GHG emissions from past, present and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts. The BAAQMD's approach to developing their GHG emissions threshold was to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce Statewide GHG emissions needed to move toward climate stabilization. If a project would generate GHG

emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be considered significant. As stated above, the proposed project would result in a less than significant impact regarding GHG emissions with implementation of Mitigation Measure 4.6-1, as the project would be below the BAAQMD's significance criteria for GHG emissions. The proposed Dumbarton TOD Specific Plan would also be consistent with the City's CAP. Additionally, the proposed Dumbarton TOD project is a part of a regional effort to reduce vehicle trips and GHG emissions, support transit and enhance the quality of life in the region. It is a Priority Development Area as a part of the Sustainable Communities Strategy development. Therefore, the project's GHG emissions would not be cumulatively considerable. Impacts would be less than significant with implementation of the identified mitigation measure.

Mitigation Measure:

Refer to Mitigation Measure 4.6-1.

Level of Significance After Mitigation: Less Than Significant

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential presence of hazards and hazardous materials within the Dumbarton Transit Oriented Development (TOD) Specific Plan area and then analyzes the risks associated with introducing proposed development and associated human activities to the area. This analysis of the potential environmental impacts related to hazardous materials utilizes information obtained from government databases, various documents prepared for past industrial sites that used hazardous materials within the Specific Plan area, and the City of Newark General Plan.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 DEFINITIONS

The U.S. Environmental Protection Agency (EPA) and the California Department of Toxic Substance Control (DTSC) have developed and continue to update lists of hazardous wastes subject to regulation. The regulation of hazardous wastes is provided on both the State and Federal levels.

The term “hazardous material” refers to both hazardous substances and hazardous waste. A material is defined as “hazardous” if it appears on a list of hazardous materials prepared by a Federal, State, or local regulatory agency, or if it has characteristics defined as “hazardous” by such an agency. A “hazardous waste” is a “solid waste” that exhibits toxic or hazardous characteristics. The EPA has defined the term “solid waste” to include many types of discarded materials, including any gaseous, liquid, semi-liquid, or solid material which is discarded or has served its intended purpose, unless the material is specifically excluded from regulation. Such discarded materials are considered waste whether they are reused, recycled, or reclaimed.

4.7.1.2 EXISTING CONDITIONS

The Dumbarton TOD Specific Plan area is known to contain previous hazardous materials releases from past industrial uses. The following paragraphs identify the property, contaminant releases, and remediation details.

DATABASE SEARCH

Department of Toxic Substance Control (EnviroStor)

The DTSC’s Site Mitigation and Brownfield Reuse Program’s (SMBRP’s) EnviroStor database identifies sites that have known contamination or sites for

which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List [NPL]), State Response (including military facilities and State Superfund), Voluntary Cleanup, and School sites. EnviroStor provides site information, including but not limited to, identification of formerly-contaminated properties to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites. RBF Consulting (RBF) searched the entire Specific Plan area in the EnviroStor Database on February 10, 2011. EnviroStor identified two State Response sites and two Tiered Permit sites within the Specific Plan area.

California State Water Resources Control Board (GeoTracker)

GeoTracker was developed pursuant to a mandate by the California State Legislature to investigate the feasibility of establishing a Statewide Geographic Information System (GIS) for leaking underground fuel tank (LUFT) sites and is maintained by the State Water Resources Control Board. It should be noted that RBF's review of GeoTracker's findings can only be as current as the GeoTracker listings and may not represent all known or potential hazardous waste or contaminated sites. RBF searched the Dumbarton TOD Specific Plan area in GeoTracker on February 10, 2011, for all potential cleanup sites. The search indicated eight cleanup sites within the Specific Plan area. These areas are described in further detail below.

HAZARDOUS MATERIALS SITES

Ashland Chemical Company (8610 Enterprise Drive)

Since construction in 1973 until closure in January 2000, Ashland operated a facility for the purpose of chemical packaging and distribution; including the handling and storage of various chemical compounds (such as solvents, bases and acids). A total of 31 chemicals of concern (COCs) were detected in shallow soils at the property and in shallow groundwater below the property in the "Shallow Zone", which is first encountered three to 12 feet below ground surface (bgs) and extends to 18 feet bgs, which varies seasonally. These COCs consisted primarily of aromatic and halogenated volatile organic compounds (VOCs). The Ashland Property is also bordered by similar industrial facilities that have impacted soil and groundwater with these types of chemicals.¹

¹ 2005 Revised Final Remediation Action and Cleanup Standards for Shallow Soil and Groundwater, prepared by URS

Soil Remediation

As of 2008, the Three Year Status Report prepared for Ashland concluded that all soil remedial excavation activities had been performed and completed in accordance with Regional Water Quality Control Board (RWQCB) Directive (Order No. R2-2005-0038).² The remedial excavation program conducted from September 2005 to November 2006 included the excavation of approximately 22,700 cubic yards (CY) of soil from pre-determined areas above RWQCB's Site Cleanup Requirements (SCRs) located beneath the former facility warehouse and former tank farm onsite. Of the total amount excavated, approximately 21,300 CY of unsaturated soil (approximately from ground surface to five feet bgs) and approximately 1,400 CY of saturated soil (from approximately five feet to eight feet bgs) were excavated. Of the approximately 22,700 CY of soil excavated, approximately 10,600 CY were transported offsite for disposal; 4,200 CY were treated onsite using soil vapor extraction (SVE); and approximately 7,900 CY met site-specific SCRs and were used as backfill above the water table. Prior to use as backfill material over the former excavation area, the 7,900 CY of reused soil and 4,200 CY of SVE treated soil were treated with lime in order to stabilize the soil and meet compaction standards for building construction.

In total, approximately 6,031 kilograms (kg) (13,301 pounds) of total VOC mass was removed during the 2005/2006 excavation activities, which is based on the excavated soil volume (22,700 CY) and the median VOC concentration in soil above Site Cleanup Requirements (SCRs) identified during preliminary investigation activities (205.9 mg/kg).

The Status Report goes on to state that in comparison to the total VOC mass removed to the total VOC mass at the property, approximately 99 percent of the total VOC mass has been removed by the remedial excavation program. The remaining soil VOC mass at the property (approximately four kg or nine pounds) is primarily limited to the perimeter of the 2005/2006 excavation area (approximately 7,035 CY) with a median total VOC soil concentration of 0.4 mg/kg. Individual VOC concentrations in perimeter soils at the 2005/2006 excavation area were determined to be less than SCRs. Based on the performance data and the results of this remedial excavation program, Ashland has exceeded the estimate of removing up to 96 percent of the total VOC mass by implementing this remedy as summarized in the site's Remedial Action Plan (RAP) and referenced in Order No.

² Section 6.0, Conclusion, Three Year Status Report prepared for Ashland Chemical Company by URS, August 2008

R2-2005-0038 and the soils remediation has met or exceeded the SCRs in the Order.

In addition, it was confirmed that select locations onsite at either 2.5 feet below ground surface (bgs) or five feet bgs around the perimeter of the former soil excavations that occurred in 2005/2006 exceeded RWQCB's Environmental Screening Levels (ESLs) for either commercial/industrial or residential use. Ashland (as of 2008) was assessing health risk associated with these impacts and was planning to further delineate and determine how impacts could be mitigated by institutional or engineering controls prior to site re-development.³ Furthermore, the Status Report concluded that there should not be any imminent human health risk under current (2008) site conditions, as the property was unoccupied at the time the report was prepared. The report noted that future property re-development may require a risk management plan with institutional and/or engineering controls to eliminate potential exposure for human health risk concerns.

Groundwater Remediation

From 1982 to 2005, Ashland operated a Shallow Zone groundwater extraction and treatment system to laterally contain VOC plume migration within the Property and remove VOCs from the groundwater. The groundwater pump and treat operations removed approximately eight million gallons of impacted groundwater during the 23 year period. Following the remedial excavations, Ashland implemented a monitored natural attenuation program for the Shallow Zone groundwater in 2006 to assess the conditions and rate of COC degradation. The Three Year Status Report reported that groundwater results since implementation of the monitoring program per Order No. R2-2005-0038 suggest that 1,2- DCA is likely migrating from an offsite upgradient source in Shallow Zone groundwater, and additional natural attenuation will continue to reduce the COCs to below SCRs in groundwater onsite. The results also document that concentrations of COCs have been primarily limited in extent to Shallow Zone wells located adjacent to the 2005/2006 excavation area and that there is no indication of lateral migration of dissolved COCs from the source area wells to the downgradient and crossgradient areas. Although residual VOC concentrations in the groundwater of the former tank farm area exceeds RWQCB SCRs, there reportedly was no risk to the underlying Newark Aquifer because a predominant upward groundwater gradient still exists beneath the property. Continued natural attenuation of VOCs in groundwater could potentially result in residual concentrations to drop below SCRs

³ Ibid

by 2012. Ashland recommended the following revisions to the groundwater monitoring program based on the monitoring results from remedy implementation:

- ◆ Continue to conduct quarterly groundwater elevation measurements in January, April, July, and October in the calendar year in all monitoring wells listed in the current self monitoring program per Order R2-2005-0038.
- ◆ Discontinue groundwater analytical testing for geochemical parameters for all wells at the Property with the exception of dissolved oxygen (DO) and oxidation reduction potential (ORP) to confirm anaerobic conditions.
- ◆ Conduct semi-annual groundwater sampling and testing in April and October of the calendar year for VOC COCs in the 21 wells listed in Order R2-2005-0038 by EPA Method 8260B.
- ◆ Conduct annual groundwater sampling and testing in April of the calendar year for SVOCs in the 21 wells listed in Order R2-2005-0038 by EPA Method 8270C.
- ◆ Continue to report groundwater monitoring results semi-annually to RWQCB for the two periods from January to June, and July to December of the calendar year. The semi-annual monitoring reports will be due to the RWQCB no later than 30 days following the end of the semi-annual period, consistent to the current requirements in the Order.

The report stated that the revised monitoring program would provide sufficient data to track the overall decreasing trends in Shallow Zone groundwater at the property, as well as to identify the potential migration of COCs at the property.

Second Semi-Annual Monitoring Report

The 2008 Second Semi-Annual Monitoring Report, dated January 2009, concluded that the overall trend of COC concentrations in Shallow Zone groundwater were decreasing since implementation of the Remedial Action Plan for the site, although some COCs remained above SCRs in upgradient and source area Shallow Zone groundwater. Additionally, geochemical conditions from the shallow zone monitoring showed results indicative of anaerobic bio-degradation.

On August 31, 2009, Ashland submitted an Environmental Risk Assessment updating environmental conditions at the property, discussing any risks to human health and the environment associated with residual impacts at the property and the conditions under which the property could be developed for residential use, including deed restrictions, a risk management plan and mitigation measures depending upon final building design. The ERA is currently under review by the

RWQCB. On October, 26, 2010, the RWQCB issued a Developability Letter indicating that the property may be developed for residential use under certain restrictions and conditions.

Former Newark Sportsman's Club (Hickory Street)

(Site remediated; remediation certified by RWQCB in 2004)

The Newark Sportsman's Club leased approximately 18 acres of land located west of Hickory Street from Cargill, Inc. from 1969 to 1995 to operate a recreational outdoor shooting range. This site constitutes a portion of the Dumbarton TOD Specific Plan's western boundary. Use of the land at this site for this purpose resulted in surficial and shallow soil deposition of lead shot, residual total lead, and clay pigeon debris containing elevated levels of polycyclic aromatic hydrocarbons (PAHs). In 1994, the RWQCB issued Order No. 94-096 requiring the Discharger (Newark Sportsman's Club) to investigate and remediate lead impacts at the property. Shortly thereafter, the Newark Sportsman's Club dissolved. In 2001, Cargill entered into a voluntary cleanup agreement with the RWQCB. Soil containing lead shot and PAHs was excavated and disposed of offsite. The RWQCB certified case closure in 2004.

Investigations

The lateral and vertical distribution of lead and PAHs was established through several field investigations involving the collection and analysis of 159 soil samples from 93 locations. The investigations showed that lead concentrations decreased rapidly with depth, with very little contamination found deeper than 0.5 feet below the ground surface. PAH contamination was limited to four stockpiles comprised of clay pigeon debris. With the exception of one soil sample collected beneath a clay pigeon debris stockpile, no soil samples contained PAHs.

References

Characterization Report and Additional Sampling Workplan, Former Newark Sportsman's Club, Treadwell&Rollo, July 2001

Final Characterization Report, Former Newark Sportsman's Club, Treadwell&Rollo, September 28, 2001

Remediation

A Remedial Action Workplan (Treadwell&Rollo, 2001) proposed excavation and offsite disposal of soils and stockpile materials using cleanup criteria determined to be protective of human health and the environment. The Remedial Action Workplan and associated cleanup criteria were approved by the RWQCB in a January 14, 2002 letter.

Between July and October 2002, lead and PAH impacted soil and debris exceeding the cleanup criteria were removed from the site and sent to appropriate landfills. Confirmation sampling and analysis was conducted in the remediation areas. These remedial activities were documented in a Remediation Completion Report (Treadwell&Rollo, 2002). Additional soil excavation and confirmation sampling was conducted in September and November of 2003 for removal of additional soil impacted by clay pigeon debris (Cargill Salt, 2003).

On March 10, 2004, the RWQCB issued a letter certifying that soil remediation activities conducted at the former Newark Sportsman's Club had been completed pursuant to the Remedial Action Workplan, as amended in December 2003, and that analytical results for all soil confirmation samples were below established cleanup objectives. The certification letter also stated that no additional remedial action was necessary.

References

Remedial Action Workplan, Former Newark Sportsman's Club, Treadwell&Rollo, December 31, 2001

Former Newark Sportsman's Club, Alameda County – Approval of Remedial Action Workplan with Comments, December 31, 2001

Remediation Completion Report, Former Newark Sportsman's Club, Treadwell&Rollo, October 15, 2002

Remediation Completion Report, Newark Sportsman's Club, Addendum – Additional Soil Excavation, September – November 2003, Cargill Salt, December 12, 2003

Newark Gun Club, Alameda County – Certification of Remediation Completion Report, RWQCB, March 10, 2004 letter

Newark Police Pistol Range (Hickory Street)

(Site investigated, remedial actions recommended)

The City of Newark (City) has leased a portion of Cargill's property west of Hickory Street since 1975 to operate a pistol range for the Newark Police Department. A Phase II Soil and Groundwater Investigation (Treadwell&Rollo, 2001) conducted for the City identified lead contamination in the target area berm. The analytical results from 18 soil sampling locations indicated that total lead concentrations in shallow soils in the berm exceeded State hazardous waste criteria. As the depth of contamination was limited, excavation and removal of the upper three feet of soil at the berm was identified as the most economical and effective remedial method. The amount of soil to be excavated for remedial purposes was estimated to be approximately 405 tons. This site is still in active use by the Newark Police Department.

Reference

Phase II Soil and Groundwater Investigation, Proposed Ohlone College Campus, Area 2, Newark California, Treadwell&Rollo, June 19, 2001.

Leslie Salt/FMC Magnesia Waste Pile Site (Hickory Street)

(Site remediated; remediation certified by DTSC (1991); case closure by City of Newark (2002))

The Leslie Salt/FMC Magnesia Waste Pile Site, located on the Cargill parcel west of Hickory Street and adjacent to the FMC Corporation facility on Enterprise Drive, was subject to a State of California, Department of Toxic Substances Control (DTSC) Remedial Action Order for copper pellet waste, high pH materials, and other waste materials. Several phases of removal of hazardous and non-hazardous waste materials were completed between 1985 and 1991. In 1991, DTSC issued a certification of completion of remediation. Non-hazardous magnesia materials were removed from the site between 1997 and 2000 and in 2002 the City issued case closure for the site.

Site History

From 1929 to approximately 1969, FMC, and its predecessor Westvaco, deposited waste materials from their adjacent facility onto the site, which was leased from Leslie Salt (Cargill purchased Leslie Salt in 1979). The waste materials included magnesia materials [including off-grade magnesia, dolomite, dolime (a mixture of magnesium oxide and calcium oxide), and gypsum], general rubbish, phosphorous sludges, and catalyst materials containing copper and mercury. The magnesia waste

pile was designated as a hazardous waste site by the California Department of Health Services (DHS) (which is now DTSC) in 1981 after high pH values and heavy metal contamination (copper and zinc) were detected in samples collected by the DHS (the pH of the waste materials was subsequently determined not to be a hazardous waste issue). DHS issued a Remedial Action Order (RAO) for the site in 1988.

Remediation

Cargill and FMC shared responsibility in proceeding through a remedial investigation/feasibility study (RI/FS) and remedial action plan (RAP) process. During this process, reports and other documents related to the RI/FS and RAP were submitted to the DHS, the USEPA, the RWQCB, and the City. Final remediation activities in accordance with a Remedial Action Plan (RAP) (Hydrologic Consultants, Inc., 1990) and a Remedial Design (RD) (IT Corporation, 1991), both approved by DHS, were conducted by the IT Corporation in 1991. Prior to issuance of the RAO, 450 cubic yards of copper-contaminated soil had been removed from the site (in 1985). In 1990, an interim removal of 67,000 pounds of thallium-contaminated material was conducted. In 1991, approximately 5,620 tons of hazardous waste was excavated and disposed of offsite. This waste was classified as hazardous primarily due to the copper content from copper catalyst pellets.

After materials identified for offsite disposal had been removed, excavations were backfilled and graded to provide a suitable drainage pattern. A final report prepared by the IT Corporation certifying the remedial activities was submitted to DTSC in 1991. Materials remaining on site after 1991 were classified as nonhazardous. In October 1991, DTSC certified that the site had been adequately remediated, and that all the concerns in the Remedial Action Plan had been addressed by the remedial actions.

After DTSC's certification that hazardous waste had been remediated at the site, the City and Alameda County assumed oversight of the site and issued an order to FMC in 1996 for characterization and removal of the nonhazardous materials. From 1997 to 2000, the majority of the non-hazardous magnesia material (approximately 140,000 cubic yards) was hauled to offsite landfills. Some residual magnesia material remains on site. Sampling of the material was conducted in 1999 and the results indicated the material remaining onsite was not hazardous (URS, 2002). The City issued case closure for the site in 2002.

During a Phase II investigation conducted for the City in 2001 (Treadwell&Rollo, 2001), scattered piles of the remaining magnesia material were observed, and the total quantity in these piles was estimated to be approximately 500 to 1,000 cubic yards. It was noted that this residual material would likely need to be removed for site development.

References

Detailed Workplan, Magnesia Pile Site, Environmental Solutions, Inc., January 1988.

Leslie Salt/FMC Magnesia Waste Pile Site Remedial Action Plan, Hydrologic Consultants, Inc., October 1990.

Final Remedial Design - Magnesia Waste Pile, IT Corporation, March 1991.

Final Remediation Report, Magnesia Waste Pile, IT Corporation, October 1991.

Leslie Salt/FMC Magnesia Waste Pile Site, Fact Sheet Number 3, Department of Toxic Substances Control, September 1992

Certification of Completion: Remedial Action Plan, Department of Toxic Substances Control, October 28, 1991 letter

Magnesia Waste Pile Post-Removal Sampling Report, URS, January 28, 2002.

Magnesia Pile Case Closure, FMC, 8787 Enterprise Drive, CA, City of Newark, July 15, 2002 letter

Phase II Soil and Groundwater Investigation, Proposed Ohlone College Campus, Area 2, Newark California, Treadwell&Rollo, June 19, 2001

Serpentine Rock/Naturally Occurring Asbestos, Hill Parcel (Hickory Street)

(Site investigated; management measures necessary for development)

An asbestos investigation was conducted by Berlogar Geotechnical Consultants in October of 2007 for Cargill's Hill Parcel west of Hickory Street. The site was investigated in three portions; North Hill, South Hill and Groundwater. The results of the field and laboratory study indicated that the north hill does not contain serpentine and, therefore, should not contain naturally occurring asbestos (NOA). The south hill area is composed of serpentine bedrock that contains NOA.

The concentration of NOA was above the action limit of 0.25 percent in all 10 samples collected, including the nearby soil just downslope of an onsite rock outcrop. As such, the area around the southern rock outcrop should be considered to contain possible State-regulated concentrations of NOA. These naturally occurring materials are not regulated as a hazard if left in place. The report noted that at such time as the site is to be modified or developed, all earthmoving and trenching should be performed in compliance with regulatory requirements then in effect.⁴ In an addendum to the report, dated November 2007, Berlogar Geotechnical Consultants made recommendations for detached single-family residences, multi-unit residential structures, commercial and industrial developments, pavement and concrete hardscape, and provided recommendations regarding future construction onsite.⁵ Specific recommendations can be referenced in Appendix D (Hazardous Materials Background Data) of this Draft EIR.

References

Naturally Occurring Asbestos Investigation, Hill Parcel of the Cargill Salt Property, Southwest Corner of Enterprise Drive and Hickory Street, Berlogar Geotechnical Consultants, October 12, 2007

Addendum to Naturally Occurring Asbestos Investigation, Design and Construction Considerations, Hill Parcel of the Cargill Salt Property, Southwest Corner of Enterprise Drive and Hickory Street, Berlogar Geotechnical Consultants, November 9, 2007

FMC Corporation (8787 Enterprise Drive)

FMC historically operated a phosphorus chemicals production facility at 8787 Enterprise Drive in Newark, California. These operations ended in the mid-1990s and the phosphorus chemicals production facilities were removed by the end of 1996. FMC and predecessor companies also manufactured ethylene dibromide (EDB), a soil fumigant, in the western portion of the site. EDB production ceased and the manufacturing and handling facilities were dismantled and removed in 1968. Until December 2002, a portion of the site was used as a hydrogen peroxide transloading facility. Currently, FMC only conducts environmental activities at the site under the terms of an administrative order (Order No. R2-2002-0060, Final

⁴ Naturally Occurring Asbestos Investigation, prepared by Berlogar Geotechnical Consultants, October 2007

⁵ Addendum to Naturally Occurring Asbestos Investigation, prepared by Berlogar Geotechnical Consultants, November 2007

Site Cleanup Requirements and Rescission of Order No. 98-066) adopted by the Regional Water Quality Control Board (“RWQCB”) in May 2002. These activities consist of operation of a groundwater remediation system, groundwater monitoring, and cap maintenance.

Since 1980, a number of investigations have been performed to characterize soil and groundwater quality and hydrogeologic conditions at the FMC site and vicinity. In general, these investigations were designed to delineate the areal and vertical extent of certain volatile organic compounds (VOCs) in soil and the underlying water-bearing zones and to assess the groundwater flow regime.

The investigations have identified two water-bearing zones within the upper 70 feet of the soil beneath the site. The “shallow zone” extends from about 5 to 20 feet below grade and consists of silty clay and clayey sand. The underlying Newark aquifer extends from about 50 to 70 feet below grade and consists primarily of sand. The two water -bearing zones are separated by the 30-foot thick Newark aquitard.

The principal compounds detected in soil and groundwater beneath the site are EDB and 1,2-dichloroethane (1,2-DCA). These compounds are present in both the shallow zone and the Newark aquifer in the area (Parcels B and I) where EDB was formerly produced and handled. The concentrations in the Newark aquifer are lower than those in the shallow zone, and the concentrations in both zones have decreased significantly since the institution of remedial action (extraction and treatment) in 1986 (Newark aquifer) and 1989 (shallow zone).

Pursuant to an administrative order issued by the RWQCB, FMC initiated remedial measures in the Newark aquifer in January 1986. The Newark aquifer remediation program currently involves the extraction of groundwater from wells DW-2 and DW-8 with treatment by granular activated carbon (GAC) to remove dissolved EDB and other organic constituents prior to discharge to the Union Sanitary District (USD) sanitary sewer. Concurrent with the installation of the Newark aquifer remediation program, an asphalt cap with a concrete-lined perimeter drainage ditch was constructed over the area of highest EDB concentrations. The asphalt cap prevents the direct infiltration of precipitation into the EDB area to minimize the possibility of leaching into the shallow zone groundwater, prevents direct exposure to EDB-impacted soils and reduces the potential migration of vapors that may originate from the soil and shallow groundwater, and prevents surface water from contacting EDB-impacted soils. This area is referred to as the “EDB capped area.”

Based on the results of previous investigations, a shallow zone groundwater extraction and containment system was designed to limit the lateral migration of EDB and remediate shallow zone groundwater conditions (Geosystem, 1987). The shallow zone system includes 17 extraction wells connected to a vacuum pump via a common header. The extracted water is transferred to the existing GAC units for treatment and discharge to the USD sanitary sewer. The shallow zone extraction and containment system has been operating since August 1989.

As part of the requirements of a 1998 RWQCB order, the Proposed Final Remedial Action and Cleanup Standards Report (England Geosystem, 2001a) was submitted to the RWQCB and accepted in a letter dated September 13, 2001, (RWQCB, 2001) contingent upon submission of a Risk Management Plan (RMP). In December 2001, FMC submitted the RMP (England Geosystem, 2001b) to the RWQCB and the RWQCB accepted the RMP in a letter dated June 20, 2002.

In May 2002, the RWQCB adopted Order No. R2-2002-0060, Final Site Cleanup Requirements and Rescission of Order No. 98-066. This Order provides RWQCB's determination that the site has been adequately characterized, and that the final remedial actions consist of the following: (1) installation of an engineered cap over the former phosphorus pit area on Parcel A, with no further action required for phosphorus in groundwater; (2) implementation of a steam-enhanced dual phase groundwater extraction system for soil and shallow zone groundwater impacted with VOCs on Parcels B and I, and continued operation of the shallow zone and Newark aquifer groundwater extraction system; (3) no further action for TPH in soils and groundwater on Parcel C; (4) excavation and removal of isolated soil impacted with arsenic on Parcel D; and (5) continued groundwater monitoring and reporting. This is the current order governing remediation and monitoring activities at the FMC site.

FMC has implemented the capping of the former phosphorus pits area on Parcel A ("P4 capped area") and the excavation and removal of isolated soil impacted with arsenic on Parcel D.

In January 2002, FMC submitted a work plan to the RWQCB for implementing a full-scale remediation system using steam-enhanced dual phase extraction (DPE). The DPE system was designed to operate in conjunction with the shallow zone groundwater extraction and containment system. FMC implemented the DPE system within the EDB-impacted area. In December 2003, FMC submitted the Implementation Report, Final Remedial Measures, EDB-Impacted Area (FMC, 2003) to the RWQCB. The report documented the DPE system startup and

presented baseline sampling results and system operation monitoring data relative to the EDB-impacted area in Parcels B and I.

Initial startup testing activities for the DPE system began on November 11, 2002, but experienced operational difficulties. In September 2004, FMC submitted the Curtailment Report for Dual Phase Extraction with Steam Injection (GeoTrans, 2004), in accordance with the Order. The report proposed discontinuation and removal of the DPE system, with continuing operation of the groundwater treatment system and implementation of institutional controls.

In June 2006, FMC submitted the Revised Curtailment Report and Feasibility Study for EDB-Impacted Area of Parcels B and I, to the RWQCB. This report updated the previously submitted Curtailment Report and included an updated feasibility study evaluating alternatives to remediate EDB-impacted soil.

On October 3, 2007, FMC submitted the Five Year Status and Monitoring Report – January 2002 through June 2007 to the RWQCB in accordance with the current Order. This report included preliminary modeling of potential effects of localized ACWD groundwater extraction on the Site.

In addition to the activities described above, FMC has conducted building and production equipment decommissioning and demolition, UST and AST removal, pond closures, and other soil and groundwater management activities. The most recent summary of site environmental activities is provided in Annual Compliance Report – Calendar Year 2010, Groundwater Extraction and Treatment System Monitoring (Parsons 2011).

Gallade Property (Barron-Blakeslee; 8333 Enterprise Drive)

During late 1972 through early 1973, the subject site was developed by Purex Corporation for Baron Blakeslee, Inc. (BBI). Operations at the site included storage and distribution of virgin chemical products and recovery of chlorinated and fluorinated solvents from waste liquids. In 1993, BBI ceased its solvent recovery operation at the site and proceeded to close its hazardous waste management units (HWMUs) in accordance with its Resource Conservation and Recovery Act (RCRA) Part B operating permit requirements. The HWMUs were cleaned and closed according to DTSC requirements.⁶ As of 2007, Gallade Enterprises LLC

⁶ Final Site Cleanup Requirements Order No. R2-2007-0005, January 29, 2007

owned and operated a virgin-chemical-product storage and distribution facility at the site.

Since 1993, several phases of environmental characterization have been conducted at the site. Previous investigations have indicated that soil and groundwater at the site and groundwater downgradient (westward) from the site have been impacted by VOCs. Chemicals of potential concern (COPCs) include trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane, (1,1,1-TCA), 1,1-dichloroethene (1,1-DCE), methylene chloride, and Freon-113. Based on the frequency of detection, the concentrations detected, and the toxicity, PCE and TCE are considered the primary COPCs in soil, and TCE is considered the primary COPC in groundwater.⁷

Due to known soil and groundwater contamination and the risks associated with potential exposure to contaminants onsite, remedial action for soils, soil vapor, and groundwater was warranted. Order No. R2-2007-0005 specified that the Gallade property would have to be remediated in accordance with the cleanup plan discussed in finding 11 of the Order. Like the FMC Corporation property, the Gallade property water areas also consist of the shallow groundwater zone and the Newark Aquifer. The Revised Feasibility Study and Remedial Action Plan (RAP) were submitted to RWQCB on January 31, 2006, and has been implemented consistent with the Order described above. Soil excavation and In situ thermal treatment of shallow soil and groundwater were proposed as the preferred remediation technologies for the site. The RAP also contained a risk management plan.

A semi-annual status report was submitted in December 2006, and again in August 2007. In the July 2008-December 2008 semi-annual status report, it was concluded that the VOC plume in the shallow zone groundwater appeared to be stable. VOC concentrations at the monitoring wells onsite remained consistent with previously-observed concentrations, which were still above standards set forth in finding 11 of the RWQCB order.

Soil-vapor monitoring revealed that industrial and/or residential environmental screening level criteria were exceeded for vinyl chloride at non-residential soil-vapor wells onsite.

⁷ Ibid

The report recommended continuation of the semiannual groundwater monitoring per the site cleanup requirements detailed in the Order, and to continue semiannual soil-vapor monitoring at all residential and non-residential soil-vapor wells to define long-term trends and evaluate potential concerns of vapor intrusion in adjacent residential properties.

Jones-Hamilton (8400 Enterprise Drive)⁸

Based on RWQCB Order No. 98-067, the Jones-Hamilton Company operated a chemical blending and packaging facility that handled and stored various chemical compounds at the site since 1956. These chemical compounds included gasoline, sodium bisulfate, hydrochloric acid, arsenic acid, chromic acid, cupric acid, formaldehyde, triethanolamine, pentachlorophenol, a variety of surfactants, and a variety of hydrocarbon-based solvents. Previous activities include the operation of two hazardous waste management units (surface impoundments), the loading and unloading of a variety of raw waste liquids and recovered chlorinated chemical products, and the storage and distribution of these chemicals onsite. Unauthorized releases of some of these chemicals reportedly occurred during the past years of operation.

The site is located within the Niles Cone groundwater basin and the Shallow Zone. Onsite and offsite investigations of the site confirmed that significant shallow groundwater pollution has occurred below the site. Pentachlorophenol (PCP) and 1,2- DCA were found in the shallow groundwater zone (0-20 feet) beneath the site at concentrations of up to 1,000 ppb and 2,000 ppb, respectively. The main source of the PCP was the impoundment areas onsite. Additional chemical compounds, such as 1,1,1-trichloroethane, 1,1-dichloroethane, benzene, chloroform, ethylbenzene, methylene chloride, 1,2 dichlorobenzene, aaphthalene, toluene, 2-butanone, truchlorotrifluoroethane, xylene, 4-methylphenol, and benzoic acid were found at low concentrations.

The RWQCB order states that polluted soil has been excavated in the vicinity of the two surface impoundments. The two surface impoundments were closed October 1, 1988. Closure involved encapsulation by a slurry wall followed by a synthetic liner, clay, and an asphalt cover, with groundwater extraction wells to create an inward gradient. However, VOCs are still present in soils onsite.

⁸ RWQCB Order No. 98-067, July 1998

SSH LLC (37445 Willow Street)

According to RWQCB Order No. 98-094, Foster Chemical Company operated a chemical packaging and distribution facility on this site from 1975 to 1987, which was operated and owned by Frank Peckett. Chemicals used and stored by Foster have been found in soil and groundwater beneath the site. In 1985, the business was convicted of unlawful storage and disposal of hazardous wastes pursuant to the California Health and Safety Code.

Onsite and offsite investigations confirmed significant soil and groundwater pollution below the site. Chemical compounds detected in the Shallow Groundwater Zone (0-20 feet) beneath the site include acetone, 2-butanone, 1,1-dichloroethane, 1,2-DCA, ethylbenzene, 2-hexanone, methylene chloride, 4-methyl-2-pentanone, tetrachloroephene, toluene, 1,1,1-trichloroethane, total xylenes, benzoic acid, isophorone, and pentachlorophenol. Pollution in the Newark Aquifer has also been confirmed.

Soils

Polluted soil was excavated in 1994. According to the Soil Excavation and Treatment Plan, over 2,500 cubic yards of soils was excavated and treated onsite. Based on soil quality results of the sidewall samples, soils from the excavations were noted below 1 µg/kg, or ppb.⁹

Sidewall samples collected from the northern portion of excavation area B-22, and the north-eastern portion of excavation area BH-14 indicate that elevated levels of VOCs remain in the soil. However, based on verification soil samples collected from stockpiles, all treated soils did not contain VOCs above the reporting limits.

The Soil Excavation and Treatment Plan stated that since more than 2,500 cubic yards of soil was excavated and treated from the known or suspected hot spots onsite, a large portion of the potential contamination sources had been removed and treated. Although portions of the site sill had elevated levels of VOCs, the plan did not recommend conducting further soil excavation because groundwater extraction, treatment, and monitoring was occurring (and continues to occur) onsite.

⁹ Soil Excavation and Treatment Plan, prepared by Harza, April 1994

Furthermore, the Facility Closure Report¹⁰ for the onsite storage facility indicated that low to moderate concentrations of VOCs and petroleum hydrocarbons existed onsite beneath the warehouse. It was noted in the report that the former storage facility onsite is within a closed warehouse building, capped by a concrete slab, and underlain by a confining clay layer; impacted soil was also located well above the water table. Onsite constituents detected did not appear to be the result of hazardous materials storage at the facility, and no organic compounds were detected that appeared to be strictly associated with the former storage area. Although lead and copper were detected in concrete samples at concentrations slightly above background, the impact appeared limited. The soil beneath concrete did not exhibit any elevated materials.

Chlorinated compounds were detected in soil infrequently and at low levels. Toluene, ethylbenzene, xylenes and acetone were also detected at low to moderate concentrations. Diesel and kerosene were detected at moderate concentrations (less than 900 ppm). The report noted that these compounds in general are more easily degraded and are relatively immobile in soil. This, combined with the clay layer, means that constituents in the soil are unlikely to migrate.

The report concluded that the closure activities performed appear to have effectively minimized the need for further maintenance and controlled to the extent necessary the release of hazardous constituents or hazardous waste as required by closure requirement 40 CFR 265.111.

Groundwater

Multiple RAPs have also been submitted to RWQCB for the site; the latest plan was submitted in March 2008. Groundwater extraction and treatment began in 1990 and focused on the Shallow Zone. Continuous monitoring has occurred at the site since that time.

As of the Second Semiannual Groundwater Monitoring Report (2009)¹¹, VOCs were detected in Shallow Zone waters. The compound 1,2-dichloroethane is the primary COC at the site and was detected at concentrations ranging from 31 to 280

¹⁰ Facility Closure Report, prepared by Harza Consulting Engineers and Scientists, February 1996

¹¹ 2008 Second Semiannual Groundwater Monitoring Report, prepared by EnviroForensics, January 2009.

micrograms per liter ($\mu\text{g/L}$). Other VOCs detected on site in shallow-zone groundwater samples were:

- ◆ 1,1,1-Trichloroethane (1,1,1-TCA);
- ◆ 1,1-Dichloroethane (1,1-DCA);
- ◆ 1,1-Dichloroethene (1,1-DCE);
- ◆ cis-1,2-Dichloroethene (cis-1,2-DCE);
- ◆ Chloroethane;
- ◆ Diisopropyl Ether;
- ◆ Tetrachloroethene (PCE);
- ◆ Trans-1,2 Dichloroethene; and
- ◆ Trichloroethene (TCE).

In addition to 1,2-DCA, five other VOCs were detected in shallow-zone groundwater samples exceeding their respective MCLs, including 1,1-DCA; 1,1-DCE; cis- 1,2-DCE, PCE and TCE.

It should be noted that during the 2008 Second Semiannual Groundwater Monitoring event, due to well head access limitation, no samples were collected from the Newark Aquifer.

Torian Property (37555 Willow Street)¹²

The Torian site consists of two parcels and one address, and was used for some limited agricultural uses prior to the early 1950s. The first known industrial use of the property was by the E.J. Lavino Company in the early 1950s. The company used the site until 1972 and specialized in industrial refractories. Bins and mixers were housed onsite for blending of brick materials and presses for making refractory bricks. Raw materials such as chromite ore were imported by rail and off-loaded onto the large concrete pad at the southwestern corner of the onsite building complex. Above-ground Storage Tanks (ASTs) were located onsite. The tanks may have been used for storage solutions used in brick making, such as sodium silicate or sodium bichromate. The tanks may have also been used for storage of fuel oil used as a backup fuel for firing the brick ovens. Natural gas is believed to have been the primary fuel used to fire the ovens.

¹² Environmental Site Assessment Sampling Program, prepared by Crawford Consulting, 2006

The facility buildings and operation areas built in the early 1950s for the brick company were later used by other businesses at the site. Some buildings were modified or removed but no new buildings were added to those constructed in the early 1950s. Site modifications are believed to have occurred between the early 1950s and the early 1970s.

A trucking firm may have occupied a portion of the buildings from 1970s to about 1990. Mobility Industries, an automotive and van conversion company, operated onsite from 1973 to 1991. J-Cam Fiberglass operated onsite from 1989 until about 1999. C.P. Construction used a portion of the site for equipment storage for several years beginning in about 1998. In 2004, hazardous building materials including asbestos-containing materials and transformer solids were removed from site buildings and the buildings were then demolished.

Soil Sampling

Several areas onsite were targeted for soil sampling during the Site Assessment Sampling program. These areas include a former excavation area, the brick plant operations area, an imported materials area, the Plummer Creek drainage, an outdoor storage area, an AST area, and several fluid spill areas onsite.

Refractory brick waste and fill materials had been deposited onsite. Contaminants within the deposited waste included antimony, arsenic, cadmium, cobalt, copper, chromium, lead, mercury, nickel, vanadium and zinc. Analysis of these waste materials was non-detect for VOCs, gasoline and polycyclic aromatic hydrocarbons (PAHs). However, low concentrations of PAHs were detected in the fill samples. Some motor oil was discovered during the waste and fill sampling, at concentrations ranging from 28 milligrams/kilogram (mg/kg) up to 69,000 mg/kg in various locations onsite. In one fill soil sample, acetone and carbon disulfide was discovered onsite at 150 and 5.1 micrograms per kilogram ($\mu\text{g}/\text{kg}$), respectively. Additionally, asbestos was detected below the hazardous waste level (one percent) in some fill samples onsite.

A soil sample from the Plummer Creek drainage area was analyzed for metals, pesticides, and PCBs. Concentrations of these pollutants did not appear to be elevated.

The former AST area soil samples indicated the presence of motor oil, petroleum hydrocarbons, and some low concentrations of PAHs. At a stormdrain area onsite, pesticides and metals appeared limited in extent. Dieldrin was detected at a

concentration of 0.054 mg/kg. Chromium, copper, mercury and zinc also had somewhat elevated concentrations.

Copper, lead, vanadium and zinc were elevated in a surficial soil sample collected in a truck loading dock area.

Water Sampling

The two water zones of concern are the Shallow Zone and the Newark Aquifer, which have been impacted by chemicals from operations at five nearby chemical manufacturing and recycling sites (discussed above). The Torian property is hydraulically downgradient of two of the chemical facilities. VOCs are known to exist in the groundwater of the Shallow Zone.

Shallow Zone sampling occurred onsite. 1,2-DCA and several other VOCs were detected in the water sample areas. The highest concentration of 1,2-DCA (58 µg/L) was detected closest to the eastern perimeter of the property. Additionally, pentachlorophenol, a semi-volatile organic compound (SVOC) was detected onsite. It should be noted that this SVOC is known to be associated with the Jones-Hamilton site (discussed above). No other SVOCs were detected. Gasoline, motor oil and dieldrin were also detected; it is anticipated that these are from the fill materials in the soils onsite.

Several metals were also detected in groundwater sampling locations in exceedance of MCLs: antimony, arsenic, nickel and cadmium. Other metals were found in exceedance of background concentrations such as barium, chromium, copper, molybdenum, vanadium and zinc. These concentrations were below MCLs but were elevated compared to other site locations sampled.

Trumark (8375 Enterprise Drive)¹³

A Phase I was prepared for the Trumark site on July 20, 1998, by Lowney Associates. According to the Phase I, the Trumark site was owned between 1961 and 1971 by the Barr Manufacturing Corporation. The type of manufacturing performed by the corporation is not clear.

The Phase I Report identified onsite soil and groundwater concerns. It should be noted that the Phase I states that the Gallade facility (discussed above) is located

¹³ Phase I Report prepared by Lowney Associates, July 20, 1998

adjacent to the Trumark site, and that groundwater beneath the Trumark site has been significantly impacted from VOCs generated by from the Gallade facility. The VOC concentrations are consistent with the offsite source at the Gallade facility. The Phase I indicates that VOCs are also present in on-site soils. No organochlorine pesticides, PCBs or petroleum fuels were detected in soil samples collected from the site. Concentrations of arsenic, chromium and lead appeared to be consistent with background levels found in Bay Area soils. Two VOCs, TCE and PCE, were detected in the soil samples. Contaminants such as TPH, MTBE, arsenic, chromium and lead were also detected in soil samples discussed in the Phase I report.

The Phase I indicates that the Health Risk Assessment (HRA) performed for the Gallade facility indicated that there is no significant risk to human health at the Trumark site to future workers who may be exposed through VOCs that volatilize from ground water, migrate through the soil, and accumulate in future buildings that might be constructed onsite. The HRA concluded that there is no significant risk to human health at the site as a result of the releases at the adjacent Gallade facility. In addition, the RWQCB and the Newark Fire Department indicated that there would not be any development restrictions at the site as a result of the impacted ground water.

However, it should be noted that the general conclusions drawn in the Phase I indicate that the site might only be developed with industrial or commercial use. The Phase I indicates that more remediation would be necessary if significant soil contamination is detected during construction; all contamination materials would need to be handled appropriately. The Phase I also suggested that an onsite monitoring well may need to be relocated to accommodate future development. It would be the responsibility of the property owner to destroy and replace the well.

4.7.2 REGULATORY SETTING

The EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes responsibility for issuing permits and monitoring and enforcing compliance. The management of hazardous materials and waste within the State of California is under the jurisdiction of the California Environmental Protection Agency (Cal/EPA) and the DTSC. The Cal/EPA was created by the State of California to establish a cabinet level voice for the protection of human health and the environment and to assure the coordinated deployment of State resources. The DTSC regulates hazardous waste, clean-up of existing contamination, emergency planning, and identifies

alternatives to reduce the hazardous waste produced in California. Additionally, the nine RWQCBs regulate the quality of water within the State, including contamination of State waters as a result of hazardous materials and/or waste. Other local departments (i.e., fire department, environmental health services department, etc.) may also have jurisdiction over hazardous materials. Refer to Table 4.7-1 (Summary of Hazardous Materials Regulatory Authority).

4.7.2.1 FEDERAL FRAMEWORK

ENVIRONMENTAL PROTECTION AGENCY

The EPA provides leadership in the nation's environmental science, research, education, and assessment efforts. The EPA works closely with other Federal agencies, State and local governments, and Indian tribes to develop and enforce regulations under existing environmental laws. The EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes responsibility for issuing permits and monitoring and enforcing compliance.

OTHER FEDERAL AGENCIES

Other Federal agencies that regulate hazardous materials include the Occupational Safety and Health Administration (OSHA), the U.S. Department of Transportation (DOT) and the National Institute of Health (NIH). Table 4.7-1 identifies the Federal laws and guidelines govern hazardous materials:

TABLE 4.7-1 SUMMARY OF HAZARDOUS MATERIALS REGULATORY AUTHORITY

Federal Agencies	
U.S. Department of Transportation (DOT)	Hazardous Materials Transport Act – Code of Federal Regulations (CFR) 49
Environmental Protection Agency (EPA)	Federal Water Pollution Control Act (Clean Water Act)
	Clean Air Act
	Toxic Substance Control Act
	Resource Conservation and Recovery Act (RCRA)
	Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
Occupational Safety and Health Administration (OSHA)	Superfund Amendments and Reauthorization Act (SARA)
	Federal Insecticide, Fungicide and Rodenticide Act
Occupational Safety and Health Administration (OSHA)	Occupational Safety and Health Act and CFR 29
State Agencies	
Department of Toxic Substances Control (DTSC)	California Code of Regulations (CCR)
Department of Industrial Relations (CAL-OSHA)	California Occupational Safety and Health Act, CCR Title 8
State Water Resources Control Board (WRCB) and Regional Water Quality Control Board (RWQCB)	Porter-Cologne Water Quality Act Underground Storage Tank Law
Health and Welfare Agency	Safe Drinking Water and Toxic Enforcement Act
Air Resources Board and Air Pollution Control District	Air Resources Act
Office of Emergency Services (OES)	Hazardous Materials Release Response Plans/Inventory Law
Department of Food and Agriculture	Food and Agriculture Code
State Fire Marshal	Uniform Fire Code, CR Title 19
Local Agencies	
Alameda County Department of Environmental Health	County Hazardous Waste Management Plan Certified Unified Program Agency (CUPA)
Alameda County Fire Department	California Fire Code (CFC)
Alameda County Water District	Groundwater Uses Protection Agency

4.7.2.2 STATE FRAMEWORK

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

The Cal/EPA and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- ◆ Public Safety/Fire Regulations/Building Codes
- ◆ Hazardous Waste Control Law
- ◆ Hazardous Substances Information and Training Act
- ◆ Underground Storage of Hazardous Substances Act

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Within Cal/EPA, the DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

4.7.2.3 LOCAL FRAMEWORK

ALAMEDA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH)¹⁴

The Hazardous Materials/Waste Program for waste generation was established by the County Board of Supervisors in 1985 and recognized by DTSC through a Memorandum of Understanding. In quick succession, the County's hazardous materials management plan program, underground storage tank program, tiered permitting program, and risk management program also started.

The Alameda County Department of Environmental Health (ACDEH) Certified Unified Program Agency (CUPA) is the administrative agency that coordinates and enforces numerous local, State, and Federal hazardous materials management and environmental protection programs in the County. The ACDEH administers the following programs:

¹⁴ DEH Hazardous Materials/Waste Program Overview, located online at <http://www.acgov.org/aceh/hazard/>, accessed February 8, 2011

- ◆ Hazardous Materials Business Plan Program
- ◆ Hazardous Waste Generator Program
- ◆ Underground Storage Tank Program
- ◆ California Accidental Release Program
- ◆ Tiered Permitting Program
- ◆ Aboveground Storage Tank Program

The ACDEH program has jurisdiction in the following cities: Alameda, Albany, Castro Valley, Dublin, Emeryville, Piedmont, Newark, San Lorenzo, Sunol, and the unincorporated areas of Fremont, Hayward, Livermore, Pleasanton, San Leandro and parts of Byron, Mountain House and Tracy.

CITY OF NEWARK GENERAL PLAN

Transportation of Hazardous Materials. As better information becomes available on hazardous materials and associated risks, there will be a need to review truck routes to make sure they can adequately provide for the safe transporting of hazardous materials/wastes. As practical, routes should be located away from sensitive land uses. The City should update the area plan that identifies the transportation routes used for major hazardous materials and transportation. After the update, actions could be taken to allow vehicles transporting hazardous materials to travel safely, with little delay and to avoid busy streets or intersections. Moreover, routes should provide good access for emergency cleanup and medical vehicles. North/south and east/west parallel routes should also be assessed so that a driver can select a bypass route should there be traffic congestion on one truck route.

Furthermore, the following goal, policy and programs from the General Plan Environmental Safety Element are applicable to the Dumbarton TOD Specific Plan:

Goals and Policies

- Goal 4. Protect Newark residents and workers from potential hazards associated with commercial and industrial activities.
- Policy a. Seek to prevent hazardous materials, including toxic wastes, accidents, e.g., leaks, spills, and vapor releases, and minimize effects if they occur.

Program 1. Ensure that all new construction meets City, State, and Federal requirements for the storage and handling of hazardous materials before building permits are issued.

Program 5. Take actions to identify and where possible, eliminate existing unacceptable relationships between hazardous materials users and adjoining sensitive land uses. This includes actions needed to protect sensitive environments

4.7.3 ENVIRONMENTAL ANALYSIS

4.7.3.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact related to hazards and hazardous materials 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, would it 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, would the project result in a safety hazard for people residing or working in the project area
- ◆ For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area
- ◆ Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- ◆ 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.

4.7.3.2 AREA OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or not reasonably foreseeable:

- ◆ Safety hazard as a result of a private airstrip or Airport Land Use Plan
- ◆ Safety hazard as a result of wildland fires

The Dumbarton TOD Specific Plan area is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip. In addition, the Specific Plan area is not within an area at risk of wildland fires.

4.7.3.3 POTENTIAL IMPACTS AND MITIGATION MEASURES

HAZARDOUS MATERIALS SITES

- 4.7-1 The sites that are included on a list of hazardous materials sites compiled pursuant to government code section 65962.5 and, as a result, could create a significant hazard to the public or the environment.**

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

As discussed above, there are eight properties within the Dumbarton TOD Specific Plan area that are known to have contaminated groundwater and soils. Substances identified on these properties include VOCs, petroleum and gasoline, phosphorous, various metals, arsenic, PBCs, PAHs, and other chemicals. For all eight properties, soil and water sampling have been performed through the form of a Remedial Action Plan, Hazard Mitigation Plan, Phase II Report, Soils or Groundwater Monitoring Report, or other type of contaminant testing and disclosure documentation. Many of these documents contain recommendations or mitigations associated with remediation of properties, as well as appropriate pollutant thresholds that would need to be achieved prior to development after appropriate property remediation has occurred. It should be noted that soils, groundwater, and/or property decontamination and remediation are currently being managed for each individual property with residual contamination in accordance with applicable Federal, State (including RWQCB and DTSC), and local procedures, protocols, and standards. The Dumbarton TOD Specific Plan incorporates properties owned

by multiple property owners, and as such, properties within the Specific Plan area with any residual contamination would be remediated and developed on a case-by-case basis with regulatory oversight.

In addition to meeting applicable Federal, State, and local standards, the following mitigation measures, would reduce impacts to a less than significant level.

Mitigation Measures

- 4.7-1a Prior to the issuance of a building permit for an individual property within the Specific Plan area with residual environmental contamination, the agency with primary regulatory oversight of environmental conditions at such property ("Oversight Agency") shall have determined that the proposed land use for that property, including proposed development features and design, does not present an unacceptable risk to human health, including, if applicable, through the use of institutional controls, site-specific mitigation measures, a risk management plan and deed restrictions based upon applicable risk-based cleanup standards. Remedial action plans, risk management plans and health and safety plans shall be required as determined by the Oversight Agency for a given property under applicable environmental laws, if not already completed, to prevent an unacceptable risk to human health, including workers during and after construction, from exposure to residual contamination in soil and groundwater in connection with remediation and site development activities and the proposed land use.
- 4.7-1b Prior to grading permit issuance, areas to be graded shall be cleared of debris, significant vegetation, pre-existing abandoned utilities, buried structures, and asphalt concrete.
- 4.7-1c Prior to the import of a soil to a particular property within the Specific Plan area as part of that property's site development, such soils shall be sampled for toxic or hazardous materials exceeding applicable Environmental Screening Levels for the proposed land use at such a property as required by the Oversight Agency prior to importing to such a property.
- 4.7-1d Areas containing Naturally Occurring Asbestos (NOA) within the Dumbarton TOD Specific Plan area shall be confirmed prior to grading permit issuance. Prior to grading or construction of a particular property

containing NOA, an application from the Bay Area Air Quality Management District shall be required for projects over one-acre in size. Dust control and an NOA air monitoring program shall be required. Additionally, the following general construction practices shall be adhered to for those properties containing NOA:

- ◆ The site shall be maintained in a wet condition to prevent airborne dust. Onsite soil shall be wetted during grading and trenching operations.
- ◆ Over excavation and removal of NOA material to one foot below utility is recommended for utility corridors.

4.7-1e On those properties where NOA is known to occur, the following measures shall be used as guidance only. The specific requirements for each property shall be determined by the risks involved and appropriate mitigation measures required to protect human health.

- ◆ Detached Single Family Residences – A minimum three-foot soil cover in building pad areas, extending at least five feet beyond the building perimeter is recommended. Deed restrictions should be considered (such as not allowing swimming pools) if there is less than 10-feet of soil cover over the serpentinite with NOA.
- ◆ Podium Type Multi-Unit Residential Structures – A minimum two-foot thick soil cover is recommended.
- ◆ Commercial or Industrial Developments – A minimum two-foot thick soil cover is recommended.
- ◆ Pavement and Concrete Hardscape – If NOA material is covered to prevent airborne dust after construction, soil cover is not required.
- ◆ Landscaped Areas – A minimum two-foot thick soil cover in landscaped areas is recommended.

Level of Significance After Mitigation: Less Than Significant

PUBLIC OR ENVIRONMENTAL HAZARDS

- 4.7-2 The proposed project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

As discussed above, certain properties within the Specific Plan area have residual soil and/or groundwater contamination and may require remediation as determined by the Oversight Agency prior to site development.

Implementation of the proposed project could therefore result in the transport of hazardous materials during remediation and construction activities, including the removal of contaminated soils, from any property requiring additional remediation pursuant to Mitigation Measure 4.7-1a. However, handling measures would be required by the City, County (ACDEH) and the Bay Area Air Quality Management District throughout the life of the project. These measures include standards and regulations regarding the storage, handling, and use of these materials.

Approval of the proposed project would enable the implementation of the Dumbarton TOD Specific Plan, which includes approximately 206 acres of residential, mixed-use, commercial retail, commercial office, and parks and recreational open space uses all centered on a transit station. No significant hazards to the public or environment are anticipated during the occupancy of the proposed project and based upon the mitigation measures required by this Section 4.7. Use of hazardous materials on the project site may include cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance of the proposed uses, specifically commercial uses. With proper use and disposal, as required by Federal, State, and local laws and regulations, these chemicals are not expected to result in hazardous or unhealthful conditions for those that would utilize and reside within the Dumbarton TOD Specific Plan area. A less than significant impact would occur in this regard after compliance with applicable Federal, State, and local regulations.

Mitigation Measures

4.7-2 No mitigation required.

Level of Significance After Mitigation: Not applicable

HAZARDOUS MATERIALS

- 4.7-3** The proposed project may create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment.

Level of Significance Before Mitigation: Potentially Significant.

Impact Analysis

The Dumbarton TOD Specific Plan proposes approximately 206 acres of residential, mixed-use, commercial retail, commercial office, and parks and recreational open space uses all centered on a transit station. Use of hazardous materials on the project site after construction may include cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance of the proposed uses, specifically commercial uses. However, the storage and use of these materials would be regulated by the Fire Department and Alameda County Environmental Health Department.

With proper use, transport, and disposal, as required by local, State, and Federal laws and regulations, these chemicals are not expected to result in hazardous or unhealthful conditions for those that would utilize and reside within the Dumbarton TOD Specific Plan area. A less than significant impact would occur in this regard with implementation of Mitigation Measures 4.7-1a through 4.7-1i and compliance with applicable Federal, State, and local regulations.

Mitigation Measures

Implement Mitigation Measures 4.7-1a through 4.7-1e.

Level of Significance After Mitigation: Less Than Significant

EMERGENCY RESPONSE/EVACUATION PLAN

4.7-4 The proposed project may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Level of Significance Before Mitigation: Less Than Significant.

Impact Analysis

The City has adopted two emergency response plans.¹⁵ The “Emergency Operations Plan” is the City’s primary plan which provides operational procedures for responding to a variety of emergency conditions, including earthquakes, flooding, tsunamis, hazardous material incidents, and civil defense conditions. The guidelines included in this plan address the needs of the entire community and identify key responsible agencies and personnel. While this plan is considered acceptable and able to address City-wide emergencies, the City has established an Emergency Operations Center that can more effectively and efficiently evaluate and deal with City-wide emergencies.

The City’s second response plan is the “Chemical Emergency Preparedness Supporting Plan.” This plan establishes very thorough standard operating procedures for responding to a chemical spill or other hazardous materials incidents within the City. However, since the City is no longer the CUPA, the City should revise the plan to reference the County Area Plan.

The City’s two emergency plans are considered to be adequate and should be continuously updated and revised to incorporate state-of-the-art emergency planning techniques. An ongoing commitment to staff training for emergency purposes is central to the success of these programs.

As part of the City’s emergency response planning, cooperation is maintained with other emergency response agencies. For example, there is cooperation on fire response among the Cities of Newark, Union City, and Fremont whenever the need arises. Formal cooperation is available upon the declaration of an emergency, as set fourth in the various jurisdiction’s disaster or emergency operations plans.

¹⁵ City of Newark General Plan, Environmental Safety Element.

It is not anticipated that future remediation and construction would interfere with the Emergency Plans described above. Furthermore, upon buildout of the Dumbarton TOD Specific Plan, it is not anticipated that day to day residential, commercial, and mixed-use land uses would interfere with the Emergency Plans. Thus, the project would have a less than significant impact upon adopted emergency response and emergency plans.

Mitigation Measure

4.7-4 No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.7.3.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

HAZARDS AND HAZARDOUS MATERIALS

4.7-5 Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable impacts associated with hazards and hazardous materials.

Level of Significance Before Mitigation: Potentially Significant Impact.

Impact Analysis

For hazards and hazardous materials, the study area considered for the cumulative impact of other projects consists of: (a) the area that could be affected by proposed project activities; and, (b) the areas that could be affected by other projects whose activities could directly or indirectly affect the presence or fate of hazardous materials on the proposed project site. Additional hazardous materials investigations on a project-by-project basis would reduce the existing human health risk from on and offsite contamination.

Compliance with Federal, State, and local regulations would ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public on a case-by-case basis, as the cumulative projects are implemented. Impacts in this regard would be less than significant with

implementation of recommended mitigation measures and compliance of with applicable Federal, State, and local regulations.

Mitigation Measures

4.7-6 Implement Mitigation Measures 4.7-1a through 4.7-1e.

Level of Significance After Mitigation: Less Than Significant.

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4.8 HYDROLOGY, DRAINAGE, AND WATER QUALITY

This section evaluates potential hydrology, drainage, and water quality impacts that could result from implementation of the Dumbarton Transit Oriented Development (TOD) Specific Plan. This section summarizes information contained within the Infrastructure chapter of the Dumbarton TOD Specific Plan, which was prepared by BKF Engineers and the Water Supply Assessment (WSA) prepared for the project by the Alameda County Water District (refer to Appendix E). Other resources, references, and documents used to prepare this section are identified below, as well as in the text of this section and corresponding footnotes.

- ◆ Alameda County Water District, *Urban Water Management Plan 2006-2010, Public Review Draft*, October 27, 2005.
- ◆ California Regional Water Quality Control Board, San Francisco Bay Region, *Final Site Cleanup Requirements and Rescission of Orders NOS. 98-108 and R2-2005-0004 For Honeywell International Inc., for the property located at 8333 Enterprise Drive, Newark, Alameda County*, July 15, 1998.
- ◆ California Regional Water Quality Control Board, San Francisco Bay Region, *Order No. 98-067, Revision to the Site Cleanup Requirements and Rescission of Order No. 89-110, For Jones-Hamilton Company., for the property located at 8400 Enterprise Drive, Newark, Alameda County*, January 23, 2007.
- ◆ EnviroForensics, *2008 Second Semiannual Groundwater Monitoring Report, 374445 Willow Street, Newark, California*, January 2009.
- ◆ Parsons, *Annual Compliance Report Calendar Year 2008, Groundwater Extraction and Treatment System Monitoring FMC Corporation, 8787 Enterprise Drive, Newark, California*, January 30, 2009.
- ◆ URS, *2008 Three-Year Status Report, Ashland Chemical Company, 8610 Enterprise Drive, Newark, California*, August 29, 2008.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 REGIONAL HYDROLOGY

The Specific Plan area is located within the Plummer Creek Watershed. The Plummer Creek Watershed is a network of storm drains and canals replacing small creeks that had drained into the Plummer Creek slough. Average annual rainfall in the watershed is approximately 15 inches near the Bay margin in Newark.

4.8.1.2 SITE DRAINAGE

As described in the Infrastructure chapter of the Specific Plan, various topographic and land use conditions define existing drainage patterns within the Specific Plan

area. City-owned storm drainage lines located within Willow Street and Enterprise Drive convey surface runoff from parcels fronting these streets to the southern limit of the Specific Plan area where it enters the Alameda County Flood Control and Water Conservation District (ACFC) Line F-1 that flows into the San Francisco Bay. A tributary to this canal, the F-6 ditch, generally flows from north to south along the Specific Plan area's easterly boundary and along the west side of Willow Street for a distance of about 1,300 feet. Because the overall vicinity is not built-out to the density that ACFC had planned for, the regional drainage system can accommodate existing flows. However, as the Specific Plan area and surrounding vicinity develops, hydrologic and hydraulic calculations that demonstrate that total runoff to the F-1 channel does not exceed ACFC's design parameters or the capacity of the channel would be required. Most of the undeveloped areas within the western portion of the Specific Plan area do not freely drain to the San Francisco Bay.

4.8.1.3 GROUNDWATER

The Specific Plan area is located within the Niles Cone Groundwater Basin (Basin), which is defined by the Department of Water Resources as a sub-basin of the larger Santa Clara Valley. The Basin is currently listed as having existing beneficial uses for groundwater and is the principal source of local supply for the Alameda County Water District (ACWD). The primary source of recharge for the Basin is local runoff from the Alameda Creek Watershed, which is captured, diverted, and recharged at the ACWD's groundwater recharge facilities. To a lesser extent, infiltration of rainfall and applied water within the ACWD service area also provide a local source of recharge for the Basin. ACWD also uses a portion of its imported State Water Project supplies for groundwater recharge.

West of the Hayward Fault, the Basin consists of a series of flat-lying aquifers separated by extensive clay aquitards. The upper uppermost mapped unit is the Newark Aquitard. The Newark Aquitard is underlain by three aquifers: the Newark Aquifer, Centerville Aquifer and Fremont Aquifer (each separated by an aquitard). The deepest water-bearing units, referred to collectively as the Deep Aquifers, are present at approximately 400 and 500 feet below ground surface (bgs) (and possibly deeper) and are separated from the overlying Fremont Aquifer by a competent regional aquitard.

Investigations within the Specific Plan area have identified two water-bearing zones within the upper 70 feet of the soil profile beneath the site. The "shallow zone" extends from about two to 20 feet below grade and consists of silty clay and clayey

sand. The underlying Newark Aquifer extends from about 50 to 70 feet below grade and consists primarily of sand. The two water-bearing zones are separated by the Newark Aquitard.

Depth to groundwater in the shallow zone varies across the Specific Plan area from about two to 15 feet bgs and varies seasonally with the lowest water levels typically recorded in early fall. The thickness of the Newark Aquifer also varies across the Specific Plan area from approximately 20 to 75 feet bgs. Groundwater in the shallow zone generally flows to the west/southwest. However, the local shallow zone hydraulic gradient is somewhat flat and has been influenced by groundwater extraction systems operating within the Specific Plan area. Groundwater flow in the Newark Aquifer varies from south to southwesterly, and is subject to groundwater extraction activities conducted within the Specific Plan area as well. The low yield of the shallow zone makes it unsuitable as a water supply source and groundwater in both the shallow zone and Newark Aquifer within the immediate vicinity of the Specific Plan area do not have a current beneficial use.

4.8.1.4 WATER QUALITY

SURFACE WATER QUALITY

No surface water features existing within the Specific Plan area. The nearest surface water bodies outside the Specific Plan area consist of the ACFC F-1 Canal and F-6 ditch, Plummer Creek, Newark Slough, and small tidal estuaries. The ACFC F-1 Canal borders the Specific Plan area to the south and the F-6 ditch generally flows from north to south along the Specific Plan area's easterly boundary and along the west side of Willow Street for a distance of about 1,300 feet. Plummer Creek, located south of the Specific Plan area is a tidal tributary of the San Francisco Bay and drains into the Newark Slough, which is located west of the Specific Plan area. A number of estuaries outside the Specific Plan area drain into San Francisco Bay approximately west of the Specific Plan area.

No site-specific data regarding stormwater runoff quality from the Specific Plan area exists. Nonetheless, several pollutants could be present in the stormwater runoff from the Specific Plan area, such as sediment, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria and viruses. Petroleum hydrocarbons result mostly from vehicles. Nutrient and bacterial sources include fertilizers and pet wastes. In addition, it is possible that various chemicals of concern (COCs) associated with past uses within the Specific Plan area could be present in stormwater runoff, as well. Refer to Section 4.7 (Hazards and Hazardous

Materials) for a description of the various COCs associated with past onsite uses within the Specific Plan area.

GROUNDWATER QUALITY

The Basin is characterized by fresh groundwater in eastern portion that transitions into brackish groundwater in the western portion, including the Specific Plan area. This is the result of past over drafting of the Newark Aquifer and other deeper aquifers, which caused an easterly flow and seawater intrusion from the San Francisco Bay toward inland areas.

Both the shallow zone and the Newark Aquifer groundwater are brackish to saline due to saltwater intrusion from the San Francisco Bay. Since the 1960s, ACWD has managed the Basin to prevent any additional seawater intrusion and has an on-going program to pump trapped brackish groundwater back to San Francisco Bay through the District's Aquifer Reclamation Program (ARP) wells. Since September 2003, much of the water pumped from the ARP wells is treated at the Newark Desalination Facility. This facility treats up to five million gallons per day utilizing reverse osmosis to remove salts and other impurities from the brackish groundwater. Treated water is blended with untreated local water and provided as a supply for the water distribution system.

As described in Section 4.7, groundwater in the shallow zone and to a much more limited extent the Newark Aquifer under a portion of the Specific Plan area has been impacted with chemicals of concern (COCs) as discussed further in Section 4.7. However, as noted previously, both the shallow zone and Newark Aquifer within the immediate vicinity of the Specific Plan area do not have a current beneficial use due to high salinity from saltwater intrusion from the Bay and in the shallow zone, low yields. Extensive soil and groundwater remediation has taken place at various properties within the Specific Plan area and groundwater is currently monitored by 32 wells. Pump and treat groundwater activities have also been terminated as certain properties, in lieu of in-situ and natural attenuation remedies, as the pumping activity could potentially create a downward gradient from the Shallow Zone to the underlying Newark Aquifer and result in downward migration of COCs within the Newark Aquitard.

The groundwater monitoring results indicate that that the overall trend of COC concentrations in groundwater were decreasing or remaining stable since implementation of remediation efforts, although some COCs remained above the

Regional Water Quality Control Board's (RWQCB's) Site Cleanup Requirements (SCRs) for some properties.

4.8.1.5 FLOODING

TIDAL FLOODING

The Federal Emergency Management Agency (FEMA) determines floodplain zones in an effort to assist cities in mitigating flooding hazards through land use planning. FEMA also outlines specific regulations for any construction within a 100-year floodplain. The 100-year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. The risk of an area within the 100-year floodplain being flooded in any century is one percent, but statistically the risk is almost 40 percent in any 50-year period.

The Flood Insurance Rate Map (FIRM) map panel that covers the Specific Plan area (06001C0443G) shows that a portion of the Specific Plan area is located within a 100-year tidal flood zone. A portion of the Cargill property is classified as Zone AE, as are some of the western portions of FMC's property (refer to Figure 3-3 [Property Ownership Map]) for a depiction of where various properties are located within the Specific Plan area). In the event of 100-year flooding conditions, water up to an elevation of 8.24 (NGVD 29) feet above sea level would flood the area. The remaining properties within the Specific Plan area are classified as Zone X, indicating that this area has 0.2 percent annual chance of flooding, or is an area of one percent annual chance flood with average depths of less than one foot or with drainage areas less than one square mile. It also indicates areas protected by levees from one percent annual chance flood.

DAM INUNDATION

According to the Association of Bay Area Governments (ABAG), the Specific Plan area is located within the inundation areas for three dams: Del Valle, James H. Turner, and Calaveras, all of which are classified as high hazard dams because their failure could result in a significant loss of life and property damage. The California Division of Safety of Dams inspects each dam on an annual basis to ensure the dam is safe, performing as intended, and is not developing problems.

The Del Valle Dam is an earth fill dam built in 1968 for the Del Valle reservoir. The James H. Turner Dam is an earth fill dam that was completed in 1964 for the Turner reservoir. The Calaveras Dam is a hydraulic fill dam completed in 1925 for the Calaveras reservoir. The existing Calaveras dam is located near active

earthquake faults and has been deemed seismically unsafe by the California Division of Safety of Dams. The San Francisco Public Utilities Commission (SFPUC) lowered water levels to less than 40 percent of capacity in the Calaveras reservoir in response to seismic concerns in 2001.

In the next three to five years, the SFPUC will rebuild the Calaveras dam to restore the reservoir to its historic level of 96,850 acre-feet. The replacement Calaveras dam would consist of a new earth- and rockfill dam of the same reservoir capacity as the existing dam and built immediately downstream of the existing dam. The SFPUC released the final Program EIR for their Water System Improvement Program (WSIP) on September 30, 2008, and approved the WSIP in May 2009, which includes the Calaveras Dam replacement as one of 75 San Francisco and regional projects to be completed by the end of 2015. The Calaveras Dam Replacement Draft EIR was released on October 6, 2009, and the Final EIR was published on January 27, 2011.

4.8.1.6 TSUNAMI, SEICHE, AND MUDFLOW

A tsunami is a large sea wave generated by earthquakes that can travel across the ocean at hundreds of miles an hour and cause tall ten foot (and higher) waves. Fifty-one tsunamis have been recorded or observed within the San Francisco Bay area since 1850. Of these, only the tsunamis generated by the 1960 Chile earthquake and the 1964 Alaska earthquake caused damage in San Francisco Bay. The 1964 tsunami event caused the most damage of the two and had a recorded amplitude of approximately 3.7 feet (1.1 meters) at the Presidio in San Francisco.

Given the location of the Specific Plan area near the southern portion of the San Francisco Bay, its elevation of approximately five to 15 feet above sea level, and the history of tsunamis in the San Francisco Bay, the risk of flooding due to a tsunami event is considered low at the Specific Plan area. In addition, ABAG does not consider tsunami risk high for Alameda County given these circumstances. Furthermore, any development within the Specific Plan area would be subject to the City's flood elevation standards for lands within special flood hazard areas as defined by FEMA (Section 15.40.51 Newark Municipal Code). Among other things, these standards require building pads of all residential structures to be a minimum of 11.25 feet elevation on the National Geodetic Vertical Datum (NGVD). In addition, the City requires that the top of curb grades for residential streets must be no less than ten feet above mean sea level throughout the City (Section 16.08.06 Newark Municipal Code).

A seiche is a wave generated in a closed body of water, which can be compared to the back-and-forth sloshing of water in a bath tub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, or landslides into the water. Bodies of water such as reservoirs, ponds and swimming pools are likely to experience seiche waves up to several feet in height during a strong earthquake. The protected portion of the San Francisco Bay near the Specific Plan area is not subject to potential flooding by seiches. The several levees and long distance of shallow water associated with the adjacent salt ponds between the San Francisco Bay and the Specific Plan area would minimize waves generated by a seiche. In addition, the Specific Plan area is not near any physical or geologic features that would pose a mudflow hazard, such as a volcano or hillside.

4.8.2 REGULATORY SETTING

4.8.2.1 FEDERAL FRAMEWORK

CLEAN WATER ACT

The Federal Clean Water Act (CWA) places the primary responsibility for surface water pollution control and water resources development planning with the states. However, the act requires the states to follow certain guidelines in developing their programs and allows the U.S. Environmental Protection Agency (EPA) to withdraw control from states with inadequate implementation mechanisms. The CWA requires states to adopt water quality standards for receiving surface water bodies and to have those standards approved by the EPA. Water quality standards consist of designating beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply and fishing), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents, such as lead, suspended sediment, and fecal coliform bacteria, or narrative statements which represent the quality of water that supports a particular use.

Section 303(d) – Total Maximum Daily Loads

When water quality does not meet CWA standards and compromises designated beneficial uses (e.g., wildlife habitat, agricultural supply and fishing) of a particular receiving water body, Section 303(d) of the CWA requires that water body be identified and listed as “impaired.” Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding

applicable water quality standards (with a “factor of safety” included). Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

The San Francisco Bay is listed as Section 303(d) impaired waters, due to impairment by exotic species and contaminants found in urban runoff, including chlordane, DDT, diazinon, dieldrin, dioxins, furans, mercury, PCBs, selenium, and nickel.

Section 401 Water Quality Certification

Under Section 401 of the CWA (33 USC 466 et seq.) every discharger that may discharge pollutants into the waters of the U.S. must apply for a Federal permit or license (including permits under Section 404 of the CWA) to ensure that the proposed activity complies with State water quality standards.

Section 402 National Pollutant Discharge Elimination System General Construction Storm Water Permit

In 1972, the Federal Water Pollution Control Act (later referred to as the CWA) was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants to navigable waters of the U.S. from any point source. In 1987, the CWA was amended to require that the EPA establish regulations for the permitting of municipal and industrial stormwater discharges under the NPDES permit program. The EPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that municipal storm sewer system discharges to surface waters be regulated by a NPDES permit. NPDES permits are issued under the CWA, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

FEMA, a former independent agency that became part of the new Department of Homeland Security in March 2003, is tasked with responding to, planning for, recovering from, and mitigating against disasters. Formed in 1979 to merge many of the separate disaster-related responsibilities of the Federal government into one agency, FEMA is responsible for coordinating the Federal response to floods, earthquakes, hurricanes, and other natural or human created disasters and providing disaster assistance to states, communities, and individuals.

The Federal Insurance and Mitigation Administration (FIMA) within FEMA is responsible for administering the National Flood Insurance Program (NFIP) and

administering programs that provide assistance for mitigating future damages from natural hazards. Established in 1968 with the passage of the National Flood Insurance Act, the NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages.

Participation in the NFIP is based on an agreement between communities and the Federal government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the Federal government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods.

4.8.2.2 STATE FRAMEWORK

Waters of the State consist of all surface water or groundwater, including saline waters, within the boundaries of the State of California.

CALIFORNIA TOXICS RULE

Because California had not established a complete list of acceptable water quality criteria, the EPA (under the authority of the CWA) established numeric water quality criteria in the form of the California Toxics Rule (CTR) (40 CFR 131.38), which was finalized May 18, 2000. CTR covers potentially toxic constituents in receiving waters with human health or aquatic life designated uses.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code). The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) grants the State Water Resources Control Board (SWRCB) and each of the nine Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the CWA. The applicable RWQCB for the Specific Plan area is the San Francisco Bay Regional Water Quality Control Board. Under the Porter-Cologne Act, the SWRCB and RWQCBs have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-

Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil, or petroleum products.

NON-POINT SOURCE MANAGEMENT PLAN (SWRCB RESOLUTION NO. 88-123)

In 1988, the SWRCB adopted the Nonpoint Source Management Plan, which established the framework for Statewide nonpoint source activities. Four of the six Statewide objectives and implementation strategies to manage nonpoint source problems are included in the plan. Nonpoint source pollution comes from many diffuse sources including agriculture (pesticides, herbicides), urban runoff (construction sites, roads, industry, and residential areas), marinas and boating, hydromodification, and mining.

NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY

As described previously, NPDES permits are required for discharges of pollutants to navigable waters of the U.S. These waters consist of surface waters such as, lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body.

The RWQCB issues NPDES permits in lieu of direct issuance by the EPA, subject to review and approval by the EPA Regional Administrator (EPA Region 9 for the proposed project). The terms of these NPDES permits implement pertinent provisions of the CWA and the act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

Construction activities disturbing one acre or more of land are subject to the permit requirements of the NPDES program. The applicant must file a Notice of Intent (NOI) to seek coverage under the Statewide General Construction Activity Stormwater Permit (General Permit) prior to the beginning of construction and prepare and maintain a Stormwater Pollution Prevention Plan (SWPPP) per city and State ordinances. The NOI is submitted to the Division of Water Quality of the SWRCB.

On September 2, 2009, the SWRCB adopted a new General Permit (Order No. 2009-0009-DWQ) that has superseded the existing General Permit effective July 1, 2010. The San Francisco Bay RWQCB adopted the Municipal Regional Stormwater Permit (MRP) on October 14, 2009. This permit includes the City as well as 59 other Phase 1 municipal stormwater permittees in the Bay Area.

In Alameda County (County), each of the 14 cities, the County unincorporated areas, and the two flood control districts all share one NPDES Permit. This is done through a consortium of the 17 agencies called the Alameda Countywide Clean Water Program (ACCWP). ACCWP has been issued NPDES Municipal Stormwater Permits since 1991. The NPDES Permits are usually adopted in five year cycles. The NPDES permits outline the requirements that jurisdictions must adhere to for the improvement and protection of water quality within their jurisdictions. The NPDES Permit usually provides requirements and standards for categories such as municipal maintenance, public outreach, illicit discharge controls, industrial and commercial discharge controls, and new development discharge controls.

4.8.2.3 LOCAL FRAMEWORK

ALAMEDA COUNTY

Alameda County Flood Control and Water Conservation District

The ACFC is a division of the Alameda County Public Works Agency that works specifically to protect County citizens from flooding and enforces pollution control regulations governing County waterways.

The ACFC has a Hydrology and Hydraulics Manual that outlines the District's requirements for new developments and modifications of existing flood control systems. ACFC's Hydrology and Hydraulics Summary for Western Alameda County requires that primary drainage systems (those serving a drainage area between 50 acres and ten-square miles) be evaluated for two design storms. They must convey the five-year storm when using the 100-year tide level of 7.6 feet above sea level (National Geodetic Vertical Datum [NGVD] 29) as an outlet control constraint, and convey the 100-year storm event when using the mean higher high water level of 4.4 feet above sea level (NGVD 29) as an outlet control constraint. In addition, all facilities that are part of the FEMA Flood Insurance Study must be designated to contain the FEMA 100-year storm using FEMA criteria. Where these facilities are subject to tidal backwater effects, two water

surface profiles must be calculated and compared. The 100-Year Tide is run flat (no outflow from the channel), and the FEMA 100-Year flow is run against a beginning water surface of Mean Higher High Water. The higher of these two water surfaces controls for design. These criteria have been incorporated into this Summary. Secondary systems (those serving a drainage area less than 50-acres) are required to convey the ten-year storm event when using the higher water surface calculated for the two design storms for primary facilities.

As noted above, the ACFC is also a co-permittee of the ACCWP, a mandated program of the CWA and the SWRCB. Other co-permittees include the cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, Union City, plus the ACFC Zone 7, and county unincorporated areas. These 17 agencies are responsible for implementing, at the local level, pollution control standards for stormwater runoff to the San Francisco Bay consistent with the CWA. They also work together for public outreach and education.

CITY OF NEWARK

Municipal Code

The City has flood elevation standards for lands within special flood hazard areas as defined by FEMA (Section 15.40.51 Newark Municipal Code). Among other things, these standards require building pads of all occupied structures to be a minimum of 11.25-foot elevation on the NGVD with the finished floor being a minimum of six-inches above the building pad. In addition, the City requires that the top of curb grades for residential streets must be no less than ten-feet above sea level throughout the City (Section 16.08.06 Newark Municipal Code).

4.8.3 ENVIRONMENTAL ANALYSIS

4.8.3.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on hydrology and water quality if it would:

- ◆ Violate any water quality standards or waste discharge requirements;
- ◆ Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of

preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);

- ◆ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or offsite;
- ◆ Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite;
- ◆ Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- ◆ Otherwise substantially degrade water quality;
- ◆ Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation;
- ◆ Place within a 100-year flood hazard area structures which could impede or redirect flood flows;
- ◆ Expose people or structures to a significant risk of loss, injury or death involving flooding, including as a result of the failure of a levee or dam; or,
- ◆ Inundation by seiche, tsunami, or mudflow.

4.8.3.2 AREAS OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or not reasonably foreseeable:

- ◆ Otherwise substantially degrade water quality

The proposed project would not otherwise degrade water quality beyond the impacts discussed in this section. Therefore, no further water quality impacts would result.

4.8.3.3 POTENTIAL IMPACTS AND MITIGATION MEASURES

WATER QUALITY/WASTE DISCHARGE

4.8-1 The proposed project could violate water quality standards or waste discharge requirements.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

Future construction activities associated with the proposed project could negatively affect the water quality of surface waters. Grading and other earthmoving activities during construction would expose soils, which could be eroded and deposited into downstream receiving waters. This in turn would increase the amount of sediment and turbidity in these water bodies, which could harm aquatic life. Additionally, chemicals or fuels could accidentally spill and be washed into receiving waters. The accidental introduction of toxic compounds into surface waters could adversely alter water chemistry.

Future development within the Specific Plan area would be required to comply with State and local water quality regulations designed to control erosion and protect water quality during construction. This includes compliance with the requirements of the NPDES General Permit. The General Permit would require preparation and implementation of a SWPPP. The SWPPP must include erosion and sediment control Best Management Practices (BMPs) that would meet or exceed measures required by the General Permit, as well as BMPs that control hydrocarbons, trash and debris, and other potential construction-related pollutants.

Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. The General Permit requires a SWPPP to include a menu of BMPs to be selected and implemented based on the phase of construction and the weather conditions to effectively control erosion and sediment, as well as proper handling of hydrocarbons, hazardous material, and trash and debris onsite. Implementation of BMPs would prevent or minimize environmental impacts and ensure that discharges during the construction phase of the project would not cause or contribute to the degradation of water quality in receiving waters, reducing construction-related water quality impacts to less than significant.

While sedimentation is the primary source of water quality impacts during construction, it would not be considered a significant issue during post-construction and operation because the Specific Plan area would be paved or landscaped, which would stabilize soils for the long term. However, after construction and during the life of the project, the amount of impervious surfaces within the Specific Plan area would increase, which would increase the amount of stormwater runoff from the site and introduce potentially more pollutants into storm water system than existing conditions.

Pollutants would be washed by rainwater from rooftops, landscaped areas, parking areas, and other impervious surfaces. The potential pollutants include chemicals from maintenance and cleaning supplies; landscape materials and products (pesticides, herbicides and fertilizers); oil, grease and heavy metals from automobiles; and petroleum hydrocarbons from fuels. The introduction of polluted runoff into receiving waters from the Specific Plan area would be a potentially significant impact. However, future development within the Dumbarton TOD Specific Plan Area would be required to comply with applicable policies and regulations, including Section C.3 requirements of the ACCWP NPDES permit, as well as City requirements and other applicable Federal, State, and local requirements. Various post-development storm water treatment options could be appropriate for specific applications, such as bioswales, infiltration trenches, media filtration devices, pervious surface treatments, and bioretention areas. Based on the above, compliance with applicable policies and regulations would reduce construction and operational-related water quality impacts to a less than significant level.

Mitigation Measure

4.8-1 No mitigation required.

Level of Significance After Mitigation: Not applicable.

GROUNDWATER SUPPLY/RECHARGE

4.8-2 The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

While future development within the Specific Plan area would not directly withdraw groundwater, it would obtain water from the ACWD, which utilizes treated groundwater as a source of its local supply along with its primary sources of supply from the California State Water Project (SWP) and the San Francisco Regional Water System, which operates the Hetch Hetchy Pipeline. As such, future development within the Specific Plan area could utilize groundwater to meet some of its water demand, although due to the configuration of ACWD's water production facilities, future development within the Specific Plan area would not be dependent on any single source of supply.

The ACWD prepared a WSA for the proposed Specific Plan (Appendix E) to evaluate whether the District's water supplies could meet the current and future demands of its service area, including the demands of the Specific Plan under normal year, single dry year, and multiple dry year conditions. According to the WSA, water demand associated with the Specific Plan is consistent with planning assumptions of ACWD's Urban Water Management Plan (UWMP) and is included in ACWD's forecast and water supply planning. In addition, under normal precipitation year conditions, ACWD's water supplies are projected to be sufficient to meet the future demands in its service area, including the demands of the proposed land uses in the Specific Plan.

According to the WSA, ACWD's UWMP identifies that ACWD may face water supply shortages during critically dry single years. ACWD would secure additional supplies through a California Department of Water Resources (DWR) drought water bank or similar water purchase/transfer program under these severe drought conditions. If necessary, ACWD would implement a drought contingency plan, which would include provisions for ACWD customers to cut back on water use, the magnitude of which would depend on the severity of the shortage. These measures would ensure that the project would have adequate water supply during a single critically dry year.

Because the Specific Plan is consistent with planning assumptions of ACWD's UWMP and is included in ACWD's forecast and water supply planning, it would not increase water shortages from what was already factored into ACWD's planning. In addition, ACWD has a variety of sources of water supply other than local groundwater and would implement various actions to compensate for water

supply shortages during critically dry single years. Thus, for these reasons, the water demand associated with the Specific Plan would not substantially deplete groundwater supplies during critically dry single years.

The addition of significant areas of impervious surfaces can interfere with the natural groundwater recharge process. Upon buildout of the Specific Plan area, the majority of the area would be covered with impervious surfaces, such as buildings, roads, sidewalks, driveways, etc. However, given that local runoff from the Alameda Creek Watershed is the primary source of recharge for the Basin and rainfall and applied water provide a local recharge to a lesser extent, the impervious surface area added as a result of the Specific Plan would not adversely affect the recharge capabilities of the local groundwater basin.

Mitigation Measure

4.8-2 No mitigation required.

Level of Significance After Mitigation: Not applicable

EROSION/SILTATION FROM DRAINAGE ALTERATION

4.8-3 The proposed project would substantially alter the existing drainage pattern of the site or area, which could result in substantial erosion or siltation on or offsite.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Future development would involve vegetation removal, grading, earth excavation, and the construction of buildings, roads, sidewalks, driveways, and parking lots. These activities would alter existing drainage patterns and increase the potential for erosion and/or siltation. As previously discussed under Impact 4.8-1, standard erosion control measures would be implemented as part of the SWPPP for the project to minimize the risk during construction. During the life of the project, the increase in impervious surfaces would, however, result in a corresponding increased runoff rate, because water flows faster over impervious surfaces and through storm drains than over pervious surfaces. This creates the potential for hydromodification, which is defined as downstream change in runoff volume, magnitude, and duration. This could result in offsite erosion.

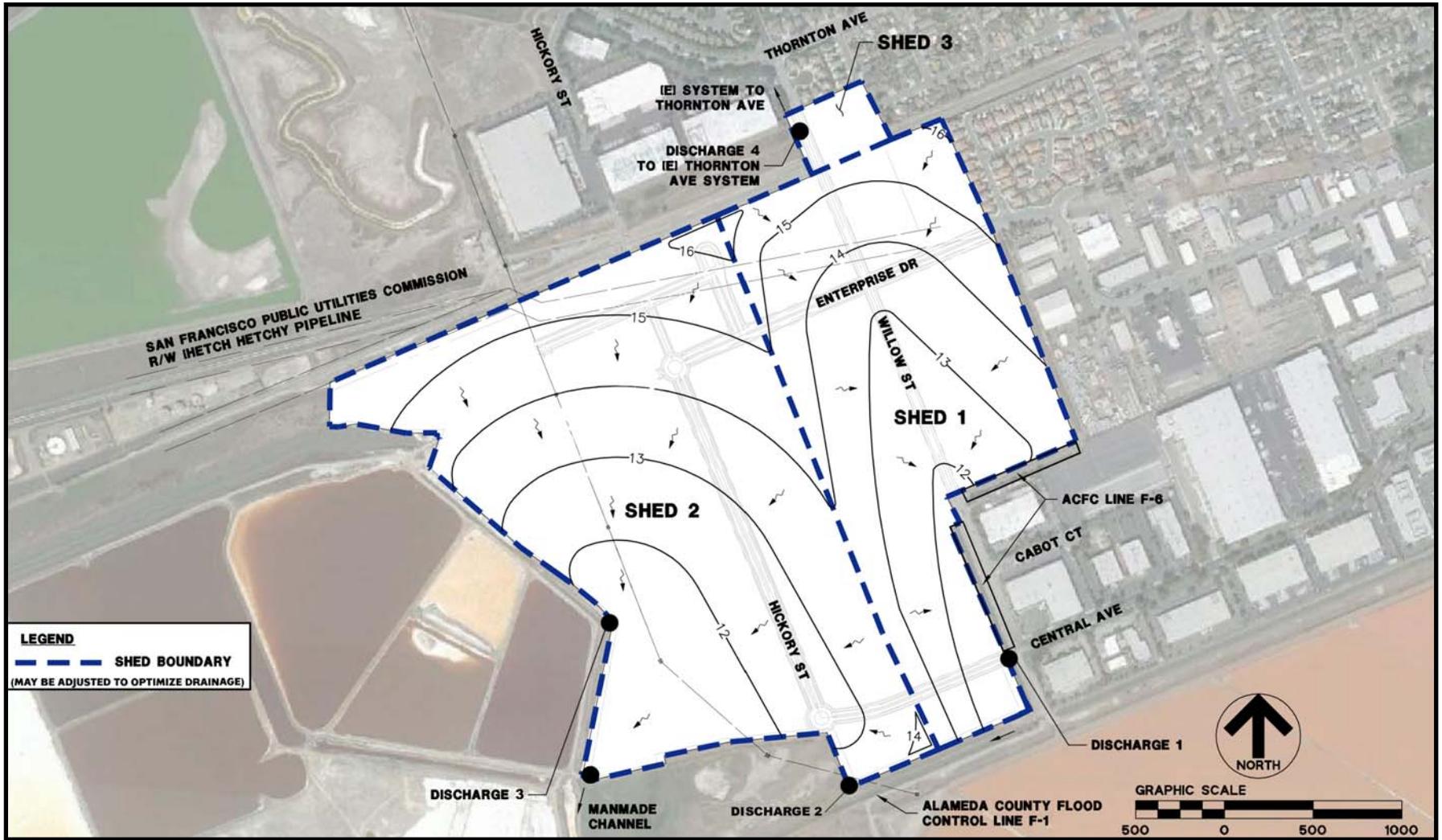
The Specific Plan proposes a Conceptual Grading and Drainage Plan that would create three distinct drainage shed areas within the Specific Plan area (refer to Figure 4.8-1). However, the proposed Conceptual Grading and Drainage Plan could vary from the ultimate final grading and drainage patterns associated with subsequent projects in the Specific Plan area and within the scope of this EIR. This EIR analyzes the potential impacts associated with the conceptual scheme described in the Specific Plan; however, should a subsequent project within the scope of this EIR utilize a final grading and drainage plan, which create significant impacts not examined in this EIR, as determined by the City pursuant to an initial study, additional environmental review could be required.

Runoff from two of the drainage sheds (Sheds 1 and 3) would connect to existing City facilities and would not require any new outfalls. Thus, hydromodification is unlikely as a result of stormwater from drainage Sheds 1 and 3 as long as peak discharge rates do not exceed those assumed by ACFC and the City when planning the receiving facilities. If this is the case, detention would not be necessary within either area. The third drainage shed (Shed 2) would discharge to Plummer Creek and may require a new outfall at the headwater. Detention within the area tributary to this outfall may not be needed. To ensure that peak discharge rates from drainage Sheds 1 and 3 do not exceed those assumed by ACFC and the City and result in hydromodification, project specific hydrology reports would be required. Implementation of Mitigation Measure 4.8-4a would reduce impacts to less than significant.

Mitigation Measure

4.8-3 Implement Mitigation Measure 4.8-4a

Level of Significance After Mitigation: Less Than Significant



Source: BKF Engineers, 2011.

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ON OR OFFSITE FLOODING IMPACTS FROM DRAINAGE ALTERATION

- 4.8-4** The proposed project could substantially alter the existing drainage pattern of the site or area, which could substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The Specific Plan area would be graded to conform to the parameters set forth by the City and in ACFC Hydrology and Hydraulics Summary for Western Alameda County, as well as the requirements of FEMA. The drainage systems within the Specific Plan area would be designed so that lots, streets, and parks convey surface runoff to new inlets within the development, which would then transport the storm water through underground piping networks to discharge outlets. All public and private streets would be designed to comply with the requirements of the City. Final grading plans for projects within the Specific Plan area and scope of this EIR would reflect final sizing and routing of primary and secondary drainage conveyance lines, which would in turn be a function of the final land plans. Parks or other open areas that are incorporated into the final plan may not need to be filled to the elevations depicted in the conceptual plan, but any depressed area may be subject to inundation during storm events.

As noted under Impact 4.8-3 above, the Specific Plan proposes a Conceptual Grading and Drainage Plan that would create three distinct drainage sheds within the Specific Plan area, as depicted in Figure 4.8-1.

Shed 1 (F-1 East Drainage Area) in the eastern portion of the Specific Plan area, south of the Dumbarton Rail Corridor (DRC), generally matches the drainage patterns planned for in ACFC's drainage map for Line F-1 channel. The East Drainage Area may require one of two new outfalls. The area is currently largely undeveloped and portions of the surrounding area in the F-1 watershed have been developed at lesser densities than initially planned for by the ACFC which anticipated a composite run-off coefficient of 0.64.

To ensure that the increased stormwater runoff associated with future development projects within the F-1 East Drainage Area does not exceed the conveyance and

capacity of the Line F-1 channel, the proposed project would be required to implement Mitigation Measure 4.8-4a, which requires the preparation of project specific hydrology reports that confirms adequate conveyance and capacity for surface runoff. Detention would not be needed as long as peak discharge rates do not exceed those assumed by ACFC and the City as set forth in the Alameda Countywide Clean Water Program *C.3 Stormwater Technical Guidance* (ACCWP 2006).

Shed 2 (West Drainage Area) in the westerly portion of the Specific Plan area would drain to Plummer Creek.. The West Drainage Area would require a new outfall, constructed at the headwater Detention within the area tributary is not anticipated. To ensure that the new outfall is adequately sized to serve the West Drainage Area at buildout, future developers within the West Drainage Area would be required to implement Mitigation Measure 4.8-4a.

Shed 3 (Willow Street Drainage Area), north of the DRC, would be tied into the existing City-owned lines in Willow Street. If sufficient capacity is not available in the existing City-owned lines to accommodate stormwater runoff from the proposed Willow Street Drainage Area, potentially significant on or offsite flooding impacts could occur. However, detention would not be needed in the Willow Street Drainage Area as long as peak discharge rates do not exceed those assumed by ACFC and the City as set forth in the Alameda Countywide Clean Water Program *C.3 Stormwater Technical Guidance* (ACCWP 2006).

Portions of the Specific Plan located north of the San Francisco Public Utilities Commission (SFPUC) right-of-way would likely require crossings of the Hetch Hetchy Pipeline. Prior to final design, the pipeline would need to be potholed at any proposed crossings to verify that they are at a sufficient depth to allow the storm drainage lines to pass over them. If they are not at sufficient depth, additional fill material may be required to raise the area. Implementation of Mitigation Measure 4.8-4b would ensure that there is sufficient room for future storm drainage lines to pass over Hetch Hetchy Pipeline.

Mitigation Measures

4.8-4a Plans submitted for grading permits shall include a detailed hydrology reports. The reports shall include calculations regarding the anticipated volume of stormwater runoff generated by the proposed development, and shall demonstrate that adequate stormwater conveyance and capacity is available in the existing facilities selected depending on the location of the proposed development (i.e., the Line F-1 channel, the City's existing

outfall into the Line F-1 channel, the existing human-created tidal channel that is tributary to Newark Slough, and existing City facilities in Willow Street). The hydrology reports shall be subject to review and approval by the City Engineer.

If the hydrology reports determine that the existing facilities do not have adequate stormwater conveyance and capacity to serve the proposed development, then the project applicant shall develop a detailed stormwater detention plan for the retention/detention of stormwater runoff on the project site. The stormwater detention facilities shall be designed with adequate capacity to ensure that that stormwater generated on the project site during a peak storm event is retained at a rate that would ensure that discharges from the site do not exceed pre-construction levels. All detention facilities shall be developed in conformance with the City's standards and the standards of the Alameda County Flood Control and Water Conservation District. The plans and specifications of the proposed detention facilities shall meet the standards of the City Engineering Department as an adequate engineering product. The construction of stormwater detention facilities may be phased to correspond with development of the project site over time, provided that adequate detention is provided at all times to ensure that runoff from the site does not exceed pre-construction levels.

- 4.8-4b Plans submitted for grading permits or future projects requiring storm drainage lines that cross the Hetch Hetchy Pipeline shall include measures to ensure that there is sufficient room for future storm drainage lines to pass over Hetch Hetchy Pipeline (i.e., placement of additional fill).

Level of Significance After Mitigation: Less Than Significant

STORM DRAINAGE SYSTEM CAPACITY

- 4.8-5 The proposed project could create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

As stated in the impact discussions above, the proposed project would result in changes to absorption rates, drainage patterns, and the corresponding rate and amount of surface runoff within the Specific Plan area. New development associated with the proposed project would need to construct adequately sized storm drainage facilities to convey onsite surface water runoff to existing storm drainage facilities. The onsite systems would be designed to carry stormwater at buildout of the individual development sites, and would be subject to City and ACFD review to verify that they are designed to accommodate increased flows on the individual development sites, which would, therefore, reduce potential impacts to less than significant.

Implementation of Mitigation Measure 4.8-4a, which would require preparation of detailed site-specific hydrology reports, and compliance with the requirements of the General Permit and other Federal, State, and local policies and regulations would reduce impacts associated with on or offsite flooding or increased amounts of polluted runoff to less than significant.

Mitigation Measure

- 4.8-5 Implement Mitigation Measure 4.8-4a

Level of Significance After Mitigation: Less Than Significant

FLOOD HAZARD

- 4.8-6** The proposed project could place housing within a 100-year flood hazard area, or place within a 100-year flood hazard area structures which could impede or redirect flood flows.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The FIRM map panel that covers the project area (06001C0443G) shows that a portion of the Specific Plan area is located within a 100-year tidal flood zone. A portion of the Cargill property is classified as Zone AE, as are some of the western portions of FMC's property. In the event of 100-year flooding conditions, water up to an elevation of 8.24 (29 NGVD) feet above sea level would flood the area. The remaining properties are classified as Zone X, indicating that this area has 0.2 percent annual chance of flooding, or is an area of one percent annual chance flood with average depths of less than one foot or with drainage areas less than one square mile. It also indicates areas protected by levees from one percent annual chance flood.

Flooding could damage property and structures within the Specific Plan area, and pose a severe hazard to public safety. According to the Specific Plan, approximately 500,000 to one million cubic yards of fill material would be imported to the site to elevate future structures above the 100-year flood hazard area in compliance with FEMA, ACFC, and City requirements. Therefore, while the proposed Specific Plan would place housing and other structures within a 100-year flood hazard area, the proposed placement of fill to raise the site elevation would reduce the impact to a less than significant level.

Due to the significant quantity of fill material required to raise elevations across the site, a long-term staged import fill operation may be needed which may include the need for interim rough grading and stockpiling plans. Additionally, because portions of the Specific Plan area are underlain with Bay Mud, surcharging may be required to create viable sites. Nonetheless, impacts would remain less than significant.

Mitigation Measure

- 4.8-6 No mitigation required.

Level of Significance After Mitigation: Not applicable

DAM FAILURE

4.8-7 **The proposed project could expose people or structures to a significant risk of loss, injury or death involving flooding, including as a result of the failure of a levee or dam.**

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The Specific Plan area would be inundated if any of the dams (Del Valle, James H. Turner or Calaveras) on upstream reservoirs fail. Inundation resulting from catastrophic dam failure could damage property and structures within the City as a whole, including the Specific Plan area, which poses a severe hazard to public safety. The California Division of Safety of Dams inspects each dam on an annual basis to ensure the dam is safe, performing as intended, and is not developing problems.

Calaveras Dam is the only dam of the three dams contributing to Newark's inundation hazard area that has documented a higher than normal risk of failure. The SFPUC has taken short-term and long-term steps (i.e. reducing the capacity and rebuilding the dam) to mitigate that risk. Construction that would allow the dam to be filled to capacity is scheduled to start in August 2011 and to be completed by June 2015. With these protection measures, the risk of failure is extremely low. The other two dams do pose a risk of inundation to the Specific Plan area since they are within their inundation zones. However, as noted above, all dams are inspected on an annual basis to ensure they are safe and not developing problems. As such, the risk of dam failure is extremely low and, therefore, is not considered a significant hazard to future residents and visitors to the Specific Plan area.

Mitigation Measure

4.8-7 No mitigation required.

Level of Significance After Mitigation: Not applicable

INUNDATION BY TSUNAMI, SEICHE, AND MUDFLOW

4.8-8 The proposed project could be exposed to inundation by tsunami, seiche, and mudflow.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

As described previously, the risk of flooding due to a tsunami event is considered low at the Specific Plan area due to the location of the Specific Plan area near the southern portion of the San Francisco Bay, its elevation of approximately five to 15 feet above sea level, and the history of tsunamis in the San Francisco Bay. In addition, ABAG does not consider tsunami risk high for Alameda County based on these considerations. Furthermore, any development within the Specific Plan area would be subject to the City's flood elevation standards for lands within special flood hazard areas as defined by FEMA (Section 15.40.51 Newark Municipal Code). Among other things, these standards require building pads of all occupied structures to be a minimum of 11.25 feet above sea level with the finished floor being a minimum of six inches above the building pad. In addition, the City requires that the top of curb grades for residential streets must be no less than ten feet above sea level throughout the City (Section 16.08.06 Newark Municipal Code).

The protected portion of the San Francisco Bay near the Specific Plan area is not subject to potential flooding by seiches, since the several levees and long distance of shallow water associated with the salt pond production and harvesting operations between the San Francisco Bay and the Specific Plan area would minimize waves generated by a seiche. In addition, the Specific Plan area is not near any physical or geologic features that would pose a mudflow hazard, such as a volcano or hillside. The Specific Plan area is relatively flat and is not located below any steeply sloped areas. In addition, it is not within or near an identified landslide or debris flow hazard area, according to ABAG Hazard Maps.

For these reasons, the Specific Plan area is not considered to be subject to significant risk from tsunami, seiche, or mudflow

Mitigation Measure

4.8-8 No mitigation required.

Level of Significance After Mitigation: Not applicable

4.8.3.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

WATER QUALITY DEGRADATION/DRAINAGE/FLOODING

4.8-9 Future development of the project site allowed by the Dumbarton TOD Specific Plan could result in cumulatively considerable hydrology and water quality impacts.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The analysis of cumulative hydrology and water quality impacts considers the larger context of future development envisioned by the City's General Plan, as most recently updated, and relies upon the projections of the General Plan and General Plan EIR. Cumulative impacts on hydrology and water quality would result from incremental changes that degrade water quality or contribute to drainage and flooding problems within and immediately adjacent to the Specific Plan area and downstream at San Francisco Bay outfalls. As discussed above, future development of the Specific Plan area would not result in any significant impacts with the implementation of mitigation measures and compliance with Federal, State, and local policies and regulations. In addition, future development within the vicinity of the Specific Plan area would be guided by the General Plan, and associated planning and environmental documents. Each project would be subject to the City planning process. Based on impacts on hydrology and water quality would not be cumulatively considerable.

Mitigation Measure

4.8-9 Implement Mitigation Measure 4.8-4a and 4.8-4b

Level of Significance After Mitigation: Less Than Significant

4.9 LAND USE

This section of the EIR describes the existing land uses within the Dumbarton Transit Oriented Development (TOD) Specific Plan area; characterizes surrounding land uses; and, discusses consistency of the Specific Plan with the policies of the City of Newark General Plan (General Plan), as well as other applicable plans. Potential impacts focus on consistency with the General Plan, as well as compatibility of the proposed Specific Plan with existing and planned land uses in the vicinity of the Specific Plan area.

The California Environmental Quality Act (CEQA) Guidelines set forth a requirement that an Environmental Impact Report (EIR) analyze any inconsistencies between a proposed project and applicable general plans and regional plans (14 CCR Section 15125[d]). However, inconsistencies between a proposed project and such plans are not in themselves “environmental impacts.” Instead, inconsistencies between plans and proposals are a regulatory issue. CEQA distinguishes physical impacts that might later result from a land use approval relating to the project site from the simple planning act of the approval itself. In this EIR, where planning approvals could potentially result in adverse physical impacts on the environment, such as increased noise levels or loss of valuable habitat, those impacts are discussed and analyzed in their respective impact sections.

In accordance with 14 CCR Section 15125(d), this section of the Draft EIR analyzes the consistency between the proposed Dumbarton TOD Specific Plan and the City’s General Plan, City Code, and applicable regional plans.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGIONAL SETTING

Chapter 3 (Project Description) provides the geographic setting of the project site. In addition to the information contained in that Chapter, it should be noted that portions of the City are located within the limits of the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), which contributes substantially to the open feeling of the City and provides a unique and regional scale open space resource. Furthermore, development in the City has been partially shaped by the constraints imposed by the adjacent highways. Commercial and industrial growth has occurred along the freeways in the eastern and northern portion of the City. This development has buffered the more sensitive land uses (e.g., residential, parks, schools, etc.) from the adverse effects associated with the freeways.

4.9.1.2 PROJECT SETTING

The approximately 205-acre Specific Plan area is located at the western edge of the City and is generally bounded by Southern Pacific Railroad tracks to the north/northwest, salt production facilities located to the south and west, and Willow Street and industrial and residential uses to the east.

The Specific Plan area is disturbed and primarily vacant with the exception of a chemical blending and distribution facility located in the northeastern corner, a storage area for base-rock and tractor trailers used in construction projects located in the northeastern portion, and a police dog training facility and police firing range located in the south central portion. In general, the Specific Plan area is characterized by large, open, expansive, weedy fields with some areas of potential seasonal vegetation. Most of the Specific Plan area is enclosed by fencing with restricted access and contains remnants of the former industrial development that previously existed in the area.

Hickory Street is a City-owned road within the enclosed boundaries of the Specific Plan area. Hickory Street runs north to south between Enterprise Drive and the southern boundary of the Specific Plan area.

The topography of the Specific Plan area is generally flat with elevations ranging from approximately five to 15 feet above mean sea level (MSL). However, there are some isolated bedrock outcroppings, stockpiles and levees where elevations are as high as approximately 40 feet above MSL.

The Specific Plan area contains several rights-of-way and transportation and utility easements. The northern portion of the Specific Plan area is underlain by the Hetch Hetchy Pipeline, which travels from east to west. The Dumbarton Rail Corridor (DRC) runs in an east/west direction generally along the northern edge of the Specific Plan area, almost parallel to the Hetch Hetchy Pipeline. The Alameda County Flood Control F-1 Channel flows from east to west along the Specific Plan area's southern boundary. A tributary to this channel, the F-6 ditch generally flows from north to south along the Specific Plan area's easterly boundary and runs north along the west side of Willow Street for a distance of about 1,300 feet. Pacific Gas and Electric (PG&E) transmission lines traverse the Specific Plan area from north to south.

SURROUNDING LAND USES

A variety of commercial/industrial, residential, and agricultural uses (i.e., salt production facilities) surround the Dumbarton TOD Specific Plan area. Commercial/industrial uses are generally located north and east/southeast; residential uses are to the northeast, and, agricultural uses (salt production and harvesting operations) are located to the west.

The DRC borders the majority of the Specific Plan area to the north. Immediately north of the DRC is a small commercial/industrial park; directly west of the commercial/industrial park is agriculturally zoned land, as well as the above ground segment of the Hetch Hetchy Pipeline; residential neighborhoods are located to the northeast (residential neighborhoods border the Specific Plan area on the north and east and extend further northeast). Further northwest is the Refuge. The Coyote Hills Regional Park is located further north of the Refuge. In the immediate vicinity, the Bay Trail's alignment follows Willow Street, and continues along Central Avenue to the east.

Residential neighborhoods border the Specific Plan area to the east. Just south of those neighborhoods, to the east and southeast of the Specific Plan area, it is developed with industrial and light-industrial buildings that are primarily single-story, concrete tilt-up construction. Many of these buildings are currently vacant.

GENERAL PLAN AND ZONING DESIGNATIONS

The General Plan currently designates the project site Limited Industrial and General Industrial. The project site has a zoning designation of High Technology on the City of Newark Zoning Map.

1999 AREA TWO SPECIFIC PLAN

In 1999, the City adopted the Newark Area Two Specific Plan, which included much of the Dumbarton TOD Specific Plan area (project site). The Newark Area Two Specific Plan envisioned a campus of the Ohlone Community College surrounded by multi-level office and R&D buildings on the current project site. However, after adoption of that Specific Plan, the Community College located elsewhere, and no office or R&D buildings have been built within the Specific Plan area. The 1999 Area Two Specific Plan land use designations for the project area are Public-Institutional and Research and Development.

4.9.2 REGULATORY SETTING

4.9.2.1 LOCAL FRAMEWORK

CITY OF NEWARK GENERAL PLAN

The General Plan (adopted June 11, 1992 and amended it thereafter from time to time) includes several goals and policies that would be applicable to the Dumbarton TOD Specific Plan. Table 4.9-1 (Project Consistency with City of Newark General Plan) evaluates the consistency of the Specific Plan with these policies.

TABLE 4.9-1 PROJECT CONSISTENCY WITH CITY OF NEWARK GENERAL PLAN

Goal/Policy Number	Policy/Goal	Project Consistency
	Land Use Element	
Goal 1	Maintain a desirable quality of life in the community through preservation of a small town, neighborhood atmosphere and the promotion of balanced land use.	The overall design of the Specific Plan promotes a neighborhood-scale environment to evoke a small town atmosphere. The Specific Plan includes Design Guidelines, which illustrate the desired character of the built environment through site, building, and landscape design. The Design Guidelines are intended to help the City and developers achieve a mixed-use community with a consistent design and distinct sense of place that would maintain a desirable quality of life in the community. Therefore, the Specific Plan would be consistent with this goal.

Goal/Policy Number	Policy/Goal	Project Consistency
Policy a	<p>Maintain a reasonable balance of land uses within the city so that residents can live close to where they work; and can satisfy their shopping, education, service, and maintenance, personal business, health, entertainment, and recreational needs close to home.</p>	<p>The Specific Plan would create a livable community that integrates housing, recreation, retail and employment uses and development, which would complement the future DRC transit station. A Retail/Commercial Center would be located in the north central portion of the Specific Plan area, immediately south of the DRC. The Retail/Commercial Center would provide up to 35,000 square feet of retail space and up to 195,000 square feet of office space in buildings clustered near the future DRC transit station, which would provide additional jobs in the community, as well as services for the proposed residential uses. Therefore, the proposed Specific Plan would be consistent with this policy.</p>
Policy b	<p>Assure that new development generates revenue sufficient to offset the cost of public services and facilities and pays its reasonable share of the cost of new facilities.</p>	<p>The Specific Plan includes a Capital Improvements Program, Phasing Plan for Public Utilities, and Project Infrastructure Financing Plan to ensure that public improvements are financed to support the proposed development. In addition, future development within the Specific Plan would be required to pay development impact fees to offset the costs of related public services, community facilities, and transportation improvements. Therefore, the Specific Plan would be consistent with this policy.</p>

Goal/Policy Number	Policy/Goal	Project Consistency
Goal 2	Promote high quality development that establishes the City’s character as distinctive from that of the other cities in the Bay Area.	<p>The Specific Plan would promote high quality development within the Specific Plan area by complying with strict development regulations and Design Guidelines. The development regulations and Design Guidelines would contribute to the character of Newark and ensure that the City is distinctive from other cities in the Bay Area. Therefore, the Specific Plan would be consistent with this goal.</p>
Policy a	Maintain high standards for design and appearance of all new development, with special emphasis for those areas adjacent to the city’s entrances and along major arterial streets.	<p>The project area is not located adjacent to identified gateways or arterials in the City General Plan. Willow Street and Enterprise Street, which traverse the project area, are considered collector streets in the General Plan. The Circulation Design Guidelines in the Specific Plan provide for seamless vehicular access and circulation in order to ensure that the proposed project would be an extension of the community and provide for high quality streetscapes adjacent to these collector streets.</p> <p>In addition, the Dumbarton TOD Specific Plan would create the opportunity to upgrade the landscape, lighting, and other improvements to be located within the rights-of-way of Enterprise Drive, Central Avenue, and Hickory Street within the project area in order to create a special sense of arrival and the beginning of an experience that is unique to the community. Therefore, the Specific Plan would be consistent with this policy.</p>

Goal/Policy Number	Policy/Goal	Project Consistency
Policy b	Encourage architectural styles for new development that are compatible with, and complement adjacent developments, and that will enhance the overall quality of the development and the area.	The Design Guidelines in the Specific Plan include recommendations for a variety of architectural styles, building types, building forms, roof pitches, materials, and architectural details, which would ensure that future development within the Specific Plan area would enhance and complement the overall quality of the development and surrounding area. Therefore, the Specific Plan would be consistent with this policy.
Policy c	Upgrade existing structures and sites, particularly those located along major arterials, where deficiencies in appearance and aesthetics create a negative impact of the city and/or impact on the value of property.	The project area is disturbed and primarily vacant with the exception of a chemical blending and distribution facility located in the northeastern corner, a storage area for base-rock and tractor trailers used in construction projects located in the northeastern portion, and a dog training facility and police firing range located in the south central portion of the project area. Implementation of the Specific Plan would improve the appearance of the project area from collector streets located in the project vicinity including, Willow Street and Enterprise Drive. Therefore, the Specific Plan would be consistent with this policy.
Policy d	Support preservation of the lands of the San Francisco Bay National Wildlife Refuge and protection of San Francisco Bay and bay lands.	The project area is located outside of the San Francisco Bay Plan. The Specific Plan would not impact the Refuge, which is located northwest of the Specific Plan area. The Bay Trail is developed on top of the levees to the north of the Specific Plan area. The Specific Plan would create a perimeter trail around the project area to provide connections to these open space areas. Therefore, the Specific Plan would be consistent with this policy.

Goal/Policy Number	Policy/Goal	Project Consistency
Goal 3	Maintain the quality of life by assuring the compatibility of land uses.	Residential neighborhoods would be the dominant feature within the project area. Residential neighborhoods would emphasize a modified grid street network that would promote pedestrian-scaled streets and interweaving of various home types. Sound and privacy walls would be eliminated where feasible in support of creating an integrated community and assuring the compatibility of adjacent land uses. The Specific Plan would also redevelop former industrial uses located near or adjacent to existing residences to a residential community which would blend with and compliment such existing residences. Therefore, the Specific Plan would be consistent with this goal.
Policy c	Provide opportunities for mixed-use development where the impacts of one land use upon another are sufficiently mitigated.	The Specific Plan includes residential units that would be permitted above retail uses in the Retail/Commercial Center, which would be compatible uses with one another. Therefore, the Specific Plan would be consistent with this policy.
Policy d	Provide for control of excessive exterior lighting.	The Design Guidelines in the Specific Plan include lighting standards in order to control excessive exterior lighting. Standards are provided for collector streets, secondary streets, paths and stair lights, building mounted lights, accent lighting, and special event lighting. Implementation of these lighting Design Guidelines would ensure that the Specific Plan is consistent with this policy.

Transportation Element

Goal 1	Provide for a quality environment with smooth, convenient, and safe vehicular travel throughout Newark	The Circulation System Design Guidelines in the proposed Specific Plan provide for a hierarchy of streets throughout the Specific Plan area that would provide for smooth, convenient, and safe vehicular travel throughout the City. Therefore, the Specific Plan would be consistent with this policy.
Policy b	Maintain and where necessary enhance the system of collector streets to ensure complete linking of arterials with local street system	Willow Street and Enterprise Drive are designated as collector streets in the General Plan. The Circulation System Design Guidelines in the proposed Specific Plan provide for a hierarchy of streets within the Specific Plan to ensure that development within the project area links with the existing street system, including standards for Willow Street and Enterprise Drive. Therefore, the Specific Plan would be consistent with this policy.

Policy c	Strive for LOS “C” or better at all major intersections within Newark, recognizing that in some cases Level of Service “D” may be acceptable with appropriate mitigation measures.	<p>Traffic generated by the Specific Plan would cause operation of the Willow Street/Thornton Avenue; Cedar Boulevard/Thornton Avenue; Willow Street/Enterprise Drive; and Cherry Street/Mowry Avenue to degrade from an acceptable LOS (LOS C or better) to unacceptable LOS D, E or F, or exacerbate unacceptable level of operations by increasing the average delay at an intersection by four or more seconds under Project Conditions. Implementation of Mitigation Measure 4.14-1 would reduce impacts at three of the four intersections. No feasible mitigation is available for the intersection of Cedar Boulevard/Thornton Avenue. Therefore, the impact would be significant and unavoidable. A General Plan Amendment would be included with adoption of the Specific Plan to amend this policy to allow an unacceptable LOS at major intersections for projects that are part of the City’s regional effort to reduce vehicle trips and greenhouse gas emissions, support transit and enhance the quality of life in the region. With adoption of this General Plan Amendment, the Specific Plan would be consistent with the General Plan.</p>
Policy e	Improve the street system as necessary to facilitate fast emergency vehicle response.	<p>The street sections included in the Specific Plan incorporate the City’s standards and would provide a functional circulation system, as well as create connectivity through the existing community, which would facilitate emergency vehicle response. Therefore, the Specific Plan would be consistent with this policy.</p>

Policy g	Establish and maintain street standards that meet current best traffic engineering practice.	The street design in the Specific Plan is consistent with the City's street standards, as well as addressing the overall character of each street and landscaping details. Future development would be required to meet the street design standards in the Specific Plan, as well as ensure that streets within the Specific Plan meet current engineering standards. Therefore, the Specific Plan would be consistent with this policy.
Policy k	Require new development to implement Transportation System Management (TSM) programs, and/or to pay for traffic improvements through traffic impact fees or assessment district financing.	The proposed project would be required to implement a number of roadway improvements to mitigate potential impacts on the roadway network. Therefore, the Specific Plan would be consistent with this policy.
Goal 2	Promote the development and use of alternative modes of transportation.	The Specific Plan would promote development of alternative modes of transportation, including transit and a pedestrian and bicycle network. Residential development would be located within walking distance of the proposed new transit station. The pedestrian network would be provided throughout the project area connecting with the surrounding community and would include various walkways that would provide access and circulation for pedestrians. Planned bicycle routes would also provide alternative modes of transportation throughout the project area. The Specific Plan provides space for a future multi-modal transit station that would provide access to the rail line, buses, taxis, and shuttles. Therefore, the Specific Plan would be consistent with this policy.

Policy a	Work with other agencies and private industry to provide an improved public transportation system serving Newark and its residents.	The Specific Plan plans for the proposed transit station and includes a policy that the City continue working with the regional transit agencies to study design, funding, and construction options for the Dumbarton TOD station. It also provides space for a future multi-modal transit station that would provide access to the rail line, buses, taxis, and shuttles. Therefore, the Specific Plan would be consistent with this policy.
Policy b	Utilize existing railroad right-of-way for new transit routes.	Refer to consistency evaluation for Policy a.
Policy d	Assure safe and convenient pedestrian access to and through new private and public developments.	Refer to consistency evaluation for Goal 2.
Goal 3	Support regional transportation planning for southern Alameda County.	Refer to consistency evaluation for Policy a.
Policy b	Utilize existing north/south railroad rights-of-way to create additional north/south routes to supplement I-880.	Refer to consistency evaluation for Policy a.

Policy d	Work with the State and the City of Fremont to maintain LOS C at all intersections on the border of Newark, particularly Newark Boulevard/Dumbarton Freeway, Thornton Avenue/Dumbarton Freeway, Stevenson Boulevard/Interstate 880, Mowry Avenue/Interstate 880 and Thornton Avenue/Interstate 880 to accommodate buildout of lands in Fremont and Newark in the vicinity of the intersections.	The addition of project traffic to future year 2035 (cumulative) conditions would cause intersection LOS to degrade from acceptable to unacceptable or exacerbate operations by increasing the average delay by four or more seconds at the intersection of I-880 NB Ramps/Mowry Avenue. No feasible mitigation was identified to reduce this impact to less than significant level. A General Plan Amendment would be included with adoption of the Specific Plan to amend this policy allow an unacceptable LOS at intersections on the border of Newark for projects that are part of the City's regional effort to reduce vehicle trips and greenhouse gas emissions, support transit and enhance the quality of life in the region. With adoption of this General Plan Amendment, the Specific Plan would be consistent with the General Plan.
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Housing Element

Policy 1a	Through the design review process, consistently apply high standards of design to both multifamily and single family projects.	The Architectural Guidelines in the Specific Plan include recommendations for variety of architectural styles, building types, building forms, roof pitches, materials and architectural details, which would ensure that future development of both multi-family and single-family residential development within the Specific Plan area would enhance the overall quality of the development and surrounding area. Therefore, the Specific Plan would be consistent with this policy.
Goal 2	Provide housing opportunities for households with a wide range of incomes.	The Specific Plan would include a variety of housing choices at various densities, including single-family attached and detached homes, townhomes, live/work townhomes, condominiums and apartments. Therefore, the Specific Plan would provide a wide range of housing opportunities for residents with different incomes and would be consistent with this policy.
Policy 2a	Develop specific plans and zoning amendments for Areas 2, 3 and 4 to provide significant amounts of land for new residential development. Work with property owners and developers to implement the plans in a timely fashion.	The Specific Plan area is identified as Area 2 in the City's current General Plan and recently adopted Housing Element. Area 2 was identified as a Housing Element site to be developed by 2014, which would include 2,070 new housing units. A corresponding General Plan Amendment would be adopted prior to the adoption of the Dumbarton TOD Specific Plan, which would reflect the Specific Plan re-designation of the majority of the project site to residential uses, with a new maximum of 2,500 dwelling units. Therefore, with the adoption of the proposed General Plan Amendment, the Specific Plan would be consistent with this policy.

Policy 3d	Work with housing developers to encourage and support housing designed for and affordable to Newark’s elderly residents and/or low-income families.	The Specific Plan would encourage the provision of rental and for-sale types of housing to fulfill the City’s Inclusionary Housing Program. The Specific Plan would provide for the funding and/or development a total of 375 affordable for-sale or rental units in compliance with the Inclusionary Housing Program. Therefore, the Specific Plan would be consistent with this policy.
Policy 2f	As required by State law, provide a 25 percent density bonus and an additional incentive, or financially equivalent incentive(s), to a developer agreeing to construct at least 20 percent of the units for lower-income households, or 10 percent of the units for very low-income households, or 50 percent of the units for senior housing.	The City Council, upon request, may approve an increase in the number of units permitted in a proposed residential development project provided that the increase in density is consistent with the State density bonus law as set forth in Section 65915 of the California Government Code. Future development would be required to comply with these standards and, therefore, would be consistent with this policy.
Policy 4a	Redesignate all or part of selected commercial and industrial parcels for residential use.	The General Plan currently designates the Specific Plan area Limited Industrial and General Industrial. The proposed Specific Plan (and corresponding General Plan Amendment) would re-designate and re-zone the majority of the project area for residential use and would provide a maximum of 2,500 dwelling units within the Specific Plan area. Therefore, with adoption of the proposed General Plan Amendment, the Specific Plan would be consistent with this policy.

Policy 5b	Strive to provide housing that meets the needs of all persons by encouraging housing that is affordable, that provides access to employment and transportation, and that is located near services such as child care.	See consistency with Policy 3d regarding affordable housing. The Retail/Commercial Center would provide up to 35,000 square feet of retail space and up to 195,000 square feet of office space in buildings clustered near the future DRC transit station, which would provide jobs to residents of the City and surrounding area. In addition, the DRC transit station would provide access to transportation and employment areas outside of the City. Therefore, the Specific Plan would be consistent with this policy.
Goal 6	Provide affordable housing throughout Newark.	Refer to consistency evaluation for Policy 3d.

Open Space and Conservation Element

Goal 1	Encourage the conservation and preservation of unique open space and conservation resources that help define the quality and character of the City.	The Specific Plan would require a minimum of 16.3 acres of new park space, in addition to private recreational open space areas constructed in connection with specific development projects providing both passive and active recreational opportunities. The Specific Plan also proposes a linear trail along the perimeter of the southern, western, and northern borders. Therefore, the Specific Plan would be consistent with this goal.
Policy a	Protect and where possible enhance the public open space resources available within or near Newark.	Refer to consistency evaluation for Goal 1.
Policy b	Encourage private property owners to preserve unique open space areas and natural features on their lands.	Refer to consistency evaluation for Goal 1.
Goal 6	Conserve and manage the City's tree resources.	Future development activities within the Specific Plan area have the potential to result in the removal of trees. However, Mitigation Measure 4.3-7 incorporated herein would ensure that a tree permit is obtained from the City prior to any live tree removal on project site parcels. To offset impacts resulting from the removal of live trees, replacement trees would be required in designated open space areas. Therefore, the Specific Plan would be consistent with this goal.
Policy a	Maintain, and where appropriate, enhance programs for preserving existing trees.	Refer to consistency evaluation for Goal 6.

Recreation Element

		<p>The Specific Plan would provide approximately 16.3 acres of parks and recreational open space, including a 6.5-acre park that would be located directly west of the proposed Retail/Commercial Center. The corresponding General Plan Amendment, if adopted, would set the appropriate goal for park land provision.</p>
Policy a	<p>Set, and make all reasonable efforts to achieve park standards to determine where and how much parkland should be provided in Newark.</p>	<p>The high-quality, variety, and type of parks and recreational open spaces that could be provided, along with private recreational open spaces, would encourage use of facilities within the Specific Plan area. In addition, the amount of regional open spaces, including direct connections with the Bay Trail, would provide ample opportunities for future residents of the Specific Plan area to enjoy recreational open space opportunities. Therefore, the Specific Plan would be consistent with this policy.</p>
Program 2	<p>Provide one neighborhood park per 5,000 population, located within one-half mile of each residence.</p>	<p>Refer to consistency evaluation for Policy a.</p>
Program 6	<p>Where constraints cannot be overcome to meeting the established park and recreation standards, develop alternative programs for providing the needed recreational activities within existing park and recreation facilities.</p>	<p>Refer to consistency evaluation for Policy a.</p>
Policy b	<p>Develop new Neighborhood Parks in locations where there is an existing or anticipated need.</p>	<p>Refer to consistency evaluation for Policy a.</p>
Program 8	<p>Continue to require park land dedication and/or fees as authorized by State, or Federal regulations (e.g. Quimby Act, AB 1600).</p>	<p>Refer to consistency evaluation for Policy a.</p>

Policy c	Develop small play lots as a condition of all new development, particularly in areas where insufficient recreation facilities exist.	Refer to consistency evaluation for Policy a.
Policy g	Encourage, require and, where possible, purchase and operate, additional lands, equipment and facilities for public, or, as appropriate quasi-public, recreation use.	Refer to consistency evaluation for Policy a.
Environmental Safety		
Goal 1	Provide a quality environment in which it is safe for people to live, work, shop, and play.	The Specific Plan would provide a comprehensive policy and regulatory framework to guide future development and redevelopment of the project area. The Specific Plan would establish allowable land uses, development regulations, design guidelines, necessary infrastructure improvements, and an implementation plan to direct future development and redevelopment of the project area, which would ensure that the Specific Plan area would be a quality environment. Therefore, the Specific Plan would be consistent with this goal.
Policy a	Establish and enforce development regulations and building code requirements to protect residents and workers from flooding, liquefaction, earthquake, fire, and other hazards.	Future development within the Specific Plan area would be required to comply with the City's building code, subdivision ordinance, and zoning ordinance in order to protect residents and workers from hazards within the City. Therefore, the Specific Plan would be consistent with this policy.
Policy c	Design and maintain a street system that is safe for motorists, bicyclists, and pedestrians.	The street design standards in the Specific Plan would accommodate both sidewalks and bike lanes throughout the project area. Future development would be required to comply with these standards. Therefore, the Specific Plan would be consistent with this policy.

Goal 2	Provide a quality environment with acceptable level of police, fire, and emergency medical services for the safety of residents, employees, and visitors in Newark.	Future development within the Specific Plan area would be required to pay development impact fees to offset the costs of certain public services to ensure acceptable levels of police, fire, and emergency medical services. Therefore, the Specific Plan would be consistent with this goal.
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Noise Element

Goal 1	Insure that all new living and work areas are developed with a quality environment that is free from excessive, inappropriate, and undesirable noise.	<p>The majority of the Specific Plan area is proposed for residential uses, which would not result in excessive, inappropriate, or undesirable noise and would be compatible with the surrounding area.</p> <p>Construction activities associated with future development facilitated by the Specific Plan would expose adjacent sensitive receptors to sporadic high noise and vibration levels. Additionally, future residents would also be exposed to sporadic high noise and vibration levels as the Specific Plan area builds out. However, these are temporary impacts that could be mitigated to less than significant as identified in Section 4.10 (Noise) and would not affect new living and work areas long term.</p> <p>In addition, future residential uses adjacent to the DRC project could experience train noise in excess of standards established for residential uses. However, implementation of mitigation identified in Section 4.10 that requires sound attenuation techniques for the development adjacent to the DRC corridor, such as the use of appropriate setbacks and sound attenuating building design would reduce potential impacts to less than significant. Therefore, the Specific Plan would be consistent with this policy.</p>
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Policy b	Encourage separation of residential areas and other noise-sensitive uses, such as schools, from sources of undesirable noise.	As discussed above, the majority of the Specific Plan area would be comprised of residential uses, which would be considered sensitive receptors. Sound and privacy walls would be eliminated were feasible in support of creating an integrated community while ensuring that proposed and surrounding sensitive receptors are not adversely affected by undesirable noise. Therefore, the Specific Plan would be consistent with this policy.
Policy c	Protect occupants of buildings from excessive noise from sources within and outside the building, using site planning, architectural layout, noise barriers and construction modifications.	Refer to consistency evaluation for Policy b.
Goal 2	Reduce sound levels from known excessive levels from known sources of excessive noise.	Refer to consistency evaluation for Policy b.
Policy a	Control unnecessary, excessive, and annoying noises within the city, where not preempted by Federal or State control.	Refer to consistency evaluation for Policy b.

Reference: City of Newark General Plan, 1992.

CITY OF NEWARK MUNICIPAL CODE

Other than the General Plan, the City’s Municipal Code is the primary regulatory structure that shapes the form and character of physical development within the City. Standards and regulations established in the City’s Municipal Code are used to implement the goals and policies of the General Plan. Two primary sections of the City’s Municipal Code contain regulations to ensure consistency of development within the City: Subdivision Regulations and Zoning Regulations.

The Subdivision Regulations (Section 16) are established to ensure the orderly development of lands partially or wholly within the incorporated City. The ordinance also provides standards for surveying, design and construction.

The Zoning Regulations (Section 17) provide specific requirements for development in the City to achieve the general arrangement of land uses identified in the Land Use Element of the General Plan. Among the primary objectives of

the zoning standards are the regulation of building form, placement and density, and the provision of sufficient parking and open spaces with development.

BAY AREA REGIONAL SMART GROWTH STRATEGY/REGIONAL LIVABILITY FOOTPRINT PROJECT

In 2000, five San Francisco Bay Area regional agencies and the Bay Area Alliance for Sustainable Communities collaborated to develop a smart growth land use vision for the Bay Area through an extensive public participation process. The five regional agencies included the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), the Bay Area Air Quality Management District (BAAQMD), the Bay Conservation and Development Commission and the Regional Water Quality Control Board (RWQCB).

The Bay Area Regional Smart Growth Strategy and Regional Livability Footprint Project outlines regulatory changes and incentives that would be needed to implement this vision and provide 20-year land use and transportation projections based on the likely impact of these changes and incentives. The regulatory land use changes and incentives recommended include:

- ◆ Providing incentives to promote affordable housing development, including allowing higher densities than would otherwise be permitted, expediting the permitting process and relaxing zoning standards.
- ◆ Requiring that the existing affordable housing stock be maintained.
- ◆ Creating programs so that employees can live in the communities where they work.
- ◆ Providing incentives for infill development to protect open space and agricultural lands.
- ◆ Encouraging new jobs and housing near transit and mixed-use, compact, transit-oriented development.

SAN FRANCISCO BAY TRAIL

The Bay Trail proposes development of a regional hiking and bicycling trail around the perimeter of San Francisco and San Pablo Bays. The Bay Trail was prepared by ABAG pursuant to Senate Bill 100, which mandated that the Bay Trail: 1) provide connections to existing park and recreation facilities; 2) create links to existing and proposed transportation facilities, and 3) be planned in such a way as to avoid adverse effects on environmentally sensitive areas. The San Francisco Bay Trail proposes an alignment for what will become a 400-mile recreational “ring around

the Bay.” In the immediate vicinity, the existing Bay Trail Plan calls for it to be extended along Thornton Avenue, down Willow Street, and continue along Central Avenue to the east.

SAN FRANCISCO BAY PLAN

The San Francisco Bay Plan was completed and adopted by the San Francisco Bay Conservation and Development Commission (BCDC) in 1968 and was transmitted to the California Legislature and Governor in 1969. In those actions the Commission completed the original charge given to it in the provisions of the McAtteer-Petris Act of 1965. The Act created the Commission and mandated its study of the Bay and the preparation and submittal of a final report to the California Legislature in 1969.

The San Francisco Bay Plan includes policies to guide future uses of the Bay and shoreline and maps that apply these policies to the present Bay and shoreline. Portions of the City are located within the jurisdiction of the San Francisco Bay Plan, including areas north, west and south of the project area. The Specific Plan area is not located within the San Francisco Bay Plan jurisdiction.

4.9.3 ENVIRONMENTAL ANALYSIS

4.9.3.1 THRESHOLDS OF SIGNIFICANCE

According to the Appendix G of the CEQA Guidelines, the Dumbarton TOD Specific Plan would have a significant impact on land use if it would:

- ◆ Physically divide an established community;
- ◆ Conflict with any applicable plan, policy, or regulation of a government agency with jurisdiction over land within the City of Newark that has been adopted for the purpose of avoiding or mitigating an environmental effect; and/or
- ◆ Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan.

4.9.3.2 AREAS OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or not reasonably foreseeable:

- ◆ Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan

The Specific Plan area is not located within the jurisdiction of a Habitat Conservation Plan or Natural Community Conservation Plan.

4.9.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

DISRUPTION OF AN ESTABLISHED COMMUNITY

4.9-1 The Specific Plan would not disrupt or divide an established community within the City of Newark.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

Implementation of the Dumbarton TOD Specific Plan would result in a change to the project area from primarily disturbed and vacant land to the more urban and suburban land use. However, this change would complement the surrounding land uses and would not disrupt or divide an established community. Future development within the Specific Plan area would be required to comply with strict development regulations and Design Guidelines in the Specific Plan to ensure the proposed project is a quality design and is consistent with the General Plan. Therefore, the proposed Specific Plan would not disrupt or divide an established community and impacts would be less than significant.

Mitigation Measure

4.9-1 No mitigation required.

Level of Significance After Mitigation: Not applicable.

CONFLICTS WITH THE CITY OF NEWARK GENERAL PLAN, ZONING ORDINANCE, THE SAN FRANCISCO BAY TRAIL PLAN OR SAN FRANCISCO BAY PLAN

4.9-2 The proposed Specific Plan would not result in a conflict with the City's General Plan land use strategy, the Bay Area Regional Smart Growth Strategy/Regional Livability Footprint Project, the San Francisco Bay Trail Plan or San Francisco Bay Plan.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

City of Newark General Plan

Consistency of the Dumbarton TOD Specific Plan with applicable General Plan policies is addressed in Table 4.9-1. As discussed within this table, the proposed Specific Plan would generally be consistent with the policies of the General Plan.

The Specific Plan would amend the General Plan designations and zoning designations for the project area. Individual development projects within the Specific Plan area would be subject to review and approval of subsequent permits and entitlements by the City (e.g. subdivision review, design review, conditional use permits, variances, and/or other permits). Application and processing requirements would be in accordance with the City's Zoning Ordinance and Subdivision Ordinance and other regulations, unless otherwise modified by the proposed Specific Plan.

All subsequent development projects, public improvements, and other activities would be consistent with the General Plan, as amended, the Specific Plan, and accompanying Standards and Design Guidelines, and all applicable City policies, requirements, and standards. As such, the Specific Plan is not anticipated to result in a conflict with the General Plan.

Bay Area Regional Smart Growth Strategy/Regional Livability Footprint Project

Implementation of the Specific Plan would be consistent with the Bay Area Regional Smart Growth Strategy/Regional Livability Footprint Project, which is the Regional Blueprint for the City and the San Francisco Bay Area. The development strategy for the Specific Plan calls for mixed-use compact residential development

near the DRC, transportation alternatives, and new affordable housing, which are all goals and elements of the Regional Blueprint. As a result of the proposed development strategy, the Specific Plan would not conflict with the Bay Area Regional Smart Growth Strategy/Regional Livability Footprint Project and there would be no impact.

San Francisco Bay Trail

The San Francisco Bay Trail exists to the north of the Specific Plan area. In the immediate vicinity, the existing Bay Trail Plan extends down Willow Street, and continues along Central Avenue to the east. The Specific Plan proposes an internal trail (built internal to the perimeter of the plan area), and would provide connections with the existing Bay Trail along Willow Avenue. Therefore, the Specific Plan would not result in conflicts with the San Francisco Bay Trail Plan.

San Francisco Bay Plan

The Specific Plan area is not under the jurisdiction of the San Francisco Bay Conservation and Development Commission and, therefore, would not be subject to the San Francisco Bay Plan. However, adjacent properties located to the west and south of the Specific Plan including the Refuge and adjacent salt pond and managed wetlands, are under the jurisdiction of the San Francisco Bay Plan.

Mitigation Measure

4.9-2: No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.9.3.3 CUMULATIVE IMPACTS AND MITIGATION MEASURES

CUMULATIVE LAND USE CONFLICTS

4.9-4 Future development of the project area allowed by the Dumbarton TOD Specific Plan could result in potential land use conflicts.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The geographic scope of this impact is cumulative development in the project area, generally located within the City of Newark and western Alameda County.

The Specific Plan would be an extension of the existing residential and commercial retail/office uses located in the project vicinity and would not create substantial land use impacts. The past, present and reasonably foreseeable future projects anticipated by the General Plan, as most recently updated, could contribute incrementally to changes in the character of the City and surrounding area. However, it is anticipated that cumulative development would take place within urbanized areas and would not require significant land use changes that would create land use conflicts and/or divide the City and/or surrounding area. Nonetheless, all development projects would be required to comply with all applicable City code standards and would be subject to the City planning process and appropriate environmental review. Therefore, land use impacts would not be cumulatively considerable.

Mitigation Measure:

4.9-4 No mitigation required.

Level of Significance After Mitigation: Not applicable.

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4.10 NOISE

The purpose of this section is to analyze project-related noise source impacts onsite and to surrounding land uses. Mitigation measures are also recommended to avoid or lessen the project's impacts. This section evaluates short-term construction-related impacts as well as long-term buildout operational conditions. Information in this section is based on the City of Newark General Plan, City of Newark Municipal Code, the Dumbarton Transit Oriented Development (TOD) Specific Plan prepared by Dahlin Group (dated March 22, 2011), and the Traffic Impact Analysis prepared by Fehr and Peers provided in Section 4.14 (Traffic). Refer to Appendix F (Noise Data) for the assumptions utilized in this analysis.

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 NOISE SCALES AND DEFINITIONS

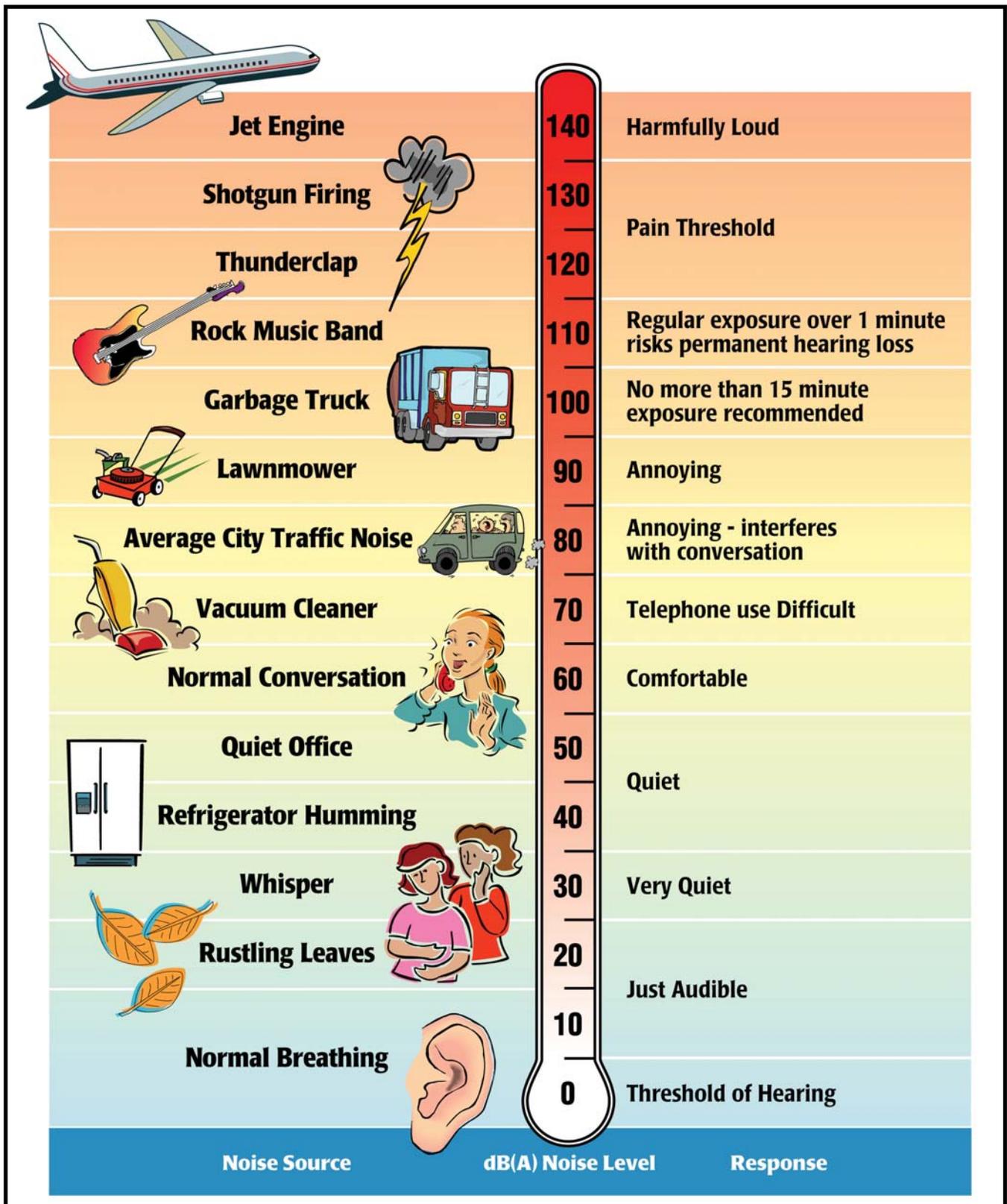
Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on Figure 4.10-1 (Sound Levels and Human Response).

Many methods have been developed for evaluating community noise to account for, among other things:

- ◆ The variation of noise levels over time;
- ◆ The influence of periodic individual loud events; and
- ◆ The community response to changes in the community noise environment.

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Source: RBF Consulting (2011), Environmental Protection Agency (1974), and Melville C. Branch and R. Dale Beland (1970)

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Numerous methods have been developed to measure sound over a period of time; refer to Table 4.10-1 (Noise Descriptors).

TABLE 4.10-1 NOISE DESCRIPTORS

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 p.m. to 10:00 p.m., and +10 dBA for the night, 10:00 p.m. to 7:00 a.m.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq} . The L_{dn} is calculated by averaging the L_{eq} 's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m. to 7:00 a.m.), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01} , L_{10} , L_{50} , L_{90} , respectively) of the time during the measurement period.

Source: Cyril M. Harris, *Handbook of Noise Control*, 1979.

4.10.1.2 HEALTH EFFECTS OF NOISE

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. The percentage of people claiming to be annoyed by noise generally increases with the environmental sound level. However, many factors also influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses range from "not annoyed" to "highly annoyed."

When the noise level of an activity rises above 70 dBA, the chance of receiving a complaint is possible, and as the noise level rises, dissatisfaction among the public steadily increases. However, an individual's reaction to a particular noise depends on many factors, such as the source of the sound, its loudness relative to the background noise, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community.

The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- ◆ Noise-Induced Hearing Loss;
- ◆ Interference with Communication;
- ◆ Effects of Noise on Sleep;
- ◆ Effects on Performance and Behavior;
- ◆ Extra-Auditory Health Effects; and
- ◆ Annoyance.

Although it often causes discomfort and sometimes pain, noise-induced hearing loss usually takes years to develop. Noise-induced hearing loss can impair the quality of life through a reduction in the ability to hear important sounds and to communicate with family and friends. Hearing loss is one of the most obvious and easily quantified effects of excessive exposure to noise. While the loss may be temporary at first, it could become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss

directly caused by the environment is difficult to quantify. Although the major cause of noise-induced hearing loss is occupational, substantial damage can be caused by non-occupational sources.

According to the United States Public Health Service, nearly ten million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools, and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high and the task sufficiently complex for effects on performance to occur.

Recent research indicates that more moderate noise levels can produce disruptive after-effects, commonly manifested as a reduced tolerance for frustration, increased anxiety, decreased incidence of “helping” behavior, and increased incidence of “hostile” behavior. Noise has been implicated in the development or exacerbation of a variety of health problems, ranging from hypertension to psychosis. As with other categories, quantifying these effects is difficult due to the amount of variables that need to be considered in each situation. As a biological stressor, noise can influence the entire physiological system. Most effects seem to be transitory, but with continued exposure some effects have been shown to be chronic in laboratory animals.

Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one's peace of mind and the enjoyment of one's environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels were consistently above 60 dBA CNEL, approximately nine percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

4.10.1.3 GROUND-BORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response. Typically, ground-borne vibration, generated by man-made activities, attenuates rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions.

4.10.1.4 SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day and sensitivity of the receptor. The effects of noise on humans can range from

temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack of it, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. Table 4.10-2 (Sensitive Receptors) lists the sensitive receptors within one mile of the project site.

TABLE 4.10-2 SENSITIVE RECEPTORS

Type	Name	Distance from Project Site (feet) ¹	Direction from Project Site
Residential	Residential Uses	40	North
		275	East
Schools	Schilling Elementary School	1,455	Northeast
	Lincoln Elementary School	3,770	North
	Headstart Ash Street Center	2,580	East
	James Graham Elementary School	5,200	North
Parks	Ash Street Park	2,580	East
	Alderwood Park	4,120	East
	Mayhews Landing Park	5,100	Northeast
Religious Centers	Newark Christian Center	3,200	East
	Pentecostal Church of God of Newark	3,200	East
	Family Bible Fellowship	3,500	East
	Newark Community Church	4,900	East
	Living Hope Fellowship	4,300	East
	Jehova's Witnesses Newark North	5,100	Northeast
Church of Jesus Christ of Latter Day Saints	4,440	Northeast	

Notes:

1. Sensitive Receptor populations utilized in this analysis are those within a 1-mile radius of the project site.

Source: Google Earth 2011.

4.10.1.5 AMBIENT NOISE MEASUREMENTS

In order to quantify existing ambient noise levels in the project area, RBF Consulting conducted noise measurements on March 8, 2011; refer to Table 4.10-3 (Noise Measurements), and Figure 4.10-2 (Noise Measurement Locations), which provides the location of the measurements. Noise monitoring equipment used for

the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a 4189 pre-polarized freefield microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters.

The noise measurement sites indicated in Table 4.10-3 are representative of typical existing noise exposure within and immediately adjacent to the project site. Ten-minute measurements were taken at four sites, between 3:30 PM and 4:15 PM. Meteorological conditions were typical, with light wind speeds (0 to 5 miles per hour), low humidity, and clear skies. Existing measured noise levels on site range from approximately 50.3 Leq to 65.1 Leq. The highest onsite noise level measurement (65.1 dBA) was taken adjacent to the southeastern portion of the project site near the intersection of Cabot Court and Willow Street.

TABLE 4.10-3 NOISE MEASUREMENTS

Site	Location	Time	L _{eq}	L ₁₀	L ₅₀	L ₉₀
1	Terminus of Willow Place	3:30 PM	60.1	61.0	56.0	52.0
2	Terminus of Acorn Place	3:45 PM	51.7	50.3	42.1	40.7
3	Business park near the intersection of Cabot Court and Willow Street	4:00 PM	65.1	63.9	63.4	62.5
4	Onsite, at the terminus of Enterprise Drive	4:15 PM	50.3	50.8	47.0	46.0

Source: Noise Monitoring Survey conducted by RBF Consulting, March 8, 2011.



Source: RBF Consulting (2011) and Dahlin Group (2010)

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4.10.1.6 MOBILE NOISE SOURCES

The project site is surrounded by salt production and harvesting operations, residential areas, and commercial/light industrial uses. The salt production and harvesting operations are located primarily to the northwest, west and south of the project site, while the commercial/light industrial and residential uses are located to the north, east, and southeast. Vehicles using local roadways generate the majority of noise in the project area. To assess the potential for project-generated noise impacts, it is necessary to quantify the existing traffic-generated noise. Noise models were run using the Federal Highway Administration’s Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (e.g., number of lanes), roadway width, average daily traffic (ADT), vehicle travel speed, percentages of auto and truck traffic, roadway grade, angle-of-view and site conditions (“hard” or “soft”). The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. Noise projections are based on modeled vehicular traffic as derived from Section 4.14 (Traffic). Existing modeled traffic noise levels can be found in Table 4.10-4 (Existing Traffic Noise Levels). As shown in Table 4.10-4, traffic noise within the area ranges from 49.5 dBA to 61.8 dBA.

TABLE 4.10-4 EXISTING TRAFFIC NOISE LEVELS

Roadway Segment	ADT	dBA @ 100 feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour
Central Avenue					
Filbert Street to Sycamore Street	8,100	60.3	140	44	14
Thornton Avenue					
Willow Street to Sycamore Street	11,600	61.8	200	63	20
Willow Street					
Thornton Avenue to Central Avenue	500	49.5	12	4	1

Source: Traffic modeling is based upon data contained within Section 4.14, Traffic.

4.10.1.7 STATIONARY NOISE SOURCES

The primary sources of stationary noise in the project vicinity are urban-related and rural related activities (i.e., mechanical equipment, loading and unloading areas, parking lots, landscape maintenance, conversations [normal to loud], and recreational areas) and residential activities (i.e., air conditioners, pool and spa equipment, landscape maintenance, and conversations). Noise associated with these sources may represent a single event noise occurrence, short-term, or long-term/continuous noise.

4.10.2 REGULATORY SETTING

This section summarizes the laws, ordinances, regulations and standards that are applicable to the proposed project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and State agencies provide standards and guidelines to the local jurisdictions.

4.10.2.1 STATE FRAMEWORK

CALIFORNIA GOVERNMENT CODE

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of “normally acceptable”, “conditionally acceptable” and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial and professional uses.

4.10.2.2 LOCAL FRAMEWORK

CITY OF NEWARK GENERAL PLAN

The City of Newark General Plan Noise Element identifies noise and land use compatibility standards for various land uses. These standards are intended to provide compatible land uses throughout the community as related to environmental noise. Residential land uses are considered “normally acceptable” in exterior noise environment of 60 dBA Ldn or less. Interior noise levels attributable

to exterior noise sources shall be maintained at or below 45 dBA Ldn. The Newark General Plan establishes the following noise criteria for land use planning:

In planning for an acceptable community noise environment, two considerations must be realized:

1. Fixed (in terms of locale) noise sources, such as freeways, railroad lines, and industrial plants may provide areas unsuitable for certain types of land use. Thus, it is desirable to establish criteria by which a planner may determine acceptable land uses for a given site with respect to noise compatibility.
2. Limits must be placed on noise emission of individual sources to ensure that noise levels within any given land use will remain within or reduce some recommended level.

To avoid annoyance and health problems from exposure to excessive noise levels, all development proposals should comply with the exterior and interior standards shown in Figures 10-2 and 10-3 [of the Newark General Plan], respectively [refer to Table 4.10-5 (City of Newark Exterior Noise Standards) and Table 4.10-6 (City of Newark Interior Noise Levels Considered Acceptable for Various Uses)]. Further, the noise criteria for multi-family housing should comply with the Noise Insulation Standards of the California Code of Regulations, Part 2, Title 24.

“Normally Acceptable” means that the specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

“Conditionally Acceptable” means that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and necessary noise mitigation measures are included in the design.

Noise exposures above the “Conditionally Acceptable” limit are unacceptable and new construction or development should be discouraged. If new construction or development proceeds, a detailed noise analysis must be performed.

TABLE 4.10-5 CITY OF NEWARK EXTERIOR NOISE STANDARDS

Land Use	Noise Exposure Limit (dB DNL)	
	Normally Acceptable	Conditionally Acceptable
Residential		
Single Family	60	70
Multi-Family	65	70
Transient Lodging		
Hotels, Motels	65	
Schools, Churches, Library, Hospitals, Nursing Homes	60	70
Auditoria, Concert Halls, Amphitheaters	70	70
Sports Arenas, Outdoor Spectator Sports	75	75
Playgrounds, Neighborhood Parks, Golf Courses, Riding Stables, Water Recreation, Cemeteries	75	80
Office Buildings, Business, Commercial, and Professional	70	80
Industrial, Manufacturing, Utilities, Agriculture	75	80

DNL = Day-Night Sound Level

Source: City of Newark, *City of Newark General Plan*, June 1992.

TABLE 4.10-6 CITY OF NEWARK INTERIOR NOISE STANDARDS

Use	DNL
Residential	
Single Family	45
Multi-Family	50
Commercial	
Hotel-Motel	45
Executive Office, Conference Rooms	40
Staff Offices	45
Restaurant, Markets, Retail Stores	60
Sales, Secretarial	50
Sports Arena, Bowling Alley, etc.	75
Industrial	
Offices (same as above)	55-60
Laboratory	60
Machine Shop, Assembly, and Others	75
Public or Semi-Public Facility	
Concert Hall and Legitimate Theater	30
Auditorium, Movie Theater, and Church	45
Hospital, Nursing Home, School	45
Classrooms, Firehouse (sleeping quarters)	
Library	40
DNL = Day-Night Sound Level	

Source: City of Newark, *City of Newark General Plan*, June 1992.

CONSTRUCTION NOISE

The City of Newark Municipal Code is silent regarding construction noise standards or limitations. Therefore, the *Alameda County Code* (Chapter 6.60, Noise) was utilized. Section 6.60.070 (Special Provisions) and Section 6.60.120 (Construction) would apply to the proposed project. Section 6.60.070(E) of the *Alameda County Code* prohibits construction to occur between 7:00 p.m. and 7:00 a.m. on any day except Saturday or Sunday, or between 5:00 p.m. and 8:00 a.m. on Saturday or Sunday.

4.10.3 ENVIRONMENTAL ANALYSIS

4.10.3.1 THRESHOLDS OF SIGNIFICANCE

According to the Appendix G of the *CEQA Guidelines*, the Dumbarton TOD Specific Plan would have a significant noise impact if it would:

- ◆ Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- ◆ Expose persons to or generate excessive ground borne vibration or ground borne noise levels;
- ◆ Substantially permanently increase 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;
- ◆ 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, expose people residing or working in the project site to excessive noise levels; and,
- ◆ For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project site to excessive noise levels.

SIGNIFICANCE OF CHANGES IN TRAFFIC NOISE LEVELS

If the ambient noise environment is quiet and the new noise source greatly increases the noise exposure, an impact may occur even though a criterion level might not be exceeded. The project would create a potentially significant impact for traffic noise levels when the following occurs:

- ◆ An increase of the existing ambient noise levels by 5 dB or more, where the ambient level is less than 60 dB Ldn;
- ◆ An increase of the existing ambient noise level by 3 dB or more, where the ambient level is 60 to 65 dB Ldn; or
- ◆ An increase of the existing ambient noise level by 1.5 dB or more, where the ambient level is greater than 65 dB Ldn.

The project would result in a significant noise impact when a permanent increase in ambient noise levels exceeds the criteria above and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

SIGNIFICANCE OF CHANGES IN CUMULATIVE TRAFFIC NOISE LEVELS

The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "Cumulative With project" condition to "Existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

Combined Effects: The cumulative with project noise level ("Long-Term Plus Project") causes the following:

- ◆ An increase of the existing noise level by 5 dB or more, where the existing level is less than 60 dB Ldn;
- ◆ An increase of the existing noise level by 3 dB or more, where the existing level is 60 to 65 Ldn; or
- ◆ An increase of the existing noise level by 1.5 dB or more, where the existing level is greater than 65 dB Ldn.

Although there may be a significant noise increase due to the proposed project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

Incremental Effects: The "Long-Term Plus Project" causes a 1 dBA increase in noise over the "Long-Term No Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

VIBRATION IMPACTS

With respect to ground-borne vibration from construction activities, the Federal Transit Administration (FTA) has adopted guidelines/recommendations to limit

ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity.

A technical discussion of construction activity-related vibration is provided in the FTA publication titled Transit Noise and Vibration Impacts Assessment (May 2006). As described therein, a ground-borne vibration level of 0.2 inch-per-second peak particle velocity (PPV) should be considered as damage threshold criterion for structures deemed “fragile,” and a ground-borne vibration level of 0.12 inch-per-second PPV should be considered as damage criterion for structures deemed “extremely fragile,” such as historic buildings. With respect to structures that are considered “well engineered,” a ground-borne vibration damage threshold criterion of 2.0 inch-per-second PPV. The analysis has assumed a conservative threshold of 0.2 inch-per-second PPV.

4.10.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION IMPACTS

4.10-1 Construction related activities could result in temporary noise impacts to nearby noise sensitive receivers.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Construction noise impacts would be associated with excavation, grading, and building activities. Two types of noise impacts may occur during the construction of the proposed project. First, construction worker trips and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 feet would generate up to a maximum of 87 dBA), the effect on long term (hourly or daily) ambient noise levels would be minimal. Therefore, short-term construction-related noise impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of noise impact is related to noise generated during excavation, grading, and building construction on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its

own noise characteristics. These various sequential phases would change the character of the noise generated on the site, and therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.10-7 (Typical Construction Equipment Noise Levels) lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor.

TABLE 4.10-7 TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81 to 96	93
Rock Drills	83 to 99	96
Jack Hammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	74 to 84	80
Scrapers	83 to 91	87
Haul Trucks	83 to 94	88
Cranes	79 to 86	82
Portable Generators	71 to 87	80
Rollers	75 to 82	80
Dozers	77 to 90	85
Tractors	77 to 82	80
Front-End Loaders	77 to 90	86
Hydraulic Backhoe	81 to 90	86
Hydraulic Excavators	81 to 90	86
Graders	79 to 89	86
Air Compressors	76 to 89	86
Trucks	81 to 87	86

dBA = A-weighted decibels; ft-lb/blow = foot-pound per blow

Source: Bolt, Beranek, & Newman, *Noise Control for Buildings and Manufacturing Plants*, 1987.

Typical noise levels range up to 91 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the construction equipment capable of producing the loudest noise is earthmoving

equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three or four minutes at lower power settings.

During future development of projects facilitated by the Specific Plan, adjacent sensitive receptors would be exposed to sporadic high noise and vibration levels associated with construction activities (as a result of power tools, jack-hammers, truck noise, etc.). It is anticipated that construction traffic would access the potential construction sites within the Specific Plan area from several major roadways, including Enterprise Drive, Central Avenue, and Willow Street. As stated previously, various sensitive receptors exist adjacent to the Specific Plan area. Since many residential and institutional land uses are within close proximity to potential construction activities, residential and institutional land uses could be exposed to high noise levels. Construction noise impacts would be reduced with implementation of Mitigation Measure 4.10-1a, which would reduce construction noise associated with future development through the use of a site-specific noise reduction features. Specifically, Mitigation Measure 4.10-1a would limit construction hours to occur from 7:00 a.m. and 7:00 p.m., Monday through Friday, and from 8:00 a.m. to 5:00 p.m. on Saturdays and Sundays. Mitigation Measure 4.10-1a also requires the use of the best available noise control techniques, as well as requiring alternatives to pneumatic power tools.

Future residents would also be exposed to construction-related noise impacts as the project builds out. Development of each neighborhood may overlap with the development of other neighborhoods, and each of these neighborhoods may develop in sub-phases. Potential construction noise impacts on residents located onsite would depend on the schedule and activities throughout the site's development process. However, Mitigation Measure 4.10-1b includes a list of measures to respond to, track, and address complaints related to construction noise.

The Newark Municipal Code and General Plan do not specify standards for short-term construction noise. The Alameda County Code, (Section 6.60.070), specifies that construction activities are exempt from the provisions in the Noise Control Ordinance if they are conducted between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and between 8:00 a.m. to 5:00 p.m. on Saturdays. With implementation of Mitigation Measure 4.10-1a, the project would limit construction to these timeframes. Upon implementation of Mitigation Measure 4.10-1a, the

project would not result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, as the proposed construction activities would be exempt. Additionally, as Mitigation Measures 4.10-1a and 4.10-1b contain best management practices to reduce, track, and address construction noise, impacts would be reduced to less than significant levels.

Mitigation Measures

4.10-1a To reduce noise impacts due to construction, project applicants shall require construction contractors to implement a site-specific noise reduction program, subject to City review and approval, which includes the following measures, ongoing through demolition, grading, and/or construction:

- ◆ Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and between 8:00 a.m. to 5:00 p.m. on Saturdays.
- ◆ Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible).
- ◆ Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- ◆ Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporated insulation barriers, or other measures to the extent feasible.
- ◆ If feasible, the noisiest phases of construction shall be limited to less than 10 days at a time.

4.10-1b Prior to the issuance of each grading permit, project applicants shall submit to the City Building Inspection Division a list of measures to respond to and track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction. These measures shall include the following:

- ◆ A procedure and phone numbers for notifying the City Building Inspection Division staff and Newark Police Department (during regular construction hours and off-hours);
- ◆ A sign posted onsite pertaining the permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);
- ◆ The designation of an onsite construction complaint and enforcement manager for the project. The manager shall act as a liaison between the project and its neighbors (including onsite residents). The manager's responsibilities and authority shall include the following:
 - An active role in monitoring project compliance with respect to noise;
 - Ability to reschedule noisy construction activities to reduce effects on surrounding noise sensitive receivers;
 - Site supervision of all potential sources of noise (e.g., material delivery, shouting, debris box pick-up and delivery) for all trades; and,
 - Intervening or discussing mitigation options with contractors.
- ◆ Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of construction activities regarding the details and estimated duration of the activity; and,
- ◆ A preconstruction meeting shall be held with the job inspectors and the general contractor/onsite project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

Level of Significance After Mitigation: Less Than Significant

CONSTRUCTION-RELATED VIBRATION IMPACTS

4.10-2 Development associated with implementation of the proposed project could result in temporary vibration impacts to nearby sensitive receptors during grading and construction activities.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Construction activities can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). Groundborne vibrations from construction activities rarely reach levels that damage structures.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 25 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. Table 4.10-8 (Typical Vibration Levels for Construction Equipment) identifies various vibration velocity levels for types of construction equipment that would operate during construction.

Groundborne vibration would attenuate at a rate of approximately six VdB per doubling of distance. The groundborne vibration generated during construction activities would primarily impact existing sensitive uses that are located adjacent to or within the vicinity of specific projects. Should pile driving activities take place, Mitigation Measure 4.10-2 would require alternatives or control techniques to reduce vibration. Based upon the information provided in Table 4.10-8, vibration levels could reach up to 87 VdB for typical construction activities (and up to 104 VdB if pile driving activities were to occur) at sensitive uses located within 25 feet of construction. However, pursuant to Mitigation Measure 4.10-2, should future construction activities take place within 25 feet of an occupied structure, a project-

specific vibration impact analysis shall be conducted, resulting in a less than significant impact. Additionally, the project would be required to comply with Municipal Code Chapter 17.48, which prohibits vibration nuisances on neighboring properties. Compliance with the City’s Municipal Code and Mitigation Measure 4.10-2 would reduce the generation and/or exposure of persons or structures to excessive groundborne vibration to less than significant levels.

TABLE 4.10-8 TYPICAL VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate ground velocity in decibels at 25 feet (inches/second)	Approximate ground velocity in decibels at 50 feet (inches/second)
Pile Driver (impact)	104	98
Large Bulldozer	87	81
Loaded Trucks	86	80
Jackhammer	79	73
Small Bulldozer	58	52

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006.

Notes: Root mean square amplitude ground velocity in decibels (VdB) referenced to 1 micro-inch/second.

Mitigation Measure

4.10-2 If pile driving is required for building construction, construction contractors shall incorporate the following additional requirements:

- ◆ Wherever possible, sonic or vibratory pole drivers shall be used instead of impact pile drivers (sonic pile drivers are only effective in certain soils).
- ◆ Engine and pneumatic exhaust controls on pile drivers shall be required as necessary to ensure that exhaust noise from pile driver engines are minimized to the extent feasible.
- ◆ Where feasible, pile holes will be pre-drilled to reduced potential noise and vibration impacts.
- ◆ Occupied residences within 300 feet of pile driving activities shall be notified of pile-driving activities at least two weeks prior to the commencement of pile driving.
- ◆ Should pile driving activities take place within 25 feet of an occupied structure, a site specific vibration impact analysis shall be conducted to ensure vibration levels do not exceed 0.2 inch-per-second Peak Particle Velocity.

Level of Significance After Mitigation: Less Than Significant

ONSITE LONG-TERM OPERATIONAL IMPACTS

4.10-3 Implementation of the proposed project would not result in an increase in onsite ambient noise levels due to operational noise impacts.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Land uses within the Specific Plan area include residential, commercial retail, office, transit station, and parks and open space. Primary noise sources associated with these facilities are due to customer trips, delivery trucks, and landscape equipment.

Residential Uses

The proposed Specific Plan would create 2,500 single family dwelling units. Noise that is typical of residential areas includes children playing, pets, amplified music, mechanical equipment, car repair, and home repair. Noise from residential stationary sources would primarily occur during the “daytime” activity hours. Noise impacts to surrounding uses associated with implementation of the Specific Plan would be consistent with the surrounding residential uses and impacts are anticipated to be less than significant.

Non-Residential Uses

The areas of potential buildout within the Specific Plan include approximately 35,000 square feet of commercial retail uses, 195,000 square feet of commercial office uses, 6.11 acres for a transit station, and 16.31 acres for parks and open space. The new office and retail uses could increase noise levels in their proximity due to increased slow moving truck deliveries, additional parking uses, and landscape maintenance, etc. Additionally, the Specific Plan Design Strategies (Chapter 3, Community Form) state that the design of appropriate land uses, orientation of structures, and appropriate landscaped setbacks are some of the methods identified to mitigate noise.

A primary goal of the Specific Plan is to create an integrated community of compatible uses, which when implemented, would effectively safeguard against

noise. The Specific Plan proposes the development of residential, commercial, and office uses in an area that is currently adjacent to existing commercial and residential uses. As such, the increase in ambient noise levels is anticipated to generate noise levels similar to the surrounding developments. Where new development would abut sensitive uses such as residences, the Specific Plan includes design guidelines and development standards that are aimed at reducing impacts, including building orientation, landscaped setbacks, and location of appropriate uses. By providing the necessary regulatory and design guidance, the proposed project ensures that future development of parcels within the Specific Plan area would not result in significant impacts. Any new stationary noise source would be required to provide adequate sound attenuation such that City noise standards are achieved. Compliance with the City's standards and the Specific Plan development standards would reduce potential stationary source noise impacts to less than significant levels.

Onsite Railroad Noise

The Dumbarton TOD Specific Plan would provide space for a multi-modal transit station that would include commuter train service. The Dumbarton Rail Transit Station would provide commuter rail service from the Union City Intermodal Transit Center across the Dumbarton Bridge to Menlo Park, and finally connect to the Caltrain service that runs from San Francisco to San Jose. Exterior uses at new developments adjacent to Dumbarton transit corridor may include communal open spaces, such as pocket parks or pedestrian walkways. It is anticipated that the majority of these uses would be located within the interior of new developments or on the opposite side of the development from the transit corridor, thereby shielding such uses from the noise generated by those transportation facilities. However, the Specific Plan would locate high density mixed-use residential and medium high density residential uses adjacent to the Dumbarton transit corridor.

Trains have the potential produce noise levels in excess of the normally acceptable land use compatibility standards for residential uses. Typically, the 65 dBA Ldn noise contour falls within 500 feet or less from the centerline of tracks that experience a mix of freight and commuter rail operations.¹ In practice, these distances may be further reduced as intervening topography and structures serve as

¹ Wyle Laboratories, Assessment of Noise Environments Around Railroad Operations (Research Report No. WCR 73-5), July 1973.

noise berms and walls. The actual distance to the 65 dBA Ldn can only be determined on a case-by-case basis, taking local obstructions, barriers/reflectors, and detailed site plans into account. As a result, sound attenuation techniques would need to be considered for the development adjacent to the Dumbarton transit corridor. The preferred methods for mitigating noise impacts include the use of appropriate setbacks and sound attenuating building design. Mitigation Measure 4.10-3 requires determination of appropriate noise attenuation measures once final design plans have been completed.

Airport Noise

The Dumbarton TOD Specific Plan site is not located within two miles of an airport or within an airport land use plan area and would not be exposed to excessive noise from aircraft. The exterior noise environment at the project site resulting from intermittent aircraft noise would be considered compatible with proposed sensitive uses. Impacts would be less than significant in this regard.

Mitigation Measure:

4.10-3 Prior to building permit issuance, an Acoustical Assessment shall be prepared for the high/mixed-use residential, medium/high density residential, medium density residential parcels located north of Enterprise Drive (within approximately 600 feet of the Dumbarton transit corridor) to demonstrate that the exterior and interior noise levels are consistent with the City's land use compatibility standards and *Title 25, Section 1092* of the *California Code of Regulations*. The Acoustical Assessment shall be prepared by a qualified Acoustical Consultant and submitted to the Community Development Director for review and approval. Measures (e.g., attenuation barriers, acoustically rated windows [i.e., appropriate STC or OITC ratings], upgraded insulation, etc.) shall be implemented where conditions exceed the Noise and Land Use Compatibility Criteria of "Normally Acceptable" noise exposure levels.

Level of Significance After Mitigation: Less Than Significant

OFFSITE LONG-TERM OPERATIONAL (MOBILE SOURCE) IMPACTS

4.10-4 Traffic generated by the proposed project could significantly contribute to existing traffic noise in the area or exceed the City's established standards.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Existing Traffic Noise

The following analysis compares the “Existing” to the “Existing Plus Project” condition. There are often circumstances in which an “Existing Plus Project” analysis would result in only a hypothetical comparison of impacts which will not occur. There may, for example, be circumstances in which a project is not expected to become operational for several years. During the period after the environmental analysis is prepared, and before the project becomes operational, there may be reason to believe that traffic conditions will change due to regional or area wide growth, or planned and funded traffic improvements, to name a few. In those instances, there may be reason to believe that an “Existing Plus Project” analysis will be less accurate than an analysis that takes into account the reasonably foreseeable interim changes in the environment, versus assuming static environmental conditions.

Project implementation would result in additional traffic on adjacent roadways, thereby increasing vehicular generated noise in the vicinity of the existing and proposed land uses. Traffic volumes were analyzed under the “Existing” and “Existing Plus Project” conditions. As previously discussed, when the resultant noise level exceeds City standards, an increase of 5 dBA or greater in noise levels occurring from project-related activities would be significant when the “No Project” noise level is below 60 dBA. An increase of 3 dBA or greater in noise levels occurring from project-related activities would be significant when the “No Project” noise level is between 60 to 65 dBA. Finally, an increase of 1.5 dBA or greater would be significant if the “No Project” noise level is above 65 dBA.

According to the Section 4.14 (Traffic), the proposed project would generate 14,131 daily vehicle trips. Table 4.10-9 (Existing Traffic Noise Levels) depicts the “Existing” noise scenario and the “Existing Plus Project” scenario.

TABLE 4.10-9 EXISTING TRAFFIC NOISE LEVELS

Roadway Segment	Existing Without Project		Existing With Project		Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact
	ADT	dBA @ 100 Feet from Roadway Centerline	ADT	dBA @ 100 Feet from Roadway Centerline		
Central Avenue						
Filbert Street to Sycamore Street	8,100	60.3	12,100	62.1	1.8	No
Thornton Avenue						
Willow Street to Sycamore Street	11,600	61.8	16,000	63.1	1.3	No
Willow Street						
Thornton Avenue to Central Avenue	500	49.5	8,400	57.5	8.0	No

Notes: ADT = average daily trips; dBA = A-weighted decibels.

Source: Traffic modeling is based upon data contained within Section 4.14, Traffic.

As indicated in Table 4.10-9, under the “Existing” scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 49.5 dBA to 61.8 dBA. The highest noise levels under “Existing” conditions would occur along Thornton Avenue (between Willow Street and Sycamore Street). Under the “Existing With Project” scenario noise levels at a distance of 100 feet from the centerline would range from approximately 57.5 dBA to 63.1 dBA. Table 4.10-9 also compares the “Existing” scenario to the “Existing With Project” scenario. The proposed project would increase noise levels on the surrounding roadways by a maximum of 8.0 dBA along Willow Street (between Thornton Avenue and Central Avenue). As stated under the *Significance Criteria*, when the baseline noise level is less than 60 dBA, an increase in noise of five dBA or more is considered a significant impact. However, the resultant noise during the “Existing With Project” scenario would be 57.5 dBA, which is below the City’s residential standard of 60 dBA. This noise level is based on a speed limit of 25 miles per hour (mph), which is the planned speed limit for this segment of Willow Street with project implementation (the current speed limit is 40 mph). Mitigation Measure 4.10-4 has been included to ensure that the future speed limit is changed to 25 mph along this segment of Willow Street. With implementation of Mitigation Measure 4.10-4, impacts would be less than significant.

Long Term Traffic Noise

Table 4.10-10 (Long Term Traffic Noise Levels) compares the “Long Term Without Project” scenario to the “Long Term With Project” scenario. During the

“Long-Term Without Project” scenario noise levels at 100 feet from the roadway centerline would range from 50.3 dBA to 62.6 dBA. During the “Long-Term With Project” scenario, noise levels would range from 57.5 dBA to 63.8 dBA. As indicated in Table 4.10-10, the proposed project would increase noise levels on the surrounding roadways by a maximum of 7.2 dBA along Willow Street (between Thornton Avenue and Central Avenue). However, the resultant noise during the “Long-Term With Project” scenario would be 57.5 dBA, which is below the City’s residential standard of 60 dBA. As previously stated, Mitigation Measure 4.10-4 has been included to ensure that the future speed limit is changed to 25 mph along this segment of Willow Street. With implementation of Mitigation Measure 4.10-4, impacts would be less than significant.

TABLE 4.10-10 LONG TERM TRAFFIC NOISE LEVELS

Roadway Segment	Long-Term Without Project		Long-Term With Project		Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact
	ADT	dBA @ 100 Feet from Roadway Centerline	ADT	dBA @ 100 Feet from Roadway Centerline		
Central Avenue						
Filbert Street to Sycamore Street	9,900	61.2	13,800	62.6	1.4	No
Thornton Avenue						
Willow Street to Sycamore Street	14,100	62.6	18,500	63.8	1.2	No
Willow Street						
Thornton Avenue to Central Avenue	600	50.3	8,500	57.5	7.2	No

Notes: ADT = average daily trips; dBA = A-weighted decibels.

Source: Traffic modeling is based upon data contained within Section 4.14, Traffic.

Mitigation Measure

4.10-4 Prior to building permit issuance, the project applicant shall coordinate with the City’s Public Works Director to change the posted speed limit along Willow Street (between Thornton Avenue and Central Avenue) to 25 miles per hour. Implementation of this measure shall be indicated on all project plans and specifications.

Level of Significance After Mitigation: Less Than Significant

4.10.3.3 CUMULATIVE IMPACTS AND MITIGATION MEASURES

- 4.10.5 Implementation of the proposed project and other related cumulative projects, anticipated by the General Plan, as most recently updated, could result in cumulatively considerable noise impacts.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Cumulative Stationary Noise

The proposed project would introduce the use of stationary equipment that would increase noise levels within the area. Based on the long-term stationary noise analysis, impacts would be less than significant. Because noise dissipates as it travels away from its source, noise impacts from onsite stationary sources would be limited to each of the respective sites and their and vicinities. Therefore, in conjunction with cumulative projects, the proposed project would not have the potential to result in cumulatively significant stationary noise impacts.

Cumulative Mobile Noise

The cumulative mobile noise analysis is conducted in a two step process. First, the combined effects from both the proposed project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the project's incremental effects then are analyzed. The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative with project" condition to "existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

Combined Effects: The cumulative with project noise level ("Future With Project") causes the following:

- ◆ An increase of the existing noise level by 5 dBA or more, where the existing level is less than 60 dBA Ldn;
- ◆ An increase of the existing noise level by 3 dBA or more, where the existing level is 60 to 65 dBA Ldn; or,
- ◆ An increase of the existing noise level by 1.5 dBA or more, where the existing level is greater than 65 dBA Ldn.

Although there may be a significant noise increase due to the proposed Specific Plan in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed Specific Plan. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

Incremental Effects. The “Future With Project” causes a 1 dBA increase in noise over the “Future Without Project” noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Consequently, only proposed projects and growth anticipated to occur in the general vicinity of the Plan area would contribute to cumulative noise impacts. Table 4.10-11 (Cumulative Noise Scenario) lists the traffic noise effects along roadway segments in the project vicinity for “Existing Without Project”, “Future Without Project,” and “Future With Project,” including incremental and net cumulative impacts.

First, it must be determined whether the Cumulative With Project Increase Above Existing Conditions (*Combined Effects*) is exceeded. As indicated in Table 4.10-11, this criterion is exceeded along Willow Street (between Thornton Avenue and Central Avenue). The cumulative with project noise level increase is 8.0 dBA above existing conditions. Under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the ambient (Future Without Project) noise level is increased by 1 dBA or more. Table 4.10-11 shows this criterion is also exceeded along Willow Street (between Thornton Avenue and Central Avenue) with an increase of 7.2 dBA. The resultant noise level of 57.5 dBA would not exceed the City’s noise limits of 60 dBA for residential uses. This noise level is based on a speed limit of 25 mph, which is the planned speed limit for this segment of Willow Street with project implementation. As described above, Mitigation Measure 4.10-4 has been included to ensure that the future speed limit is changed

to 25 mph along this segment of Willow Street. With implementation of Mitigation Measure 4.10-4, cumulative impacts would be less than significant.

TABLE 4.10-11 CUMULATIVE NOISE SCENARIO

Roadway Segment	Existing Without Project	Future Without Project	Future With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between “Existing Without Project” and “Future With Project”	Difference in dBA between “Future Without Project” and “Future With Project”	
Central Avenue						
Filbert Street to Sycamore Street	60.3	61.2	62.6	2.3	1.4	No
Thornton Avenue						
Willow Street to Sycamore Street	61.8	62.6	63.8	2.0	1.2	No
Willow Street						
Thornton Avenue to Central Avenue	49.5	50.3	57.5	8.0	7.2	No

ADT = average daily trips; dBA = A-weighted decibels

Source: Traffic modeling is based upon data contained within Section 4.14, Traffic.

Mitigation Measure

Refer to Mitigation Measure 4.10-4.

Level of Significance After Mitigation: Less Than Significant

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4.11 POPULATION AND HOUSING

This section describes the existing population and housing conditions in the City of Newark (City) and evaluates potential impacts that could result from future development within the Dumbarton Transit Oriented Development (TOD) Specific Plan area. One of the approvals sought for the project is a General Plan Amendment, which would ensure that the project is consistent with the General Plan. This section contains analysis based on information from the existing City of Newark General Plan (General Plan) Housing Element (February 25, 2010) and Land Use Element (June 1992, updated in 2007). Other resources, references, and documents used are identified in text.

4.11.1 ENVIRONMENTAL SETTING

4.11.1.1 POPULATION

According to the U.S. Census Bureau, the City's population in 2010 was 42,573. The Housing Element identifies a 2030 population projection of 52,500. A breakdown of the City's racial and ethnic makeup is provided in Table 4.10-1 (City of Newark Demographics).

TABLE 4.11-1 CITY OF NEWARK DEMOGRAPHICS

Race/Ethnicity	Total	Percent of City Population
White-Non Hispanic	11,726	28%
Hispanic	14,994	35%
Asian Non Hispanic	11,404	27%
African American Non Hispanic	1,908	4%
Other	797	2%
Two or More Races (Non Hispanic)	1,744	4%
	42,573	100%

Source: U.S. Census Bureau, 2010 Census Redistricting Data (Public Law 94-171) Summary File P2

According to the U.S. Census Bureau's 2005-2009 American Community Survey, the median age of residents in the City was 34.8. The City's median household income (in 2009 inflation-adjusted dollars) was \$82,782 and per capita income was \$29,718 (in 2009 inflation-adjusted dollars).

4.11.1.2 HOUSING

A household is defined by the U.S. Bureau of Census as all persons who occupy a housing unit, including families, single people, or unrelated persons. According to the U.S. Census Bureau 2005-2009 American Community Survey estimates, there were 12,742 households in the City. Table 4.10-2 (City of Newark Housing Stock) summarizes the City's housing stock, which predominately contains single-family detached houses.

TABLE 4.11-2 CITY OF NEWARK HOUSING STOCK

Unit Type	Number	Percent of Total
Single-Family Detached	9,479	69.4%
Single-Family Attached	1,591	11.6
Multi-Family (2 or more units)	2,596	19.0
Mobile Home	0	0%
Boat, RV, Van, etc	0	0%
TOTAL	13,666	100%

Source: U.S. Census Bureau, 2005-2009 American Community Survey

4.11.1.3 EMPLOYMENT

According to the Housing Element, the City has a high employment rate with an estimated 95 percent of the workforce employed. The Housing Element estimates a total of 21,930 jobs in 2010 and a projected 24,900 in 2030. Based on population estimates and projections, this represents a jobs-housing balance of 1.02:1 in 2010 and 0.85:1 in 2030. Top employers in 2008 were Newark Unified School District and the City of Newark. Most of the other top employers were industrial in nature.

4.11.2 REGULATORY SETTING

4.11.2.1 LOCAL FRAMEWORK

CITY OF NEWARK GENERAL PLAN

The General Plan Housing Element provides guidance for future residential development, protecting existing established neighborhoods, and providing an equitable balance of resources for all residents. The following goals, policies and programs are applicable to the proposed project.

- | | |
|-----------|--|
| Policy 1a | Through the design review process, consistently apply high standards of design to both multifamily and single family projects. |
| Goal 2 | Provide housing opportunities for households with a wide range of incomes. |
| Policy 2a | Develop specific plans and zoning amendments for Areas 2, 3 and 4 to provide significant amounts of land for new residential development. Work with property owners and developers to implement the plans in a timely fashion. |
| Policy 3d | Work with housing developers to encourage and support housing designed for and affordable to Newark's elderly residents and/or low-income families. |
| Policy 2f | As required by State law, provide a 25 percent density bonus and an additional incentive, or financially equivalent incentive(s), to a developer agreeing to construct at least 20 percent of the units for lower-income households, or 10 percent of the units for very low-income households, or 50 percent of the units for senior housing. |
| Policy 4a | Redesignate all or part of selected commercial and industrial parcels for residential use. |
| Policy 4b | Continue to impose an affordable housing impact fee applying to new industrial and commercial construction and major additions to commercial and industrial facilities. |

- Policy 5b Strive to provide housing that meets the needs of all persons by encouraging housing that is affordable, that provides access to employment and transportation, and that is located near services such as child care.
- Goal 6 Provide affordable housing throughout Newark.
- Policy 6a Continue Newark's Inclusionary Housing Program to ensure a range of housing types in new developments.
- Program 1 Facilitate the preparation of specific plans for Areas 2, 3 and 4, and encourage development in these areas.

The General Plan Land Use Element includes the following goals, policies and programs that are applicable to this project:

- Program 8 Encourage the development of the remaining vacant land for its highest and best use in line with the designations shown on the General Plan Diagram.
- Policy b Encourage architectural styles for new development that are compatible with, and complement adjacent developments, and that will enhance the overall quality of the development and the area.
- Goal 2 Promote high quality development that establishes the city's character as distinctive from that of the other cities in the Bay Area.
- Program 5 Design new residential development to minimize the impact of rail lines and major arterials, particularly in terms of the potential impacts of truck traffic.
- Program 9 Provide zoning districts with standards for multi-use development as well as for unique combinations of similar uses, such as single- with multi-family uses.

4.11.3 ENVIRONMENTAL ANALYSIS

4.11.3.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on population and housing if it would:

- ◆ Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)
- ◆ Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- ◆ Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

4.11.3.2 AREAS OF NO PROJECT IMPACT

The following impacts are either not applicable to the project or not reasonably foreseeable:

- ◆ Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- ◆ Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

There is not existing housing within the Specific Plan area that would be displaced by the proposed project. Thus, implementation of the Dumbarton TOD Specific Plan would not result in the displacement of substantial numbers of housing or people requiring the construction of replacement housing elsewhere and there would be no impact.

4.11.3.3 POTENTIAL IMPACTS AND MITIGATION MEASURES

POPULATION GROWTH

- 4.11-1 The proposed project would directly induce population growth in the City through new housing and businesses.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The Dumbarton TOD Specific Plan would allow development of a maximum of 2,500 dwelling units in the Specific Plan area. Based on the maximum number of dwelling units and the Housing Element's estimate of 3.26 persons per household, the project would result in a population of approximately 8,150 at full buildout. These units would be phased over time based on market conditions, as would population growth. A corresponding General Plan Amendment would be adopted prior to the adoption of the Specific Plan, which would reflect the Specific Plan's anticipated population growth.

In addition, implementation of the Specific Plan would result in additional retail and office space within the City. The proposed Retail/Commercial Center would accommodate up to 35,000 square feet of retail space and 195,000 square feet of office space. While the exact number of jobs created remains unknown, the project would provide employment opportunities for residents within the Specific Plan area, the City, and even the region due to its proximity to transit.

The Housing Element estimates that the population of the City will be 52,500 in 2030. With a current population of 44,035, this would result in the addition of 8,465 residents over the next 20 years. The project at full buildout would represent approximately 96 percent of this growth. The General Plan envisions residential development within the Specific Plan area and assumes 1,953 units at buildout.

The Specific Plan proposes to increase the General Plan residential buildout for the Specific Plan area to 2,500 units, which would be an incremental increase of population growth over what was identified in the Housing Element, and would be within the estimate of population growth in the corresponding General Plan Amendment. The project area is already planned for urban-level development and services and would be phased so that buildout is achieved gradually over time. The

project's proposed change from planned industrial uses to residential mixed use would be less than significant.

Mitigation Measure

4.11-1 No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.11.3.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

4.11-2 The proposed project would directly induce population growth in the City through new housing and businesses that could be cumulatively considerable.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The analysis of cumulative population and growth impacts considers the larger context of future development of the City as envisioned by the General Plan and relies upon the projections of the General Plan and associated EIR. Future development under the Dumbarton TOD Specific Plan and the General Plan, together with approved and proposed projects, would increase population and add jobs to the City.

The proposed project, in combination with other approved, pending, and reasonably foreseeable future projects, would directly induce population growth. As described above, the project's estimated maximum population at buildout of 8,150 residents represents approximately 96 percent of the City's anticipated population growth through 2030. This increase in population would be within the growth estimates identified in the current General Plan. Population growth from the proposed project and other cumulative projects in the City would result in an incremental increase in population over time. This growth is anticipated by the General Plan and has been planned for through the City's community and land use planning efforts. Moreover, a corresponding General Plan Amendment would be adopted prior to the adoption of the Dumbarton TOD Specific Plan, which would reflect the Specific Plan's anticipated population growth. Therefore, the incremental increase in population would not be cumulatively considerable.

Mitigation Measure

4.11-2 No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.12 PUBLIC SERVICES AND UTILITIES

This section evaluates potential impacts to public services, utilities and service systems that could result from the proposed project. Potential impacts associated with stormwater runoff and drainage facilities are discussed in Section 4.8 (Hydrology, Drainage, and Water Quality); and potential impacts on parks and recreation facilities are discussed in Section 4.13 (Recreation).

The following governmental agencies provided the data used to prepare the analysis in this section:

- ◆ Alameda County Fire Department (communication with Bonnie Terra, Assistant Chief/Fire Marshal)
- ◆ City of Newark Police Department (communication with Tom Milner, Police Commander Support Services)
- ◆ Waste Management (communication with Carrie Castro, Third Party Industrial Account Manager/ WM EarthCare Specialist)
- ◆ Newark Unified School District (communication with Laurie Marshall, Administrative Assistant to the Chief Business Officer)

In addition, information in this section utilizes analysis contained in the *Water Supply Assessment for the Dumbarton Transit Oriented Development Project*, prepared October 2010 by the Alameda County Water District (refer to Appendix E).and the *Newark Area Two Concept Plan*, prepared by Design, Community & Environment.

4.12.1 ENVIRONMENTAL SETTING

4.12.1.1 FIRE PROTECTION AND EMERGENCY SERVICES

On May 1, 2010, the Newark Fire Department consolidated with Alameda County Fire Department (ACFD) for fire protection in the City of Newark (City). ACFD maintains 28 fire stations, three of which are in the City. Alameda County Fire Department Station #28 (formerly Newark Fire Station #1), at 7550 Thornton Avenue, is the closest station to the Dumbarton Transit Oriented Development (TOD) Specific Plan area and is located approximately 1.1 miles to the northwest.

Current suppression staffing in Newark is three captains, three engineer, three firefighters per day (all are emergency medical technicians, or EMT, and at least three must be paramedics) and one battalion chief. The three ACFD resources based in Newark respond to approximately 3,000 calls in a 12 month period. Including the City of Newark, ACFD also provides services to an approximately

506-square mile area with a daytime population of approximately 384,000 persons. ACFD's total daily resources (including the three stations in Newark) consist of 25 engine companies, seven ladder truck companies, and one heavy rescue company. ACFD also provides specialized equipment including hazardous materials response vehicles, multi-terrain wildland response vehicles, air/light support units, water rescue boats, and a water tender. ACFD also provides regional fire dispatching services for all fire department resources deployed by the ACFD as well as the neighboring jurisdiction of Fremont and the private ambulance provider (as of November 2011).

ACFD has an average response time goal of five minutes or less 90 percent of the time with the first unit and the remaining units for a first alarm assignment arriving within nine minutes or less nine percent of the time.

The Insurance Services Office (ISO) is an independent organization that analyzes approximately 46,000 fire districts/departments in the U.S. and assigns a number from one to ten to each station based on the station's fire protection capabilities. In this classification system, Public Protection Classification Class 1 represents exemplary fire protection, and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria. ACFD has a current ISO rating of Class 3.

4.12.1.2 POLICE PROTECTION

The Newark Police Department is located at 37101 Newark Boulevard, about 2.25 miles from the Specific Plan area. There are currently 53 sworn officers. The Department has an average response time of less than nine minutes for non-emergency calls and less than two and a half minutes for emergency calls. The Department has a goal of less than three minutes for emergency calls. Due to current staffing, there may be a delay for cold reports; however, these are typically followed up with a phone call.

Per the Department's website, the City had 1,870 total "Part I" crimes (excluding arson) reported in 2010. This is down approximately 15 percent from 2009, which had 2,212 reported. There were a total of 35,542 dispatch calls in 2010. Table 4.12-1 (Police Dispatch Calls) identifies the sources for these calls.

TABLE 4.12-1 NEWARK POLICE DEPARTMENT DISPATCH CALLS

Type of Dispatch Call	Number of Calls (2010)
911 Calls	4,653
Officer/Unit Initiated	18,986
Telephone (non 911)	10,199
Walk-In	1,704
TOTAL	35,542

Source: Communication with Commander Tom Milner, Newark Police Department Support Services, 2011

4.12.1.3 SCHOOLS

Newark Unified School District (NUSD) boundaries encompass approximately eight square miles. The School District is located at 5715 Musick Avenue. The school closest to the Specific Plan area is the A.L. Schilling Elementary School, located approximately 0.55 miles away from the core of the project site (most of the project site is within one mile of Schilling School) at 36901 Spruce Street. This kindergarten through sixth grade school serves 548 students according to the NUSD website. Schilling School was identified as a California Distinguished School in 1995.

Newark Junior High School and Newark Memorial High School would serve the Specific Plan area. These schools are located at 6201 Lafayette Avenue and 39375 Cedar Boulevard and are approximately 2.5 and 3.25 miles from the Specific Plan area, respectively. These schools have current enrollment of 1,039 and 1,921 students, respectively, according to the NUSD website.

Projected enrollment for the 2010/2011 school year is 6,786 students within the entire District. Enrollment, in general, has declined since the 2000/2001 school year, which had an enrollment of 7,666 students, according to the *2010/2011 Proposed Budget Report*, prepared by the NUSD. Table 4.12-2 (Newark Unified School District Enrollment) identifies actual and projected enrollment for the NUSD.

TABLE 4.12-2 NEWARK UNIFIED SCHOOL DISTRICT ENROLLMENT

School Year	Projected Enrollment	Actual Enrollment	Variance
2000/2001	7,743	7,666	- 77
2001/2002	7,230	7,518	+ 288
2002/2003	7,510	7,401	- 109
2003/2004	7,384	7,421	+ 37
2004/2005	7,317	7,434	+ 117
2005/2006	7,501	7,241	- 260
2006/2007	7,180	7,102	- 78
2007/2008	6,950	7,142	+ 192
2008/2009	7,083	7,175	+ 92
2009/2010	7,138	6,920	- 218
2010/2011	6,786	N/A	N/A
2011/2012	6,648	N/A	N/A
2012/2013	6,540	N/A	N/A

Source: 2010/2011 Proposed Budget Report, Newark Unified School District, 2010.

4.12.1.4 WASTEWATER

The Union Sanitary District (USD) serves the cities of Fremont, Newark and Union City. USD owns and maintains a system consisting of gravity and pressure pipes, pumping facilities, detention facilities and the Alvarado Treatment Plant, located at the west end of Benson Road in Union City, north of the Specific Plan area. The Specific Plan area is primarily served by a 36-inch trunk gravity main in Willow Street, which carries wastewater flows from the southwest portion of Newark, north through the Specific Plan area, under the Hetch Hetchy Pipeline and Southern Pacific Railroad (SPRR), and into a parallel 36-inch and 42-inch trunk gravity main that flows to the west in the SPRR right-of-way. The parallel gravity

mains combine into a single 48-inch gravity sewer main that continues to the Newark Pump Station near the northwest corner of the project area. Wastewater is pumped from the station through twin 33-inch force mains to the Alvarado Treatment Plant, approximately five miles to the north. USD last updated their Master Plan in 2000 and indicated a capacity deficiency in the 42-inch trunk main in the project area, just east and west of Willow Street for buildout conditions. Refer to Figure 4.12-1 (Conceptual Utility Plan) for general location of existing facilities.

The Newark Pump Station underwent an \$11 million expansion and upgrade project in 2010 and consists of six submersible pumps. The station is expected to accommodate any increases in flow rates that might occur within the USD for the foreseeable future. USD owns land adjacent to the station that it can utilize to construct a wastewater detention facility if wastewater flows ever exceed pump station capacity. A third force main between the Newark Pump Station and the Alvarado Treatment Plant is anticipated in the long-term.

The treatment plant is rated to treat and discharge 30 million gallons per day (mgd) and is currently treating an average peak flow of 25.3 mgd in dry weather. Infiltration and inflow is not a significant issue within the USD, which has a National Pollutants Discharge Elimination System (NPDES) permit with the California State Water Board that allows discharges of up to 33 mgd.

4.12.1.5 WATER

The existing water supplier for the Specific Plan area is the Alameda County Water District (ACWD), which is a retail water purveyor providing service to the cities of Fremont, Newark and Union City. Approximately 70 percent of ACWD water supplies are used by residential customers, with the balance utilized by commercial, industrial and institutional customers. Net distribution system water use was approximately 47,600 acre feet (AF), or an average of 42.5 million gallons per day (mgd) in fiscal year 2009/2010. ACWD's primary sources of supply come from the California State Water Project (SWP), the San Francisco Regional Water System (which operates the Hetch Hetchy Pipeline), and local supplies from the Alameda Creek Watershed and Niles Cone Groundwater Basin.

An existing potable water reservoir within the Coyote Hills area provides 15 million gallons of water storage. ACWD anticipates that this supply volume with planned and future storage will be sufficient to accommodate growth in the service area for "Zone 1," the lower pressure zone within the cities of Newark and Union City.

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ACWD operates two treatment facilities with a total capacity of nearly 30 mgd, a 50-mgd blending facility, and a 5-mgd desalination plant. Water received from the SWP is treated at these plants before delivery to customers. The blending facility blends a portion of the water from the Hetch Hetchy Pipeline with water from local groundwater aquifers. San Francisco Regional Water and water recovered from local groundwater aquifers requires no treatment.

ACWD's planned future water supplies include implementing a recycled water program to provide up to 1,600 acre feet per year (AFY) for non-potable uses (i.e. irrigation and industrial uses) by the 2020. A potential source of recycled water includes a joint project with USD, which currently discharges the majority of treated wastewater to the San Francisco Bay via the East Bay Dischargers Authority pipeline facilities. Potentially, recycled wastewater would originate at either the Alvarado Wastewater Treatment Plant (approximately five miles north of the Specific Plan area) or at a newly constructed satellite recycled water treatment facility at USD's Irvington Pump Station in Fremont. It remains uncertain if recycled water would be available for buildout of the Specific Plan, given the lack of definitive plans to bring recycled water mains to the area, the high density nature of the project, and the lack of large, concentrated open space areas.

Water for the project area is delivered through a 16-inch transmission main in Central Avenue that creates a loop by extending up Willow Street and connecting to an existing 12-inch main in Enterprise Drive. Several 16-inch transmission mains are stubbed at the south ends of Hickory Street and Willow Street, just north of the Dumbarton Rail Corridor tracks. The existing loop system in Central Avenue and Enterprise Drive would be extended to include Hickory Street. A 16-inch connection between the transmission mains south and north of the tracks may be necessary to maintain adequate pressure and redundancy in the system.

4.12.1.6 SOLID WASTE

Waste Management of Alameda County (Waste Management) is the current hauler for both solid waste refuse and collection of recyclables in the City. Refuse collected by Waste Management and self-hauled refuse are collected at the Davis Street Transfer Station located at 2615 Davis Street in San Leandro. Waste from the City is currently hauled to the Altamont Landfill located at 10840 Altamont Pass Road in Livermore. This landfill would also serve the Specific Plan area.

According to CalRecycle, the Altamont Landfill has a total permitted capacity of approximately 62 million cubic yards, of which approximately 26.3 percent (or 16.28 million cubic yards) is used and approximately 73.7 percent (45.72 million cubic yards) is remaining. Based on information from Waste Management, the Altamont Landfill is expected to accept waste for 32 years at current flow rates.

4.12.2 REGULATORY SETTING

4.12.2.1 STATE FRAMEWORK

FIRE PROTECTION

The Uniform Fire Code addresses general and specialized fire safety requirements for buildings. Topics addressed in the code include, but are not limited to, fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, and industrial processes.

SCHOOLS

State law creates various methods of generating revenue to pay for school construction and remodeling. These methods consist of State school bond funds, local school bonds and developer fees. There are three levels of developer fees. Level I, Level II and Level III. Level I fees are set by law, but can be adjusted for inflation. Level II fees require that developers pay for the entire local share of construction costs, which is 50 percent of total construction costs. Level II fees may be imposed by a school district on a yearly basis, but only if certain conditions are met. Level III fees require developers to pay for 100 percent of construction costs, and are imposed if the State is no longer allocating bond funds.

State law provides that in certain circumstances, if a school district conducts a School Facilities Needs Analysis and meets certain other requirements, it may impose a statutory developer fee that may be significantly higher than the previously permitted Level I fees of \$2.63 per square-foot of residential development, as long as the new demand is created by the new residential construction.

WASTEWATER

The treatment plant is rated to treat 30 mgd and includes a corresponding NPDES permit with the California State Water Board allowing discharge of up to 33 mgd.

The NPDES permit prescribes the maximum allowable discharge rate, effluent quality, discharge prohibitions, receiving water limitations, pre-treatment program requirements, biosolids disposal requirements and self-monitoring requirements.

WATER

SB 610 requires the preparation of a Water Supply Assessment (WSA) to examine existing water supply entitlements, water rights and water service contracts relevant to determining the available water supply for a proposed project. Projects required to prepare a WSA must meet one of the following criteria as defined by SB 610:

- ◆ Residential development of more than 500 dwelling units
- ◆ Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor area
- ◆ Commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor area
- ◆ Hotel or motel, or both, having more than 500 rooms
- ◆ Industrial, manufacturing or processing plant, or industrial park planned to employ more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area
- ◆ Mixed-use project that includes one or more of the projects specified above
- ◆ Project that would demand an amount of water equivalent to, or greater than, the amount of water required for 500 dwelling units

Under Assembly Bill (AB) 325, all developer installed landscaping must be accompanied by a landscape package that documents how water use efficiency would be achieved through design. In addition, Title 24 of the California Administrative Code incorporates the California Building Standards, included as the California Plumbing Code (Part 5), which promotes water conservation. Title 20 addresses public utilities and energy and includes appliance and efficiency standards that promote water conservation. In addition, a number of State laws require water-efficient plumbing fixtures in structures. The California Fire Code outlines fire flow and storage reserve requirements for fire protection.

SOLID WASTE

The Integrated Waste Management Act (AB 939) mandates that communities reduce their solid waste. AB 939 requires local jurisdictions to divert 25 percent of their solid waste by 1995 and 50 percent by 2000, compared to a baseline of 1990.

AB 939 also establishes an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance.

4.12.2.2 LOCAL FRAMEWORK

CITY OF NEWARK GENERAL PLAN

The City of Newark General Plan (City General Plan) Community Services and Facilities Element includes several goals, policies and programs with respect to public services and utilities, as identified below.

- | | |
|-----------|--|
| Program 5 | Adopt periodic revisions of the Uniform Building Code (UBC) as required by the State. |
| Goal 2 | Provide a quality environment with an acceptable level of police, fire and emergency medical services for the safety of residents, employees and visitors in Newark. |
| Program 1 | Monitor conditions on a continuing basis, and where necessary, upgrade fire stations and equipment, and educate and train personnel. |
| Program 4 | Identify and take all reasonable actions to make buildings fire-safe, including where appropriate, requirements for sprinkler systems, non-combustible materials, and fire early-warning systems in all new buildings. |
| Program 5 | Inspect all industrial, commercial, public, and multiple-family residential buildings annually for fire and building code violations and require that violations be corrected. |
| Policy c | Avoid placing new development in areas where emergency response and evacuation can not be provided within acceptable levels of service causing risk to people and structures within the proposed development. |

The City General Plan Land Use Element also includes several goals, policies and programs with respect to public services and utilities, as identified below.

Policy b Assure that new development generates revenue sufficient to offset the cost of public services and facilities and pays for its reasonable share of the cost of new public facilities.

Program 7 Develop and maintain fiscal analysis that considers the public facilities needs of new development, the revenue generated by that development and sources of financing available for new public facilities.

4.12.3 ENVIRONMENTAL ANALYSIS

4.12.3.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact to public services and utilities if it would result in:

- ◆ Substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for the following public services: fire protection, police protection, schools, or water or wastewater services
- ◆ Exceedance of wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)
- ◆ Construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- ◆ Construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (discussed in Section 4.8, Hydrology, Drainage, and Water Quality)
- ◆ Insufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements
- ◆ A determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to provide the project's projected demand in addition to the provider's existing commitments
- ◆ Service by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs

- ◆ Inability to comply with Federal, State and local statues and regulations related to solid waste

4.12.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

PUBLIC SERVICES

- 4.12-1 **The public service needs of the proposed project would not result in substantial adverse impacts.**

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

Fire Protection and Emergency Services

The City and Alameda County Fire Department has standards for residential and commercial development within the City, and the proposed project would be required to comply with these standards prior to issuance of building permits. ACFD would be involved in the review of project plans and the project sponsor would be required to incorporate the Fire Department's requirements into the final project design as conditions of approval.

The Dumbarton TOD Specific Plan would result in an increase in population of approximately 8,150 residents and the creation of new jobs from the proposed 230,000 square feet of commercial/office/retail space (refer to Section 4.10, Population and Housing, for additional information on population). The introduction of residential and commercial development in the project vicinity would intensify density and uses in the area.

Based on communication with ACFD, no new facilities would be required for the proposed Project; however, additional staffing and/or equipment may be required. The proposed Project would result in an increase in property taxes and sales taxes that would generally offset the increase in the cost of fire and emergency services required by the project. In addition, Project applicants would be required to pay development impact fees to cover the incremental costs of the additional manpower, new equipment and infrastructure required for the proposed project. Project applicants shall include ACFD in the review of development plans and proposals and shall incorporate ACFD's requirements into plan revisions.

Therefore, with payment of the development fees and incorporation of ACFD, fire impacts would be considered less than significant.

Police Protection

Assuming the maximum 2,500 dwelling units permitted with this Specific Plan and the Citywide average of 3.26 persons per household, the Specific Plan is expected to increase the City's population by 8,150 residents at buildout. The number of traffic accidents, auto thefts, burglaries, police reports, and similar incidents increases when new development occurs, resulting in greater demands on police protection and other services. According to Chief James Leal of the Police Department, the national average is one officer per 1,500 residents. Based on the 8,150 residents, the project at buildout would produce the need for an additional 5.4 officers. No new facilities would be required.

With development of the Cargill property, the existing police firing range would be eliminated. Although this would impact the Police Department, it would result in a potentially significant environmental impact pursuant to CEQA.

The proposed project would bring additional revenue to the City in the form of increased local property taxes and sales taxes that would help offset the increased demand for police services by funding increases in police personnel. In addition, the City has four development impact fees (including one for public safety) to offset some impacts of development on City services. Therefore, with payment of the development fees, police impacts would be considered less than significant.

Schools

The NUSD uses the following student generation rates to determine the number of students that would live in the project area at buildout: 0.175 for grades K- 6 (438 students at project buildout); 0.056 for grades 7-8 (140 students at project buildout); and 0.207 grades 9-12 (518 students at project buildout)¹. Based on these student generation rates, a total of 1,098 students would be expected at project buildout. The housing types proposed in the project area may have lower student generation rates (i.e. fewer students present at buildout) than those provided by the NUSD; however, the NUSD rates are used for this analysis. Enrollment at schools within the District have been declining over the last decade and are expected to continue this trend.

¹Per Cheryl King, Jack Scheder and Associates, NUSD Memo, August 27, 2008.

Development within the Specific Plan area would be subject to school impact fees in accordance with the provisions of SB 50. The mitigation fee set by NUSD is \$2.97 per square foot for residential uses and \$0.47 per square foot for retail, office and commercial uses. Pursuant to Section 65995(h) of the California Government Code (SB 50), “the payment of statutory fees is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use or development of real property...” Therefore, with payment of statutory fees, school impacts would be considered less than significant.

Mitigation Measure

4.12-1 No mitigation required.

Level of Significance After Mitigation: Not applicable.

WASTEWATER

4.12-2 The proposed project could result in a determination by the wastewater treatment provider that it has inadequate capacity to provide for the project’s projected demand in addition to the provider’s existing commitments.

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

As previously mentioned, USD provides wastewater treatment for the City and would serve the proposed project. Several wastewater lines exist within the Specific Plan area. These lines ultimately connect to the Alvarado Treatment Plant, approximately five miles north of the Specific Plan area. The Treatment Plant is rated to treat 30 mgd and currently treats 25.3 mgd in dry weather conditions. USD has a NPDES Permit with the California State Water Board for 33 mgd. Table 4.12-3 (Wastewater Flows) identifies base wastewater flow rates.

TABLE 4.12-3 PROJECTED PROJECT WASTEWATER FLOWS

Land Use	Area	Average Lot Size	Dwelling Units or Building Area	Sewage Generation per Unit or Building Area	Base Flow Rate
Existing Industrial (0.4 FAR)	158 ac	N/A	2,750,000 sf	0.15 gpd/sf	0.41 mgd
Low Density Residential (8-14 du/ac)	16.8 ac	4,000 sf	168 units	247 gpd/unit	0.04 mgd
Medium Density Residential (14-25 du/ac)	67.9 ac	3,000 sf	726 units	247 gpd/unit	0.18 mgd
Medium High Density Residential (16-60 du/ac)	59.3 ac	2,000 sf	1,296 units	218 gpd/unit	0.26 mgd
High Density Residential (25-60 du/ac)	5 ac	1,500 sf	310 units	218 gpd/unit	0.07 mgd
Commercial/Office/Retail	12.2 ac	N/A	175,000 sf	0.1 gpd/sf	0.042 mgd
Total Base Flow Rate at Project Buildout (Not Including Industrial)					0.60 mgd

Source: Dumbarton TOD Specific Plan, Dahlin Group Architecture Planning, BKF, 2011.

Total projected base wastewater flow rates for the project at buildout would be approximately 0.60 mgd, which would increase the current flow rate by 50 percent. The treatment plant is currently at 84.3 percent of capacity. Assuming current rates and the addition of the flows from project buildout, the plant would be at 86.4 percent of capacity. While the Alvarado Treatment Plant has sufficient capacity to accommodate development within the project area, facilities within the project area may not be sized to accommodate full buildout.

Based on up to 2,500 dwelling units, 20 gross acres of commercial space and transit station, and 17 gross acres of park space, the USD would need to plan for an approximately 50 percent increase in wastewater flows from the project area. With this increase and line deficiencies, improvements may be required to the 36- and 42-inch gravity trunk sewers in Willow Street.

A 14-inch gravity line in Enterprise Drive ultimately flows to the Newark Pump Station after crossing the FMC property and the Hetch Hetchy Pipeline. This line is in disrepair, is shallow, and only serves as a redundant line to the mains in Willow Street and the SPRR in the event of excessive surcharging in those lines. The Enterprise Drive line and the Willow Street main are the only two sewer lines near the project area to cross the Hetch Hetchy Pipeline.

Dual 33-inch force mains, operated by East Bay Dischargers Authority (EBDA), traverse the site generally from south to north. These mains carry wastewater from the Irvington Pump Station (near the Fremont Boulevard and Interstate 880 interchange) to the Newark Pump Station, but do not serve the project area. These pipes are sensitive to movement and their joints are subject to failure should heavy construction or intense uses occur over or in the vicinity of the pipeline. In general, additional structural mitigation measures may need to be installed at selected locations or, as an alternative, these lines could be replaced in a new alignment within Hickory Street. The nature of the structural mitigation measures or replacement mains would be determined in conjunction with USD.

No additional improvements to the Newark Pump Station are anticipated; however, force mains conveying flow from the station to the Alvarado Treatment Plant may be undersized for buildout of the Specific Plan. An additional line or an equalization basin near the station would be needed. Required improvements, schedules for their implementation, and funding options will be addressed in the USD Sewer Master Plan, which is scheduled for publication in June, 2011. In general, most new connections to the existing wastewater collection service would be provided along the 36-inch Willow Street gravity main. A new 12-inch gravity sewer main may be required to provide service to the areas located west of the EBDA mains to avoid a potential conflict with new mains crossing EBDA mains.

The following polices will be included as a part of the General Plan Amendment for the Dumbarton TOD Specific Plan project.

- ◆ Expand the wastewater collection system such that it is adequate to serve the new development in the project area.
- ◆ Amend sewer fees and/or other financing mechanisms if necessary such that project area project sponsors pay their fair share of the costs for sewer main improvements.
- ◆ The USD was scheduled to begin updating their Sewer Master Plan in the fall of 2010, with a document available by June of 2011. As part of the updating

process, USD will gather information on planning activities at each city within its boundaries (Fremont, Newark and Union City) to help guide the Master Plan. It is important that the City of Newark continues to engage in this process and is forthright with respect to the Specific Plan, so that the Sewer Master Plan can provide concrete documentation of the upgrades required to implement the Specific Plan.

Implementation of Mitigation Measure 4.12-2 would reduce impacts to the wastewater system to less than significant.

Mitigation Measure

4.12-2 Prior to approval of any tentative map within the Dumbarton TOD Specific Plan area, additional necessary improvements, if any, beyond those already included in the USD Master Plan and updated fee program, shall be determined regarding proposed new connections (from such tentative map development) and then-existing or proposed wastewater facilities. Such improvements shall be installed prior to issuance of a building permit. Improvements shall be consistent with requirements in the Sewer Master Plan (anticipated to be available in June 2011). The City and USD shall verify that any necessary improvements will be available prior to occupation of those new residential dwelling units for which such improvements are necessary.

Level of Significance After Mitigation: Less Than Significant.

WATER SUPPLY

4.12-3 Sufficient water supplies are available to serve the proposed project from existing entitlements and resources. No new or expanded entitlements would be required.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

The Dumbarton TOD Specific Plan area is located within the water service area of ACWC. Pursuant to SB 610, a WSA was prepared for the proposed project. The WSA relies on the 2010 Draft Urban Water Management Plan (UWMP) data to analyze and report water supply reliability and the 2005 UWMP to document

ACWD's sources of supply as required under the California Water Code Section §10910.

The WSA assumes a full buildout of the development plan of 2,500 high density residential units, 230,000 square feet of commercial retail building area, and 17 acres of open space. Total projected demand for the Project at buildout would be 780 AFY. The Project demand is consistent with planning assumptions and is included in ACWD's forecast and water supply planning. The Specific Plan area was included in ACWD's planning under the previous Specific Plan Area 2, which included primarily commercial and industrial uses. Since residential uses have higher water generation rates, the project would create a greater demand than previously anticipated. Table 4.12-4 (Projected Project Water Demand) presents projected water demands based upon future development within the Specific Plan area.

TABLE 4.12-4 PROJECTED PROJECT WATER DEMANDS

Element	Planning Units	GPD per Unit	Demand Estimate AFY
Retail/Commercial	230,000 building area	0.282	73
Residential (High density multi-family residential)	430 dwelling units	150	72
Residential (2,000 s.f. lots)	1,176 dwelling units	179	236
Residential (3,000 s.f. lots)	726 dwelling units	247	201
Residential 4,000 s.f. lots)	168 dwelling units	247	46
Open Space	17 acres	4,630	88
Estimated Total Project Demand (rounded)			720
Water Supplies Required (8.4% Unaccounted for Water)			780
Approximate Peak Day Demand in mgd (1.6x peaking factor)			1.11

Source: Water Supply Assessment for the Dumbarton Transit Oriented Development Project, Alameda County Water District, 2010

Development in the project area would be required to install distribution mains within the street network to serve fire and domestic water needs. It is expected that new distribution mains in backbone streets would be 10- or 12-inch in diameter and distribution mains in local streets will be 8- or 10-inch in diameter. A water

model would be required after final land plans, building types, water demands, fire flow requirement, and phasing, to establish actual line sizes in each street, and to determine if the 16-inch connection between mains south and north of the railroad tracks would be required.

ACWD's imported and local water supplies may be significantly cut back during droughts. To improve its dry year reliability, ACWD has secured 150,000 AF of offsite storage capacity at the Semitropic Groundwater Banking Program located in Kern County. ACWD has approximately 110,000 AF in storage at the Program.

Key uncertainties facing water supplies include the effects of climate change and supply restrictions due to endangered species and environmental protection. ACWD's projected long-term average supply reliability from the State has been reduced from 72 to 60 percent of "maximum Table A allocation," primarily as a result of Delta export pumping restrictions to protect endangered species.

Under normal precipitation year conditions, ACWD's water supplies are projected to be sufficient to meet the future demands in the service area, including the project's demands. According to the WSA, ACWD's UWMP identifies that ACWD may face water supply shortages during single critically dry years during which ACWD would secure additional supplies through a California Department of Water Resources (DWR) drought water bank or similar water purchase/transfer program under these severe drought conditions. If necessary, ACWD would implement a drought contingency plan, which would include provisions for ACWD customers to cut back on water use, the magnitude of which would depend on the severity of the shortage. These measures would ensure that the project would have adequate water supply during a single critically dry year.

Development within the project area would include the latest technology in water efficient plumbing fixtures and irrigation systems, including but not limited to those listed in Attachment D (Water Efficiency Measure for New Development) of the WSA. Development would use recycled water for non-potable uses (e.g. irrigation and industrial process water) as supply becomes available. ACWD would determine specific requirements related to the extent of the installation of recycled water infrastructure when water service is requested.

Since project demands are consistent with the UWMP demand forecast, the buildout of the project would not result in increased shortages from that which is already factored into ACWD's planning. However, because ACWD anticipates potential future shortages under severe drought conditions, water supplies to the

project may be cut back during these severe dry year conditions. The level of cut back to the project would be consistent with the rest of ACWD's customers, and would depend on the magnitude of the dry-year shortage facing the entire District.

With the requirements provided in the WSA, impacts from development within the Specific Plan area would be less than significant.

Mitigation Measure

4.12-3 No mitigation required.

Level of Significance After Mitigation: Not applicable.

SOLID WASTE

4.12-4 The landfill that would serve the proposed project has sufficient permitted capacity to accommodate the project's solid waste disposal needs. The project would comply with Federal, State and local statutes and regulations related to solid waste.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

As previously noted, the Altamont Landfill would accept solid waste for the project area. The Altamont Landfill has a permitted capacity of 62 million cubic yards and is current at approximately 26.3 percent of capacity. At current flow rates the Altamont Landfill is expected to accept solid waste for an additional 32 years.

Alameda County Waste Management Authority, Alameda County Source Reduction and Recycling Board, and the City have implemented measures to reduce the amount of waste going to the landfill. These agencies and the City actively promote recycling of a variety of materials, including plastics, metals, paper products, food scraps, and yard waste. Ordinance 2008-01 prohibits disposing of certain recyclable materials in the landfill.

According to CalRecycle, the per capita disposal rate for Alameda County is 0.42 tons per resident per year. Based on the projected project population, this would amount to 3,423 tons per year from the project area at buildout. All of the above measures would help reduce the amount of solid waste entering landfills, and may

extend the life of the Altamont Landfill. Therefore, the Altamont Landfill would have sufficient capacity to accommodate the project area and impacts would be less than significant.

Mitigation Measure

4.12-4 No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.12.3.3 ANALYSIS OF CUMULATIVE IMPACTS

PROVISION OF PUBLIC SERVICES AND UTILITIES

4.12-5 The Dumbarton TOD Specific Plan in conjunction with other cumulative projects would increase the demand for public services and utilities.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

As described above, the public service needs of the proposed project could result in potential impacts to wastewater service and facilities. Implementation of Mitigation Measure 4.12-2 would reduce impacts to a less than significant level. The project would have less than significant impacts on the demand for or provision of utilities, including water supply and solid waste disposal, and services, including police protection, fire protection and schools.

The geographic scope of the cumulative impacts for the project includes development projects anticipated by the General Plan, as most recently updated, that could increase the need for public services and utilities in the City. However, future development within the project vicinity would be guided by the City's General Plan and associated planning and environmental documents. Each project would be subject to the City's planning process. As part of this planning process, the payment of appropriate fees by all development projects would be required to mitigate any effects to public services and utilities and minimize cumulative impacts on a project-by-project basis. Furthermore, ACFD and the Police Department would be involved in the development review process for all projects in the City, and would continue to provide input into the review of new projects. Additionally,

the project, in conjunction with reasonably foreseeable future projects, would bring additional annual revenue to the City in the form of increased local property taxes assessed on the new residential, commercial/office/retail development that would offset the increased demand for police and fire services. Future development would also be required to comply with all Federal, State, and local regulations and ordinances protecting utility services, including complying with all water conservation measures and waste minimization efforts in accordance with City requirements. Therefore, the incremental impact associated with the proposed project would not contribute to cumulative long-term impacts on public services, utilities, and service systems and, therefore, would not be cumulatively considerable.

Mitigation Measure

4.12-5 No mitigation required.

Level of Significance After Mitigation: Not applicable.

4.13 RECREATION

This section evaluates potential recreation impacts that could result from future development within the Dumbarton Transit Oriented Development (TOD) Specific Plan area. The analysis examines regional and local park facilities and identifies direct and indirect impacts related to the proposed project.

4.13.1 ENVIRONMENTAL SETTING

4.13.1.1 REGIONAL

There are several regional recreational resources near the Specific Plan area both within and outside of the City of Newark, including the Don Edwards San Francisco Bay National Wildlife Refuge, Coyote Hills Regional Park, Ardenwood Historic Farm, and the San Francisco Bay Trail.

DON EDWARDS SAN FRANCISCO BAY NATIONAL WILDLIFE REFUGE

The Don Edwards San Francisco Bay National Wildlife Refuge is located north, south, and east of the Specific Plan area. It is the first urban National Wildlife Refuge established in the United States. The Refuge is located within the Pacific Flyway (a major migratory route for North American birds) and spans 30,000 acres of open bay, salt pond, salt marsh, mudflat, upland and vernal pool habitats located throughout south San Francisco Bay. Hundreds of thousands of people visit the Refuge each year. The U.S. Fish and Wildlife Service (USFWS) founded the refuge and is responsible for its oversight.

COYOTE HILLS REGIONAL PARK

Coyote Hills Regional Park encompasses nearly 978 acres of marshland and rolling grassland covered hills, north of the Specific Plan area. Activities within the park include bicycling, walking, bird watching, jogging, nature exploration, and picnicking. Amenities within the park include a visitor center, Native American archaeological sites, a nectar garden, picnic areas, group camps, a wildlife refuge, and trails. The park is managed by the East Bay Regional Park District.

ARDENWOOD HISTORIC FARM

The 205-acre Ardenwood Historic Farm is located northwest of the Specific Plan area, near the junction of Interstate 880 and California State Route 84. It is a fully-functional 1890s farm with activities that change throughout the year. The park features naturalist programs, farm docents, horse-drawn trains, a Victorian Garden, the historic Patterson House, animal farms, and a blacksmith shop with equipment shed.

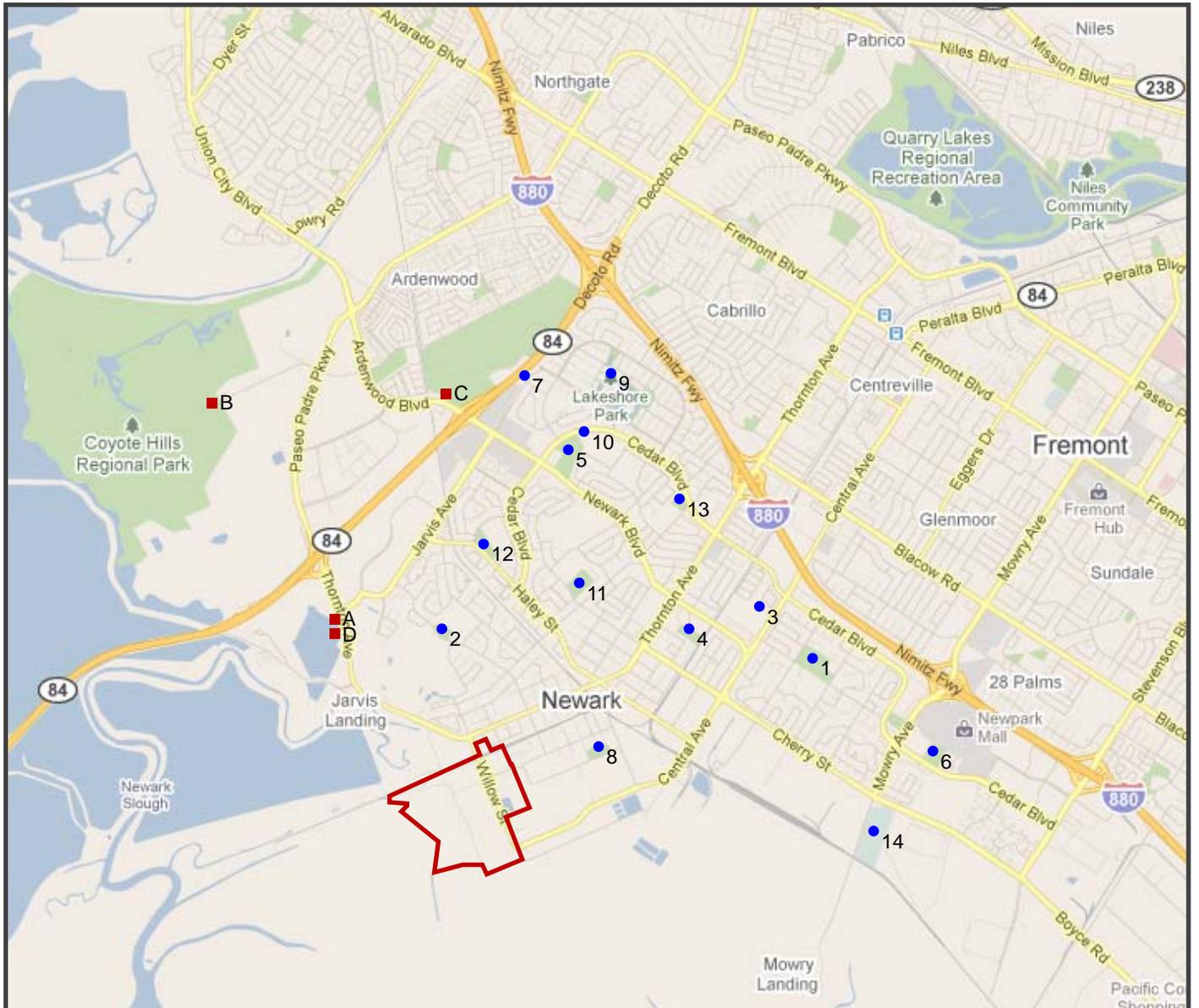
SAN FRANCISCO BAY TRAIL

The San Francisco Bay Trail (Bay Trail) is an approximately 500-acre trail around the San Francisco Bay. Several trails located near the Specific Plan area connect to segments of the Bay Trail. The Newark Slough Trail is located northwest of the Specific Plan area. Willow Street and Central Avenue are both considered “unimproved” on-street Bay Trail connections. Another trail is proposed along railroad tracks approximately one mile east of the Specific Plan area. The cities of Newark and Fremont, and the Association of Bay Area Governments (ABAG) are studying the feasibility of realigning the Bay Trail closer to the Bay from the Route 84 overcrossing to the southern limit of the City of Fremont. The study is expected to be complete in 2011.

4.13.1.2 CITY OF NEWARK

The City of Newark Parks Division maintains approximately 153 acres of park and median landscape improvements. The following list identifies the 15 parks and sports play facilities along with an aquatic and activity center within the City limits. Figure 4.13-1 (City Park Map) shows the distance of each of the City parks listed below in relation to the project site, including the larger neighborhood parks closest to the project site.

- ◆ Birch Grove Park: 15 acres with play structures, a water feature, softball field, basketball court, tennis court, picnic facilities, and restrooms;
- ◆ Bridgepointe Park: 3.6 acres with play structures and picnic facilities;
- ◆ Byington Park: three acres with play structures and picnic facilities;
- ◆ Civic Center Park: five acres with play structures, a basketball court, par course, picnic facilities, and a local branch of the Alameda County Library;
- ◆ Community Center Park: 16 acres with play structures, a basketball and handball court, tennis courts, picnic facilities, and Community Center;
- ◆ Eucalyptus Grove South: two acres that are largely unimproved;
- ◆ Eucalyptus Grove North: three acres that are unimproved;
- ◆ Jerry Raber Ash Street Park: six acres with play structures, softball practice fields, a basketball court, picnic facilities, and a horseshoe pit;
- ◆ Lakeshore Park: 10 acres of turf area and a 16-acre water area with par course and fishing opportunities;
- ◆ MacGregor Playfields: 10 acres with soccer and baseball practice fields;
- ◆ Mayhews Landing Park: 8.3 acres with play structures, a basketball court, and picnic facilities;
- ◆ Mirabeau Park: 5.9 acres with play structures;



City Park	Size	Driving Distance	Regional Park	Size	Driving Distance
1-Birch Grove Park	15 ac	2.9 mi	A-Don Edwards San Francisco Bay National Wildlife Refuge	30,000 ac	2.0 mi
2-Bridgepointe Park	3.6 ac	1.1 mi	B-Coyote Hills Regional Park	978 ac	4.2 mi
3-Byington Park	3 ac	2.7 mi	C-Ardenwood Historic Farm	205 ac	3.7 mi
4-Civic Center Park	5 ac	1.9 mi	D-San Francisco Bay Trail (nearest improved segment)	n/a	2.0 mi
5-Community Center Park	16 ac	2.9 mi			
6-Eucalyptus Grove South	2 ac	3.9 mi			
7-Eucalyptus Grove North	3 ac	3.4 mi			
8-Jerry Raber Ash Street Park	6 ac	0.9 mi			
9-Lakeshore Park	10 ac	3.5 mi			
10-MacGregor Playfields	10 ac	3.1 mi			
11-Mayhews Landing Park	8.3 ac	2.0 mi			
12-Mirabeau Park	5.9 ac	2.2 mi			
13-Musick Park	1 ac	2.7 mi			
14-Silliman Recreation Complex	21 ac	3.4 mi			

Source: City of Newark and Google Maps (2011)



Not to scale

JN 40-100390

Dumbarton TOD Specific Plan EIR
City and Regional Parks

Figure 4.13-1

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- ◆ Musick Park: one-acre with play structures;
- ◆ George M. Silliman Recreation Complex and Sportsfield Park: 21 acres with softball and soccer fields; and
- ◆ Silliman Activity and Family Aquatic Center: Facilities include a fitness center, gymnasium, teen area, Betty Gentry Dance Studio, activity room, community meeting room, and a preschool.

4.13.2 REGULATORY SETTING

4.13.2.1 STATE FRAMEWORK

QUIMBY ACT (SECTION 66477 OF THE STATE GOVERNMENT CODE)

The State standard for park and recreation dedications or in-lieu fees, established under provisions of the “Quimby Act” (Section 66477 of the State Government Code), is three acres per 1,000 new population unless the existing acreage to population ratio in the City exceeds that amount, in which case the City may impose its actual acreage to population ratio, not to exceed a maximum of five acres per 1,000 population. The State law also provides for the payment of fees in-lieu of the dedication of land under certain circumstances.

4.13.2.2 LOCAL FRAMEWORK

CITY OF NEWARK GENERAL PLAN

The City of Newark General Plan (Adopted June 11, 1992) Recreation Element includes several goals, policies, and programs with respect to recreational resources, as identified below.

- | | |
|-----------|--|
| Policy a | Set, and make all reasonable efforts to achieve park standards to determine where and how much parkland should be provided in Newark. |
| Program 2 | Provide one neighborhood park per 5,000 population, located within one-half mile of each residence. |
| Program 6 | Where constraints cannot be overcome to meeting the established park and recreation standards, develop alternative programs for providing the needed recreational activities within existing park and recreation facilities. |

Policy b	Develop new Neighborhood Parks in locations where there is an existing or anticipated need.
Program 8	Continue to require park land dedication and/or fees as authorized by State, or Federal regulations (e.g. Quimby Act, AB 1600).
Policy c	Develop small play lots as a condition of all new development, particularly in areas where insufficient recreation facilities exist.
Policy g	Encourage, require and, where possible, purchase and operate, additional lands, equipment and facilities for public, or, as appropriate quasi-public, recreation use.
Program 21	Develop jogging, biking and walking trails within strip park-like lands, e.g. utility corridors.
Policy h	Public utility easements should only be used for the purpose of the easement and/or open space.
Program 25	The Hetch Hetchy right-of-way, where the right-of-way is adjacent to the rear of residential areas, shall only be used for water conveyance purposes and/or open spaces.

CITY OF NEWARK MUNICIPAL CODE

Section 16.30 of the Newark Municipal Code (Dedications) provides for land dedication for parks and recreation. The requirement for the dedication of parkland is 0.0102 acre per dwelling unit for single-family dwellings and 0.0072 acre per dwelling unit for multi-family dwellings (Newark Municipal Code Section 16.30.050). Municipal Code section 16.30.060 also provides for the payment of fees in-lieu of the dedication of land under certain circumstances.

4.13.3 ENVIRONMENTAL ANALYSIS

4.13.3.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on recreation if it 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,
- ◆ Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

4.13.3.2 POTENTIAL IMPACTS AND MITIGATION MEASURES

PHYSICAL DETERIORATION OF RECREATIONAL FACILITIES

4.13-1 The proposed project could increase the use of existing neighborhood and regional parks or other recreational facilities.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

In January 2009, the California Department of Finance (DOF) estimated that the City's population was 44,035. Thus, with approximately 153 acres of City park lands, the City currently maintains a public parkland ratio of approximately 3.47 acres per 1,000 residents, which essentially meets the General Plan goal of 3.5 acres of parkland per 1,000 residents. If recreation areas adjacent to schools and in private developments were included in this calculation, the amount of available recreational spaces would increase to as high as seven acres per 1,000 residents as the General Plan recognizes.

As noted above, the Dumbarton TOD Specific Plan proposes a minimum of 16.3 acres of parkland within the Specific Plan area based on 2,500 residential unit, an estimate of 3.26 persons per household from the Newark General Plan Housing Element, and a ratio of two acres of parkland per 1,000 residents. While the General Plan has an overall goal of providing at least 3.5 acres of parkland per 1,000 residents, the Specific Plan proposes a reduced two acre per 1,000 residents standard in light of: 1) the extensive amount of existing open space, passive and recreational, within close proximity of and available to future Specific Plan area residents, including the Don Edwards National Wildlife Refuge, Coyote Hills Regional Park and Ardenwood Regional Preserve; 2) the extensive amount of recreational space adjacent to schools, within private developments and within special recreation facilities which are not managed by the City as parkland but provide a wide array of recreational opportunities for residents; 3) the wide variety

and quality of park and recreational open space amenities proposed, designated and zoned by the Specific Plan; and 4) the goal and objective of creating a sustainable community with an integrated mix of uses, while providing for enough residential units within walking distance of the future DRC transit station to support ridership. A General Plan Amendment would be included with adoption of the Specific Plan to ensure consistency with the General Plan.

The Specific Plan would achieve a minimum of 16.3 acres of parkland in part through the designation and zoning as parkland of three areas, including an approximately 6.5-acre community park that would be located directly west of the proposed Neighborhood Center, an approximately 2.3-acre park on the current Gallade property at the northwestern portion of the Specific Plan area and a perimeter trail/liner park of approximately 3.92 acres that would connect to the Bay Trail at its existing location along Willow Street. In addition, proposed subdivisions within the Specific Plan area would be required to comply with the Newark Municipal Code Section 16.030.050 regarding the dedication or parkland or payment of in-lieu fees (the “Parks Ordinance”). In light of the extensive amount of existing open space, passive and recreational, within close proximity of and available to future Specific Plan area residents, the Parks Ordinance would be amended to require two acres of parkland per 1,000 residents applicable to subdivisions within the Specific Plan area. Depending upon how subdividers/developers elect to comply with the Parks Ordinance, namely, through the payment of in-lieu fees, land dedication and/or the provision of private recreational space (discussed in more detail below), additional pocket parks, tot lots, trails or other recreational open space areas would be provided within the Specific Plan area.

The Dumbarton TOD Specific Plan would, therefore, meet the City’s General Plan goal (as amended by the Specific Plan) of two acres of parkland per 1,000 residents applicable to the Specific Plan by a combination of land dedications and in-lieu fees. As described above, a wide variety of high-quality park and open space amenities could be provided in the Specific Plan area, as well as connections to surrounding open space. Additionally, the in-lieu fees would be used on an area or community park that bears a reasonable relationship to the Specific Plan area in order to serve future residents of that area. Private open spaces (e.g., balconies, patios, and yards) and common private open spaces (e.g., common courtyards, pool areas, and fitness facilities) would be provided throughout residential developments, which would also provide recreational amenities for future residents of the Specific Plan area.

The high-quality, variety, and type of parks and open spaces that could be provided, along with private open spaces, would encourage use of facilities within the Specific Plan area. In addition, the amount of regional open spaces, including direct connections with the Bay Trail, would provide ample opportunities for future residents of the Specific Plan area to enjoy recreational and open space opportunities, and would not result in increased use that would cause or accelerate physical deterioration of the local or regional facilities.

Mitigation Measure

4.13-1 No mitigation required.

Level of Significance After Mitigation: Not applicable.

CONSTRUCTION OR EXPANSION OF RECREATIONAL FACILITIES

4.13-2 The proposed project would include the construction of recreational facilities that might have an adverse effect on the environment.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The Dumbarton TOD Specific Plan identifies approximately 16.3 acres of park and recreation uses within the Specific Plan area, as described earlier in this section. The Specific Plan calls for the selection and use of materials in a thoughtful and sustainable manner. It also identifies a desire to create community in accordance with sustainable principles and green design, which influences the landscape design, recreational programming, and physical layout of the development area. Landscape design shall adhere to and adopt the Bay Friendly best practice for landscaping and gardening. Some of the practices would include use of recycled water if available, efficient irrigation systems, automatic irrigation controllers, hydrozoning (grouping plants by type and water needs), using turf only in functional areas, selecting native or low water use plants, and utilizing the high water table where appropriate. Additionally, permeable pavement shall be utilized where appropriate and all fountains shall utilize recycled water.

The construction of the proposed recreational facilities could result in temporary increases in air emissions, dust, noise and erosion from a variety of construction activities, including excavation, grading, vehicle travel on unpaved surfaces, and

vehicle and equipment exhaust. The environmental effects that could result from the construction of the proposed recreational facilities would be reduced to less than significant levels through construction-related mitigation measures identified throughout this EIR in Section 4.2 (Air Quality), Section 4.6 (Hydrology, Drainage and Water Quality) and Section 4.9 (Noise), and measures identified in the Dumbarton TOD Specific Plan. Therefore, the proposed project would not result in adverse physical effects on the environment from construction or expansion of additional recreational facilities.

Mitigation Measure

4.13-2 Implement Mitigation Measures 4.2-1a and 4.2-1b in Section 4.2 (Air Quality) and Mitigation Measures 4.10-1a, 4.10-1b and 4.10-2 in Section 4.10 (Noise).

Level of Significance After Mitigation: Less Than Significant

4.13.3.3 CUMULATIVE IMPACTS AND MITIGATION MEASURES

DEMAND FOR OR PROVISION OF RECREATIONAL FACILITIES

4.13-3 Future development of the project site allowed by the Dumbarton TOD Specific Plan could cumulatively contribute to increased demand for recreational facilities, and impacts associated with the construction or expansion of recreational facilities.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The geographic scope of this impact is the regional recreational facilities in the project area, generally located within the City of Newark and western Alameda County as shown on Figure 4.13-1.

Implementation of the proposed project would not have long-term effects on the demand for or provision of recreational facilities. The past, present, and reasonably foreseeable future projects do not include other solely recreational projects planned in the vicinity of the project site. However, these projects may include or

incorporate recreational facilities as part of the project. Nonetheless, all development projects would be required to mitigate any impacts associated with the construction of future recreational facilities (construction dust, noise, etc.) on a project-by-project basis as part of their environmental review.

There are not many major development projects in the City or surrounding cities that could indirectly substantially increase the need for recreational facilities within the project vicinity by significantly increasing the population in the project area. Furthermore, future development within the project vicinity would be required to comply with all applicable City code standards and would be subject to the City planning process and appropriate environmental review. As part of this planning process, the payment of appropriate fees (in-lieu fees) by all development projects would be required to mitigate any impacts on recreation, as the fees would be used to provide publicly accessible open spaces, including an adequate amount of sports fields, and would further minimize cumulative impacts. Therefore, the incremental impact associated with the proposed project would not contribute to cumulative long-term impacts associated with the construction of future recreational facilities or on recreation and therefore would not be cumulatively considerable.

Mitigation Measure

4.13-3 Implement Mitigation Measures 4.2-1a and 4.2-1b in Section 4.2 (Air Quality) and Mitigation Measures 4.10-1a, 4.10-1b and 4.10-2 in Section 4.10 (Noise).

Level of Significance After Mitigation: Less Than Significant

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4.14 TRAFFIC

This section presents a summary of the potential transportation and traffic related impacts of the Dumbarton Transit Oriented Development (TOD) Specific Plan (henceforth referred to as “Specific Plan”).

4.14.1 ANALYSIS METHODOLOGY

The transportation impact analysis presented in this section was conducted by Fehr & Peers in accordance with Alameda County and City of Newark guidelines; and the Alameda County Transportation Commission requirements.

4.14.1.1 SCENARIOS ANALYZED

The transportation analysis includes an evaluation of roadway conditions at intersections and freeway segments around the project area. It also evaluates potential impacts to transit facilities and potential bicycle and pedestrian impacts. Based upon direction provided by the City of Newark (City), transportation conditions were evaluated for the following four scenarios:

1. Existing Conditions – Used to establish the existing baseline of transportation and traffic operations within the project study area.
2. Existing Plus Project Conditions – Represents existing traffic conditions (volumes and roadway network) with the addition of traffic from buildout of the proposed project.
3. Year 2035 No Project Conditions – Represents projected long-range (2035) without project cumulative baseline traffic conditions against which traffic generated by the proposed project can be compared.
4. Year 2035 Plus Project Conditions – Represents 2035 baseline traffic conditions with the addition of traffic generated by buildout of the proposed project.

Because the proposed project would add 100 or more peak-hour automobile trips to multiple intersections and roadway segments located within the jurisdiction of the City, each of the four scenarios addressed as part of this analysis considers the potential impacts to Metropolitan Transportation System (MTS) roadways located within and near the City as part of the Congestion Management Program (CMP) analysis. Since auto trip reduction is an integral feature of this development, automobile traffic should be much less than a typical development; however, in order to present a conservative analysis, the traffic analysis was conducted using assumptions for traditional development.

4.14.1.2 LEVEL OF SERVICE DEFINITION

Traffic related impacts are assessed relative to the concept of level of service (LOS), which is a qualitative measure describing operational conditions within a traffic stream, and the motorist's and/or passenger's perception of operations. LOS, which is measured on a scale of A to F, generally describes the operational conditions in terms of speed, travel time, freedom to maneuver, comfort and convenience. Table 4.14-1 (Definitions for Intersection Level of Service) describes traffic flow quality for LOS A through LOS F.

TABLE 4.14-1 DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE

LOS	Congestion/Delay	Traffic Flow Quality
A	None	Low volumes, high speeds; Speed not restricted by other vehicles; All signal cycles clear with no vehicles waiting through more than one signal.
B	None	Operating speeds beginning to be affected by other traffic; Less than ten percent of signal cycles have vehicles waiting through more than one signal cycle.
C	None to minimal	Operating speed and maneuverability closely controlled by other traffic; Between ten percent and 30 percent of signal cycles have vehicles waiting through more than one signal cycle.
D	Minimal to substantial	Tolerable operating speeds; Between 30 percent and 70 percent of signal cycles have vehicles waiting through more than one signal cycle.
E	Significant	Capacity; Maximum traffic volume an intersection can accommodate; 70 percent to 100 percent of signal cycles have vehicles waiting through more than one signal cycle.
F	Considerable	Long queues of traffic; unstable flows; travel speeds can drop to zero.

Source: 2000 *Highway Capacity Manual*, Chapter 16. TRB Special Report 209

4.14.1.3 INTERSECTION ANALYSIS METHODOLOGY

The following methodologies were used to perform peak-hour intersection capacity analysis for signalized and unsignalized intersections within the project study area.

SIGNALIZED INTERSECTION ANALYSIS

The signalized intersection analysis used in this study is based on the operational analysis methodology outlined in the Highway Capacity Manual 2000 Transportation Research Board Special Report 209, Chapter 16 (referred to herein as HCM 2000 or HCM). The HCM 2000 methodology defines intersection LOS as a function of intersection control delay in terms of seconds per vehicle (sec/veh).

The HCM 2000 methodology sets 1,900 passenger cars per hour per lane (pcphpl) as the ideal saturation flow rate at signalized intersections, and is based on the minimum headway that can be sustained between departing vehicles at a signalized intersection. The service saturation flow rate, which reflects the saturation flow rate specific to the study facility, is determined by adjusting the ideal saturation flow rate for lane width, on-street parking, bus stops, pedestrian volume, traffic composition (or percentage of heavy vehicles) and shared lane movements (e.g., through and right turn movements sharing the same lane). The LOS criteria used for this technique are described in Table 4.14-2 (Signalized Intersection Level of Service Criteria). The computerized analysis of intersection operations was performed using the Traffix 8.0 traffic analysis software.

TABLE 4.14-2 SIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA

Average Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10.0	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
20.1 – 35.0	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: 2000 Highway Capacity Manual, Chapter 16. TRB Special Report 209

UNSIGNALIZED INTERSECTION ANALYSIS

Unsignalized intersections, including two-way- and all-way-stop controlled intersections, were analyzed using the methodology set forth in the HCM 2000, Chapter 17. The LOS for a two-way-stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor street movement. Table 4.14-3 (Unsignalized Level of Service Criteria) summarizes the LOS criteria for unsignalized intersections.

TABLE 4.14-3 UNSIGNALIZED LEVEL OF SERVICE CRITERIA

Average Control Delay (sec/veh)	Level of Service (LOS)
<10	A
>10 and <15	B
>15 and <25	C
>25 and <35	D
>35 and <50	E
>50	F

Source: 2000 Highway Capacity Manual, TRB Special Report 209

4.14.1.4 ANALYSIS STUDY AREA

The study area for the transportation impact analysis was based upon existing travel patterns, field observation, as well as City staff approval. The study area intersections are listed below. The study area scope is depicted on Figure 4.14-1 (Project Study Area).

STUDY INTERSECTIONS

The following 19 intersections located within the City were identified as study area intersections:

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1. SR-84 WB Ramps/Thornton Ave (Signalized)
2. SR-84 EB Ramps/Thornton Avenue (Signalized)
3. Gateway Boulevard/Thornton Avenue (Signalized)
4. Jarvis Avenue/Newark Boulevard (Signalized)
5. Cedar Boulevard/Newark Boulevard (Signalized)
6. Lake Boulevard/Cedar Boulevard (Signalized)
7. Willow Street/Thornton Avenue (Signalized)
8. Spruce Street/Thornton Avenue (Signalized)
9. Cherry Street/Thornton Avenue (Signalized)
10. Newark Boulevard/Thornton Avenue (Signalized)
11. Cedar Boulevard/Thornton Avenue (Signalized)
12. I-880 SB Ramps/Thornton Avenue (Signalized)
13. I-880 NB Ramps/Thornton Avenue (Signalized)
14. Willow Street/Enterprise Drive (Unsignalized)
15. Cherry Street/Central Avenue (Signalized)
16. Cedar Boulevard/Central Avenue (Signalized)
17. Cherry Street/Mowry Avenue (Signalized)
18. I-880 SB Ramps/Mowry Avenue (Signalized)
19. I-880 NB Ramps/Mowry Avenue (Signalized)

In addition to evaluating roadways and intersections, this analysis considers potential impacts to bicyclists, pedestrian and transit resulting from the proposed Specific Plan.

4.14.2 EXISTING CONDITIONS

This section describes the project study area intersections, arterial roadway segments and freeway/State highway segments. LOS analysis results for all study area facilities under existing conditions are also presented below.

4.14.2.1 STUDY AREA ROADWAYS DESCRIPTION

STUDY AREA FREEWAY SEGMENTS

The following is a description of the study area's north/south and east/west arterial roadway segments that form the study area intersections.

Interstate 880 – Interstate 880 (I-880) also known as the Nimitz Freeway, extends in a north-south direction on the east side of the San Francisco Bay. It extends from Oakland in the north to San Jose in the south. I-880 is an eight-lane facility in the project vicinity, with four lanes in each direction (three mixed-flow lanes and

one High Occupancy Vehicle (HOV) lane). HOV lanes are reserved for use by carpool and vanpools, buses and motorcycles during the morning and evening commute periods. I-880 has interchanges at Mowry Avenue and Thornton Avenue that provide access to the project site. Near the study area the average daily traffic (ADT) volume for this roadway is approximately 195,000 vehicles.

State Route 84 – State Route (SR) 84 is a six-lane State highway approximately one mile north of the project area. The Dumbarton Bridge crossing of the San Francisco Bay is designated SR 84. Two interchanges are provided which serve the City of Newark and the project site, at Thornton Avenue and Newark Boulevard. This crossing is a toll road west of the Thornton Avenue interchange. Near the study area the ADT volume for this roadway is approximately 58,000 vehicles.

STUDY AREA ARTERIAL ROADWAYS

North/South Roadways

Thornton Avenue – Thornton Avenue is a two- to four-lane arterial roadway that traverses the City from SR 84 to I-880 and is one of the busiest roadways in the City. West of the railroad tracks, Thornton Avenue is a two-lane roadway, with a center two-way left turn lane and on-street parking. It provides the only access to/from the Don Edwards National Wildlife Refuge and Bay Trail trailhead in the City. The City's long-term vision for this section of Thornton Avenue (between the railroad tracks and Willow Street) is to improve the two-way left turn lane to a raised center median with turn pockets. Class II bike lanes are provided on Thornton Avenue west of Hickory Street. Two other short sections of the street are designated a Class III bike route (between Hickory Street and Willow Street, and between Cedar Boulevard and I-880). The speed limit is 45 miles per hour between SR 84 and Willow Road and 35 miles per hour from Willow Road to I-880. Thornton Avenue also provides regional access to the project site via the interchanges at I-880 and SR 84.

Willow Street – Willow Street is a two-lane roadway between Cedar Boulevard and Enterprise Drive. Between Enterprise Drive and Central Avenue, Willow Street changes to a four-lane roadway. It provides access to the project site, and is planned for improvement with implementation of the Specific Plan.

Spruce Street – Within the study area, Spruce Street is a two-lane residential collector roadway. It connects Wells Avenue to Jarvis Avenue, and provides access to several schools in the area, including Schilling Elementary School and Lincoln Elementary

School within the Newark Unified School District. Spruce Street has been traffic calmed with speed bumps to reduce vehicle traffic speeds and cut-through traffic. The posted speed limit on Spruce Street is 25 miles per hour.

Cherry Street – North of Thornton Avenue, Cherry Street is a two-lane collector with residential frontage. This section of Cherry Street is traffic calmed with speed humps, with a posted speed limit of 25 miles per hour. At Mirabeau Drive, Cherry Street becomes Brittany Avenue, and at Newark Boulevard, Brittany Avenue becomes Ruschin Drive. Ruschin Drive continues south to its terminus at Thornton Avenue, paralleling Cedar Boulevard.

South of Thornton Avenue, Cherry Street is a four-lane arterial with a landscaped median or center two-way left turn lane and turn pockets. Class II bike lanes are provided on portions of this section south of Central Avenue, although they drop at several constraint points and at the Mowry Avenue/Cherry Street intersection. Cherry Street provides connections to Fremont, as it becomes Boyce Road south of the Newark City limit. Within Newark, it also provides access to the Silliman Activity and Family Aquatics Center and Ohlone College Newark Campus. The posted speed limit increases to 35 miles per hour between Thornton Avenue and Central Avenue, and to 45 miles per hour south of Central Avenue.

Newark Boulevard – Newark Boulevard is a four-lane arterial that connects the main retail area in the northern section of the City with central Newark before merging with Central Avenue. North of SR 84, Newark Boulevard is designated Ardenwood Boulevard. Newark Boulevard has Class II bike lanes north of Cedar Boulevard, and south of Thornton Avenue. Between Cedar Boulevard and Thornton Avenue, Newark Boulevard is designated a Class III bike route. The posted speed limit is 35 miles per hour on Newark Boulevard.

Cedar Boulevard – Cedar Boulevard is a four-lane arterial roadway that circulates through much of the City. Cedar Boulevard begins at Haley Street as a two-lane roadway that fronts residential neighborhoods with a wide center median, Class II bike lanes and on-street parking. Just west of Newark Boulevard, Cedar Boulevard widens to four travel lanes (two in each direction) and becomes a Class III bike route. This configuration continues south to Thornton Avenue, where the median becomes a center two-way left turn lane. A median is again provided south of Moores Avenue. Class II bike lanes are provided at intermittent locations between Newark Boulevard and Stevenson Boulevard, where Cedar Boulevard ends. The speed limit is 35-40 miles per hour along Cedar Boulevard, with the exception of the segment between Haley Street and Lido Boulevard, which is 30 miles per hour.

East/West Roadways

Jarvis Avenue – Jarvis Avenue is the northernmost arterial that provides access across the City, as well as access to much of the retail area in the north area of the City. Jarvis Avenue is a four-lane road with a landscaped median with turn pockets. The posted speed limit is 35 miles per hour between Lake Boulevard and Lido Boulevard, and 45 miles per hour west of Lido Boulevard. Class II bike lanes are provided along Jarvis Avenue.

Central Avenue – Central Avenue is an arterial roadway that provides access to and from the industrial area in the western portion of the City. From I-880 to Newark Boulevard, Central Avenue has four lanes with on-street parking and Class II bike lanes. West of Newark Boulevard, Central Avenue is designated a Class III bike route. Central Avenue narrows to two lanes with a wide center median and turn pockets west of Filbert Street, before connecting with Willow Street at the western edge of the developed area of the City. Between I-880 and Cherry Street, the posted speed limit is 35 miles per hour; west of Cherry Street, the posted speed limit is 40 miles per hour. Central Avenue also serves as a secondary access point to the proposed project.

Mowry Avenue – Mowry Avenue is a six-lane arterial between Cedar Boulevard and I-880, providing the main point of access to NewPark Mall. West of Cedar Boulevard, to Cherry Street, Mowry Avenue narrows to four lanes. This section of Mowry Avenue has a posted speed limit of 35 miles per hour and is designated a Class III bike route. West of Cherry Street, Mowry Avenue has Class II bike lanes. It provides access to the Silliman Activity and Family Aquatics Center, a primary source of recreation in Newark. Within the study area, Mowry Avenue is a four-lane roadway with a raised median and has an interchange with I-880.

STUDY AREA INTERSECTIONS

The study area includes 19 intersections, which are listed in Section 4.14.1.4. Figure 4.14-2 (Existing Intersection Geometries and Traffic Controls) illustrates the study area intersection lane geometrics under existing conditions.

4.14.2.2 EXISTING TRANSIT SERVICE

Alameda-Contra Costa (AC) Transit provides direct transit services to/from the project site while Bay Area Rapid Transit (BART) provides indirect services.

ALAMEDA-CONTRA COSTA (AC) TRANSIT

AC Transit provides bus service in Alameda and Contra Costa Counties, including the City. Two bus routes operate on Thornton Avenue near the Specific Plan Area (Routes 251 and 275). Route 251 is the closest existing route to the Specific Plan Area with a stop at the intersection of Thornton Avenue/Willow Street and provides connection to the Fremont BART Station. It operates weekdays at 60-minute headways between 6:00 AM and 8:34 PM. On weekends, it operates from 6:00 AM to 7:53 PM. Route 275 provides service to the Union City BART station, with the closest stop at the intersection of Thornton Avenue/Sycamore Street. It operates weekdays at 60-minute headways between 6:13 AM and 8:37 PM.

BAY AREA RAPID TRANSIT (BART)

BART operates train service throughout the San Francisco Bay Area. There are two BART lines that serve the Fremont and Union City stations which are located approximately five miles east of the Specific Plan Area: the Richmond-Fremont Line and the Daly City-Fremont Line. The Fremont station is the current terminus for both lines, although a southerly extension to Milpitas and San Jose (Berryessa) is currently under construction. The Fremont-Daly City line does not operate weekday evenings or Sundays. Passengers bound for San Francisco and Daly City must transfer to the Dublin-Pleasanton-SFO-Millbrae Line at the Bay Fair station in San Leandro during times the Fremont-Daly City line is not in service.

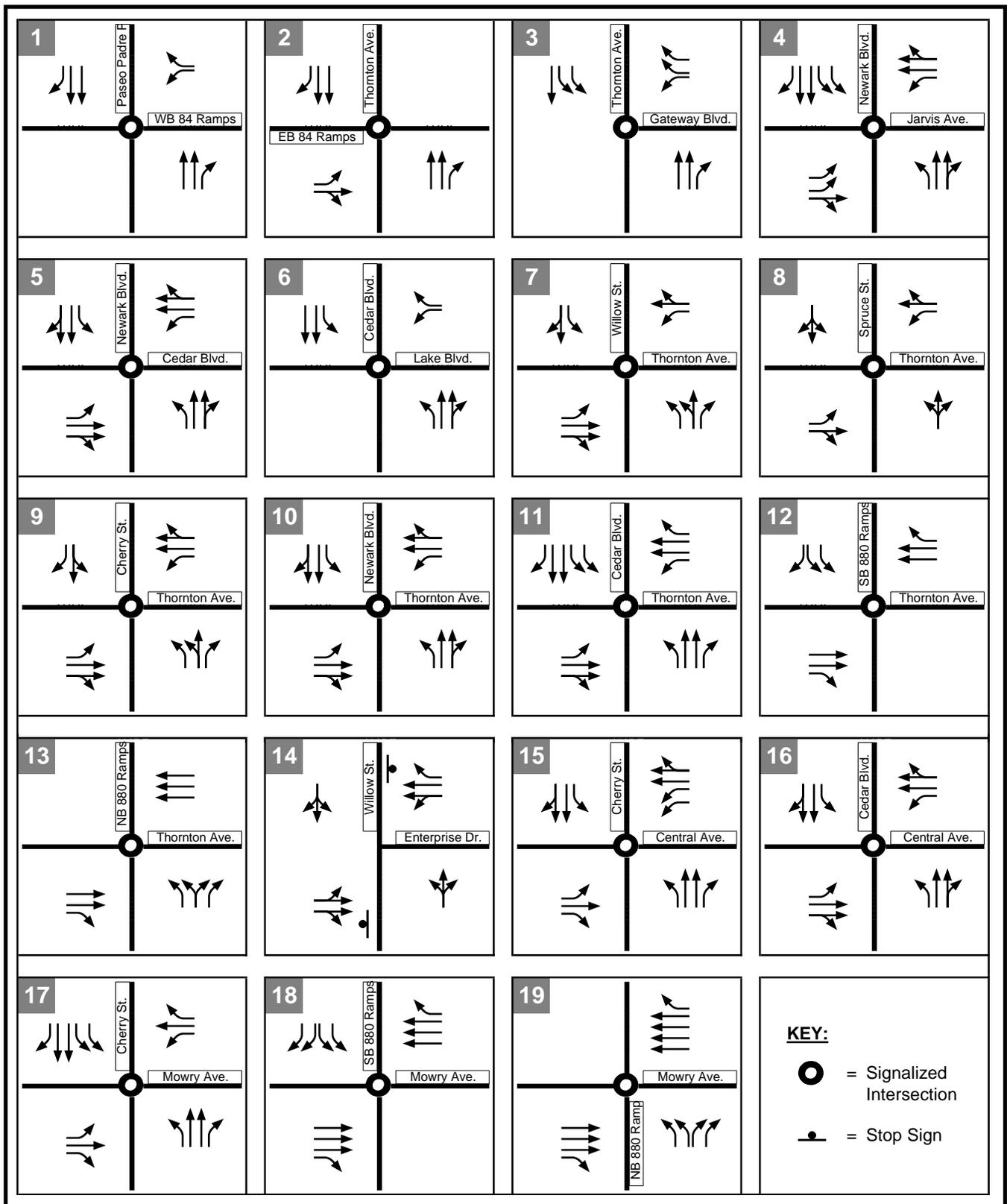
ALTAMONT COMMUTER EXPRESS (ACE)

The San Joaquin Regional Rail Commission (SJRRRC) operates Altamont Commuter Express (ACE) commuter rail service of over 85 miles between Stockton and San José. It operates a limited number of trains per day with trains leaving Stockton in the morning and returning in the evening. The nearest ACE station is in Fremont and is located on Fremont Boulevard near Peralta Boulevard.

AMTRAK

Amtrak also provides intercity rail service on the Capitol Corridor, connecting Auburn, Sacramento, Emeryville, Oakland and San José. The service provides a limited number of daily round trips. The nearest Amtrak station is collocated with the ACE station in Fremont on Fremont Boulevard near Peralta Boulevard.

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Source: Fehr & Peers, February 2011

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PARATRANSIT

East Bay Paratransit is a door-to-door alternative transit service for seniors and persons with disabilities that are prevented from using regular transit services. Services are provided during the same hours that BART and AC Transit operate. Applicants are required to submit a form and go through a review process to be eligible for services.

Transit routes that operate in the project area are summarized in Table 4.14-4 (Existing Transit Service). The transit facilities (BART, ACE and Amtrak service and bus routes) in the vicinity of the site are shown on Figure 4.14-3 (Existing Transit Service).

TABLE 4.14-4 EXISTING TRANSIT SERVICE

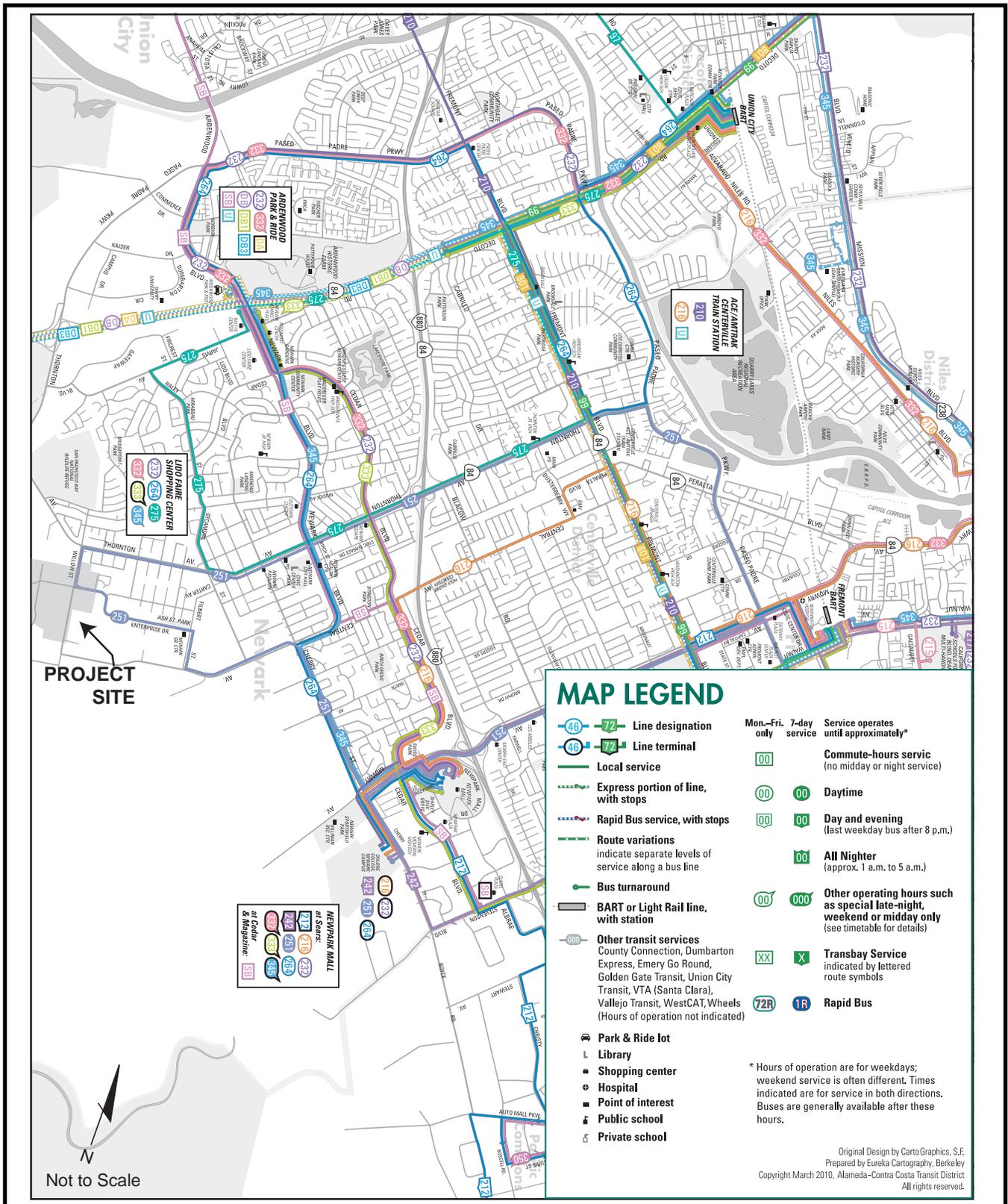
Route	Description	Frequency of Service (minutes)	
		Commute Times ^a	Non-Commute Times ^b
<i>AC Transit Routes</i>			
251	Fremont (Fremont BART – Newark City)	60	60
275	Union City (Union City BART – Newark City)	60	60
<i>BART</i>			
	Fremont – Richmond	15	20
	Fremont – Daly City	15	20
	Dublin/Pleasanton – Daly City	15	20
<i>ACE</i>			
	Stockton to San Jose Westbound	65	n/a
	San Jose to Stockton Eastbound	60	n/a
<i>Amtrak</i>			
	Capitol Corridor Westbound	90	120-180
	Capitol Corridor Eastbound	90	120-180

a Commute times are weekdays from 6:00 to 9:00 AM and 4:00 to 7:00 PM.

b Non-commute times are weekdays outside of commute times and weekends.

Sources: AC Transit, March 2011; Santa Clara Valley Transportation Authority, March 2011; BART, March 2011; ACE, March 2011; Amtrak, March 2011.

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Source: Fehr & Peers, March 2011

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4.14.2.3 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

The Specific Plan Area currently has minimal pedestrian connections and amenities. Sidewalks currently exist along Willow Street south of the Willow Street/Thornton Avenue intersection, along Enterprise Drive approximately 280 feet west of the Allepo Drive/Enterprise Drive intersection to the eastern City limit, and along Central Avenue east of Willow Street. Sidewalks do not exist along Willow Street on either side of the project frontage. The Specific Plan includes pedestrian improvements that are further discussed in Section 4.14.5.3.

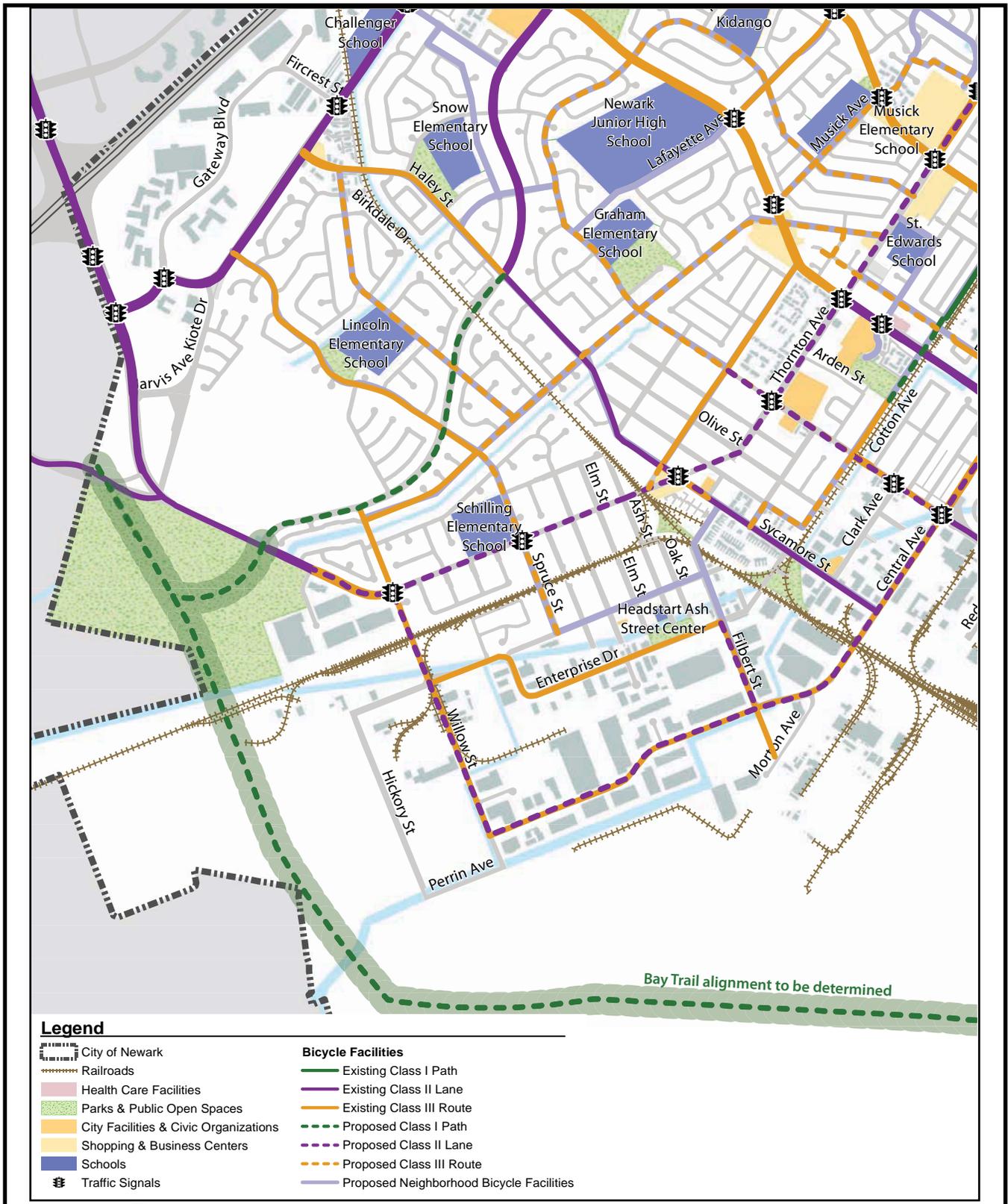
BICYCLE FACILITIES

Bicycle facilities include bike paths (Class I), bike lanes (Class II) and bike routes (Class III) (*Highway Design Manual*, Caltrans). Bike paths are paved trails that are separated from roadways. Bike lanes are lanes on roadways designated for use by bicycles. These lanes are designated by pavement striping, pavement legends and signage. Bike routes are roadways that are designated for bicycle use by signs only and may or may not include additional pavement width for cyclists. Class II bike lanes currently exist along Thornton Avenue between the northern City limit and Hickory Street and a Class III bike route between Hickory Street and Willow Street. Class III bike routes currently exist along Willow Street from Cedar Boulevard to Hickory Street and along Enterprise Drive between Willow Street and Filbert Street. Figure 4.14-4 (Existing Bicycle Facilities) displays the existing bicycle facilities. The Specific Plan includes bicycle improvements that are further discussed in Section 4.14.5.4.

4.14.2.4 EXISTING ROADWAY VOLUMES

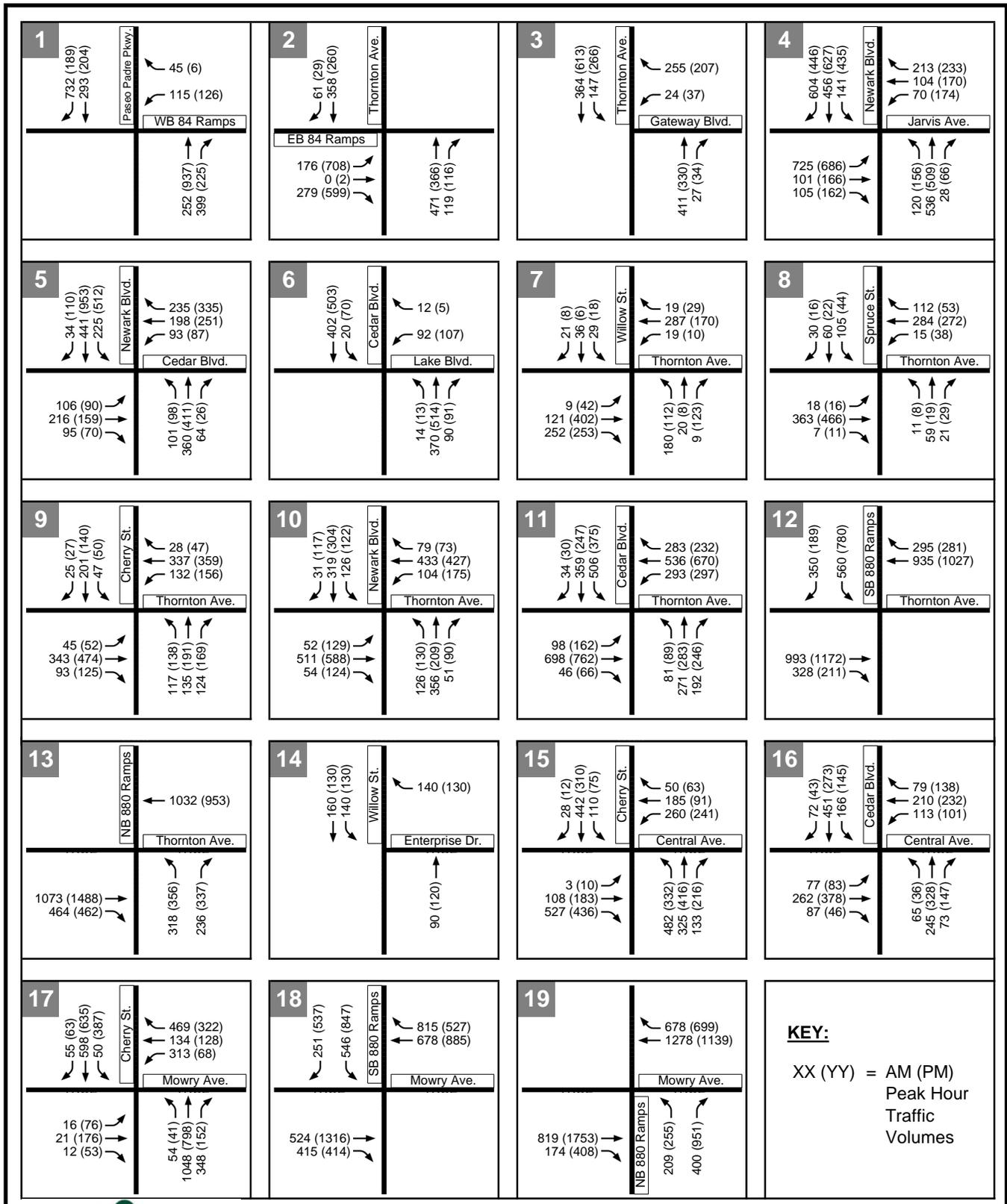
Figure 4.14-5 (Existing Peak-Hour Intersection Volumes) illustrates the existing AM/PM peak-hour traffic volumes for the study area intersections. Where available, intersection counts were obtained from the City. These counts were conducted in 2006 and 2007. New traffic data at selected intersections was obtained in May 2010, where prior information was not available. The intersection of Cedar Boulevard/Newark Boulevard was counted in both data sets as a control location, which showed minimal change in peak-hour volumes between 2006 and 2010. New traffic counts are provided in Appendix G (Traffic Data).

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Source: Fehr & Peers, May 2011

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Source: Fehr & Peers, March 2011



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4.14.2.5 EXISTING TRAFFIC LEVELS OF SERVICE

LOS analyses under existing conditions were conducted using the methodologies described above in Section 4.14.1 (Analysis Methodology).

INTERSECTION ANALYSIS

Table 4.14-5 (Existing Conditions Intersection Level of Service) displays the intersection LOS and average vehicle delay results for the study area intersections under existing conditions. LOS calculation worksheets for existing conditions are provided in Appendix G. As shown in Table 4.14-5, all of the study area intersections currently operate at acceptable LOS C or better with the exception of the following three intersections:

- ◆ Jarvis Avenue/Newark Boulevard (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Newark Boulevard (Signalized) – PM peak-hour
- ◆ Cedar Boulevard/Thornton Avenue (Signalized) – AM peak-hour

Table 4.14-5 EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE

Intersection	Baseline		
	Peak Hour	Delay ^a (sec)	LOS
SR-84 WB Ramps/Thornton Ave	AM	9.5	A
	PM	6.1	A
SR-84 EB Ramps/Thornton Ave	AM	12.3	B
	PM	13.5	B
Gateway Blvd/Thornton Ave	AM	16.3	B
	PM	12.5	B
Jarvis Ave/Newark Blvd	AM	60.4	E
	PM	41.1	D
Cedar Blvd/Newark Blvd	AM	24.8	C
	PM	38.1	D
Lake Blvd/Cedar Blvd	AM	12.8	B
	PM	13.2	B
Willow St/Thornton Ave	AM	21.4	C
	PM	22.6	C
Spruce St/Thornton Ave	AM	16.6	B
	PM	10.2	B
Cherry St/Thornton Ave	AM	22.4	C
	PM	23.6	C

Table 4.14-5 EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	Baseline	
		Delay ^a (sec)	LOS
Newark Blvd/Thornton Ave	AM	22.4	C
	PM	24.4	C
Cedar Blvd/Thornton Ave	AM	39.7	D
	PM	33.7	C
I-880 SB Ramps/Thornton Ave	AM	10.8	B
	PM	13.1	B
I-880 NB Ramps/Thornton Ave	AM	9.5	A
	PM	10.0	A
Willow St/Enterprise Dr ^b	AM	9.2	A
	PM	9.6	A
Cherry St/Central Ave	AM	26.8	C
	PM	21.1	C
Cedar Blvd/Central Ave	AM	21.6	C
	PM	22.8	C
Cherry St/Mowry Ave	AM	33.2	C
	PM	24.2	C
I-880 SB Rams/Mowry Ave	AM	11.5	B
	PM	13.0	B
I-880 NB Ramps/Mowry Ave	AM	10.6	B
	PM	16.0	B

a Average delay in seconds per vehicle.

b For one or two-way stop controlled intersections, delay shown is worst delay experienced by any of the approaches.

Bold typeface indicates unacceptable LOS.

Source: Fehr & Peers; March 2011

4.14.3 REGULATORY SETTING

Regulatory agencies and their transportation policies, including LOS standards that affect the project are discussed in this section. The minimum acceptable LOS standards for transportation facilities vary based on their classification (type of facility) and jurisdiction that controls the facility. The LOS standards listed below apply to the analysis of the Specific Plan. These standards are used to determine significant impacts and to develop appropriate mitigation measures.

4.14.3.1 STATE FRAMEWORK

CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)

The California Department of Transportation (Caltrans) recommends a target LOS at the threshold between LOS C and LOS D for their facilities. If the location under existing conditions operates worse than the appropriate target LOS, then the existing LOS should be maintained. For purposes of this analysis, LOS will not be evaluated. In 2010, Caltrans' Smart Mobility Framework was adopted and serves as a planning framework that helps to guide and assess how well plans, programs and projects meet a definition of "smart mobility." It is applicable to various levels of plans, programs or projects (e.g., Regional Transportation and Blueprint Plans, General Plans, corridor plans, specific development proposals, etc.) in all parts of the State (i.e., urban, suburban, and rural).

ASSEMBLY BILL 32 AND SENATE BILL 375

With the passage of Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, the State of California committed itself to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is coordinating the response to comply with AB 32.

In 2007, CARB adopted a list of early action programs to be put in place by January 1, 2010. In 2008, CARB defined its 1990 baseline level of emissions, and in 2011 it will complete its major rule making for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms like the proposed cap and trade program, will take effect January 1, 2012.

On December 11, 2008, CARB adopted its Proposed Scoping Plan for AB 32. This scoping plan included the approval of Senate Bill (SB) 375 as the means for achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the State comply with AB 32.

There are four major components to SB 375. First, SB 375 requires regional GHG emissions targets. CARB's Regional Targets Advisory Committee will guide the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the State. These targets, which MPOs may propose themselves, will be updated every eight years in conjunction with the revision schedule of housing and transportation elements.

Second, MPOs will be required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent with each other, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative plan to meet the target.

Third, SB 375 requires that regional housing elements and transportation plans be synchronized on eight-year schedules. In addition, Regional Housing Needs Assessment (RHNA) allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within three years.

Finally, MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC). Regional Transportation Planning Agencies, cities and counties are encouraged, but not required, to use travel demand models consistent with the CTC guidelines.

4.14.3.2 REGIONAL FRAMEWORK

METROPOLITAN TRANSPORTATION COMMISSION (MTC)

The majority of Federal, State and local financing available for transportation projects is allocated at the regional level by the Metropolitan Transportation Commission (MTC), the transportation planning, coordinating, and financing agency for the nine-county Bay Area. The current regional transportation plan, known as Transportation 2035, was adopted by MTC on April 22, 2009. Transportation 2035 specifies a detailed set of investments and strategies throughout the region from 2009 through 2035 to maintain, manage and improve the surface transportation system. The Plan specifies how anticipated Federal, State, and local transportation funds will be spent in the Bay Area during the next 25 years. Most of this “committed funding” will go toward maintaining the region’s existing transportation infrastructure.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with the authority to develop and enforce regulations for the control of air pollution throughout the Bay Area. The Clean Air Plan is BAAQMD’s plan for reducing the emissions of air pollutants that lead to ozone. BAAQMD has also

published CEQA Guidelines for the purpose of evaluating the air quality impact of projects and plans. One of the criteria that the Guidelines describe is that plans, including Specific Plans, must demonstrate reasonable efforts to implement transportation control measures (TCM) included in the Clean Air Plan that identify local governments as the implementing agencies. On-road motor vehicles are the largest source of air pollution in the Bay Area. To address the impact of vehicles, the California Clean Air Act requires air districts to adopt, implement and enforce TCM.

FOCUS: A DEVELOPMENT AND CONSERVATION STRATEGY

FOCUS is a regional development and conservation strategy that promotes a more compact land use pattern for the Bay Area. It is led by the Association of Bay Area Governments (ABAG) and MTC, with support from the BAAQMD and the Bay Conservation and Development Commission, in partnership with congestion management agencies, transit providers, and local governments throughout the Bay Area. It unites the efforts of these four regional agencies into a single program that links land use and transportation by encouraging the development of complete, livable communities in areas served by transit, and promotes conservation of the region's most significant resource lands. FOCUS directs financial assistance and other resources to Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs). PDAs were designated to encourage planning of complete communities, which emphasize walkable, compact neighborhoods with accompanying amenities such as shopping, parks, schools, childcare, and easy access to employment. In November 2007, the Dumbarton Rail Station Area was designated a PDA by the ABAG Executive Board.

PLAN BAY AREA

Plan Bay Area is a joint effort led by ABAG and MTC in partnership with the Bay Area's other two regional government agencies, BAAQMD and the Bay Conservation and Development Commission. The four agencies are collaborating to develop a Sustainable Community Strategy (SCS), required as part of the 2008 California legislation Senate Bill 375, which requires each of the state's 18 metropolitan areas to reduce greenhouse gas emissions from cars and light trucks. The SCS will promote compact, mixed-use commercial and residential development that is walkable, bikeable, and close to mass transit, jobs, schools, shopping, parks, recreation, and other amenities.

4.14.3.3 LOCAL FRAMEWORK

ALAMEDA COUNTY TRANSPORTATION COMMISSION

The Alameda County Transportation Commission (ACTC) was formed in 2010 by the merging of the Alameda County Congestion Management Agency (ACCMA) and the Alameda County Transportation Improvement Authority (ACTIA). ACTC is currently in the process of assuming the duties of both organizations. ACCMA was originally adopted in 1991, and updated in 2009 by Alameda County Congestion Management Agency (ACCMA). Local agencies are required by State statute to conform to the Congestion Management Program (CMP). CMP requirements for the Alameda County region are delineated in the 2009 CMP Update. One of the primary functions of the ACCMA was to monitor the regional transportation system through LOS performance.

The Alameda County Transportation Commission requires analysis of project impacts to the MTS roadways if the proposed project generates more than 100 peak-hour trips.

CITY OF NEWARK

The City of Newark's General Plan Transportation Element (1992) includes various goals and policies related to the transportation network and transportation impacts resulting from planned development within the City. The relevant goals and policies are described below:

- Goal 1. Provide for a quality environment with smooth, convenient and safe vehicular travel throughout Newark.
- Policy a. Complete the City's arterial street system.
- Policy b. Maintain and where necessary enhance the system of collector streets to ensure complete linking of arterials with the local street system.
- Policy c. Strive for LOS "C" or better at all major intersections within Newark, recognizing that in some cases Level of Service "D" may be acceptable with appropriate mitigation measures.
- Policy d. Assure that adequate right-of-way is reserved for future roadway widening projects.

- Policy e. Improve the street system as necessary to facilitate fast emergency vehicle response.
- Policy f. Coordinate traffic signals on major streets.
- Policy g. Establish and maintain street standards that meet current best traffic engineering practice.
- Policy h. Establish a capital improvements program that provides for needed roadway projects.
- Policy i. Assure adequate off-street parking is provided for all new and expanded developments in order to maximize the efficiency of the City Street system.
- Policy k. Require new development to implement Transportation Systems Management (TSM) programs, and/or to pay for traffic improvements through traffic impact fees or assessment district financing.
- Goal 2. Promote the development and use of alternative modes of transportation.
 - Policy a. Work with other agencies and private industry to provide an improved public transportation system serving Newark and its residents.
 - Policy b. Utilize existing railroad rights-of-way for new transit routes
 - Policy c. Support car and van pools.
 - Policy d. Assure safe and convenient pedestrian access to and through new private and public developments.
 - Policy e. Complete construction of the City-wide Bike Route Plan.
- Goal 3. Support regional transportation planning for Southern Alameda County.

- Policy d. Work with the State and City of Fremont to maintain LOS “C” at all intersections on the border of Newark, particularly Newark Boulevard/Dumbarton Freeway, Thornton Avenue/Dumbarton Freeway, Stevenson Boulevard/Interstate 880, Mowry Avenue/Interstate 880 and Thornton Avenue/Interstate 880, to accommodate buildout of lands in Fremont and Newark in the vicinity of the intersections.

4.14.4 ENVIRONMENTAL ANALYSIS

This section presents an analysis of the potential transportation related impacts of the proposed Project. The applicable guidelines for the determination of significant impacts are provided, followed by analysis of potential transportation related impacts under two scenarios: Existing Plus Project Buildout, and 2035 Plus Project Buildout.

4.14.4.1 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on transportation/traffic if it would:

- ◆ Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit;
- ◆ Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- ◆ 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 (e.g., farm equipment);
- ◆ Result in inadequate emergency access;
- ◆ Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

4.14.4.2 SIGNIFICANCE CRITERIA

This section outlines the criteria used to determine the significant project-related impacts to intersections within the jurisdiction of the City, as applicable. Application of the specific significance criteria is based on the jurisdictional location of the subject roadway facility and discussions with City staff.

For purposes of this EIR, the Specific Plan would result in significant adverse impacts if it would cause:

1. Signalized intersection operations to:
 - a. Degrade from LOS C or better under Existing Conditions to LOS D, E, or F under Project Conditions in either peak-hour; or
 - b. Exacerbate LOS D, E, or F operations by increasing the average delay at an intersection by four (4) or more seconds under Project Conditions
2. An increase of 100 or more peak-hour vehicles trips on roadway segments on the Metropolitan Transportation System (MTS), and roadway segment operations to degrade from LOS E or better under Existing Conditions to LOS F under Project Conditions (or an increase of 0.02 or more in the V/C ratio on a segment already operating at LOS F under Existing Conditions;
3. A conflict with adopted plans, policies, or programs supporting transit service or bicycling or pedestrian facilities;
4. An increase in transit demand that cannot be accommodated by existing or planned transit capacity;
5. Overcrowding on public sidewalks, creation of hazardous conditions for pedestrians, or elimination of pedestrian access to adjoining areas; or
6. Creation of hazardous conditions for bicyclists, or elimination of bicycle access to adjoining areas.
7. Creation of an operational safety hazard.

4.14.4.3 AREAS OF NO PROJECT IMPACT

The following impact is either not applicable to the project or not reasonably foreseeable:

- ◆ 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.

The proposed Specific Plan would not result in a change in air traffic patterns and, therefore, no further analysis is required in this regard.

4.14.4.4 PROJECT AUTOMOBILE TRIP ESTIMATES

The proposed Specific Plan would result in the development of 168 single-family dwelling units, 1,902 townhomes, 430 apartment units, 35,000 square feet of neighborhood commercial retail, and 195,000 square feet of general office uses. Site access is proposed via the intersections of Enterprise Drive/Willow Street and Central Avenue/Willow Street.

In light of the types and proximity of land uses that are proposed as part of the Specific Plan, it is anticipated that not all automobile trips would leave the Specific Plan area. For example, a major portion of the neighborhood commercial retail trips would be expected to be generated from the proposed surrounding residential neighborhoods. Therefore, trips to/from the Specific Plan area were disaggregated into those trips that would remain within the Specific Plan area (i.e., internally captured trips) and those that would leave the area (i.e., external trips). The estimates for internal versus external trip generation percentages were developed based on the likely origins/destinations for each land use type using internalization methods from the Institute of Transportation Engineers (ITE) *Trip Generation Handbook* (2004). It is assumed that 80 percent of the traffic generated by the neighborhood commercial retail and nine percent of the residential trips would be internal; all other trips are assumed to be traveling externally into the surrounding region. Trip generation rates for the proposed Specific Plan were developed using the ITE *Trip Generation Manual, 8th Edition* (2008).

In addition to trips being internalized, it is expected that the orientation of land uses in the Specific Plan area towards the future Dumbarton Rail Transit Station would result in a further reduction in external vehicle traffic, as some trips made by station area residents and employees could arrive by transit instead of personal vehicles. However, the future of the Dumbarton Rail line is uncertain as of publication of this Draft EIR due to funding constraints. Therefore, as a reasonable worst-case scenario, no additional transit reduction was taken from the trip generation estimates.

Table 4.14-6 (Dumbarton TOD Specific Plan Trip Generation Estimates) depicts the daily and AM/PM peak-hour trip generation estimates for each of the Specific Plan's traffic generating components as well as a quantification of the projected external and internal trips.

As shown in Table 4.14-6, the Specific Plan at buildout would generate a total of 16,481 daily trips, including 1,241 AM peak-hour trips (471 inbound/770 outbound) and 1,523 PM peak-hour trips (836 inbound/687 outbound). Out of the 16,481 daily trips, 14,131 daily trips would travel externally into the surrounding roadway network, including 1,165 AM peak-hour trips (416 inbound/738 outbound) and 1,320 PM peak-hour trips (720 inbound/600 outbound).

4.14.4.5 PROJECT TRIP DISTRIBUTION

The distribution of the external trips generated by the Specific Plan on the study area roadways was determined based upon journey to work data from the U.S. Census (2000), existing travel patterns, and locations of complementary land uses. Figure 4.14-6 (Project Trip Distribution) illustrates the respective external Specific Plan area trip distribution patterns, shown as a percentage of total external trips.

4.14.4.6 PROJECT TRIP ASSIGNMENT

Based on the project trip distribution patterns, the external daily and AM/PM peak-hour trips generated by the Specific Plan were assigned to the study area roadway network.

Figure 4.14-7 (Project Peak Hour Intersection Volumes) illustrates the AM/PM peak hour project trips to the respective roadway network and study area intersections.

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TABLE 4.14-6 DUMBARTON TOD SPECIFIC PLAN TRIP GENERATION ESTIMATES

Trip Generation Estimates														
ITE		Trip Generation Rates					AM Peak Hour			PM Peak Hour				
Land Use	Land Use	Size	Units ¹	Daily	AM Peak Hour	PM Peak Hour	Daily	Inbound	Outbound	Total	Inbound	Outbound	Total	
<i>Residential</i>														
Single-Family	210	168	d.u.	9.98	0.76	1.00	d.u.	1,676	32	95	127	106	62	168
Apartment	220	430	d.u.	6.35	0.50	0.59	d.u.	2,729	43	171	214	165	89	254
Townhome /Condo	230	1,902	d.u.	4.39	0.29	0.35	d.u.	8,342	93	452	545	451	222	673
<i>Retail</i>														
Neighborhood Commercial Retail	820	35	k.s.f.	42.94	1.00	3.73	k.s.f.	1,503	21	14	35	64	67	131
<i>Office</i>														
General Office	710	195	k.s.f.	11.44	1.64	1.52	k.s.f.	2,231	282	38	320	50	247	297
Total Specific Plan:							16,481	471	770	1,241	836	687	1,523	
Total Internal Capture:							2,350	55	32	76	116	87	203	
Total External Trips:							14,131	416	738	1,165	720	600	1,320	

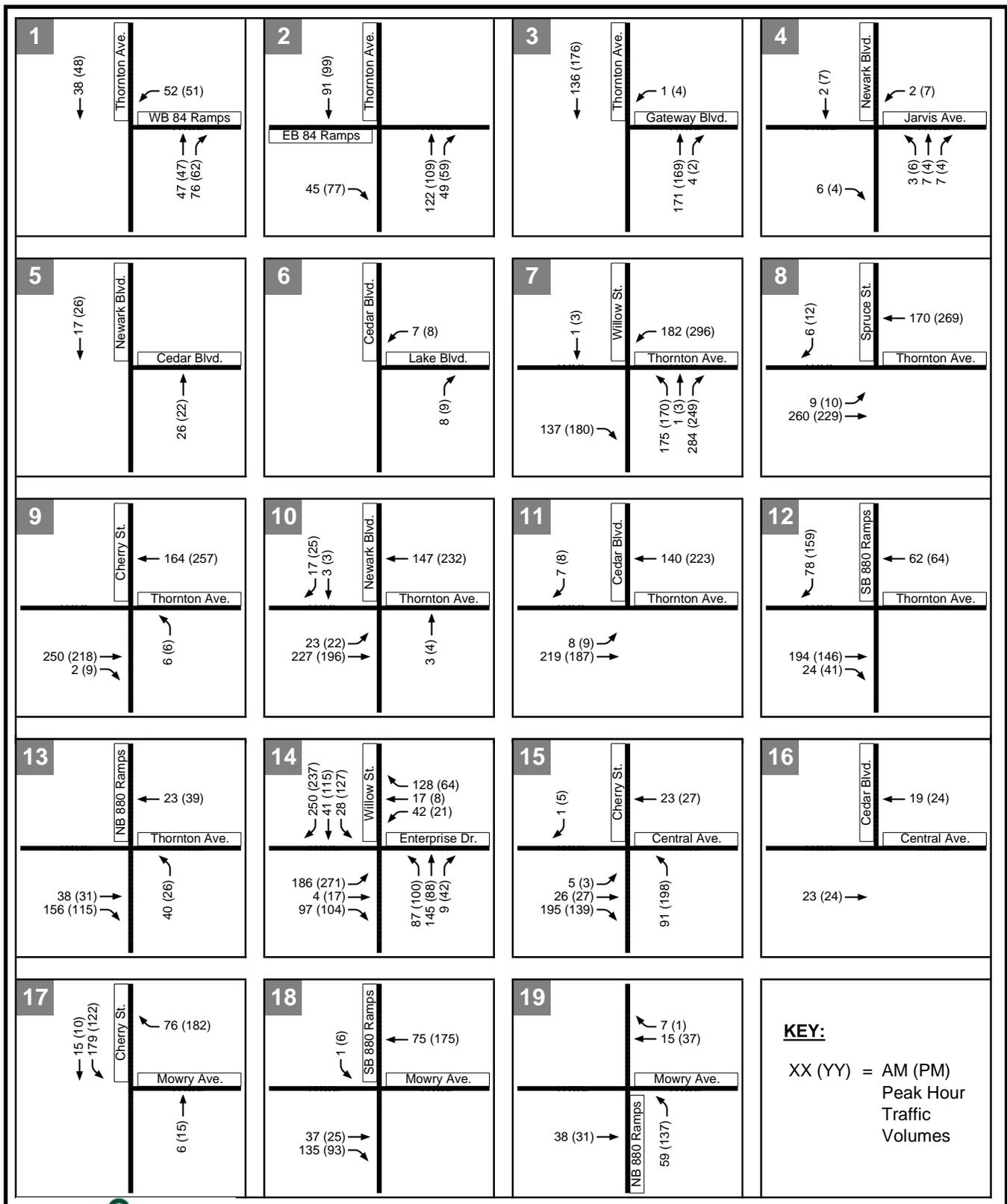
Notes: 1. d.u. = dwelling units, k.s.f. = 1,000 square feet

Trip generation estimates based on *Trip Generation*, 8th Ed. (Institute of Transportation Engineers (ITE), 2008)

Source: Fehr & Peers, March 2011.

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Source: Fehr & Peers, March 2011



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Project Peak-Hour Intersection Volumes

Figure 4.14-7

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4.14.4.7 POTENTIAL IMPACTS AND MITIGATION MEASURES – EXISTING PLUS PROJECT BUILDOUT

This section presents an analysis of project related impacts under the scenario in which project traffic volumes are added to existing traffic volumes on the existing roadway network. Intersection geometrics under this scenario are assumed to be identical to existing conditions, with the addition of the main project access at the intersection of Enterprise Drive and Willow Street. While the Specific Plan proposes new street connections internal to the site, these connections are not anticipated to change existing external traffic patterns.

The Existing Plus Project scenario generally is regarded by traffic engineers as a hypothetical scenario when used in connection with a development project such as the proposed Specific Plan, which is not anticipated to reach full buildout until after 2035. This is because, with the exception of changes resulting directly from Project implementation as described above, the Existing Plus Project analysis presumes that the existing environment will not change over the long-term buildout of the Specific Plan. As a result, future increases in traffic volumes attributable to other development projects (i.e., cumulative traffic volumes) are not accounted for in the analysis, which could understate the impacts of vehicular traffic from this or other projects. However, project-specific and future roadway network improvements that are planned under the City's General Plan, which may increase roadway capacities, are not accounted for in the analysis, which could overstate project impacts. For these reasons, the analysis presented in this section, and the related mitigation measures are provided for comparative purposes only.

Analysis of the Existing Plus Project (Buildout) scenario was conducted using the methodologies previously described in Section 4.14.1. Intersection LOS results are discussed below. Peak-hour traffic volumes at the study area intersections under Existing Plus Project conditions are presented in Figure 4.14-8 (Existing Plus Project Peak-Hour Intersection Volumes).

INTERSECTIONS

4.14-1 The proposed project would increase traffic and have a significant impact at the four intersections.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Table 4.14-7 (Existing Plus Project Conditions Intersection Level of Service) illustrates the intersection LOS and average vehicle delay results under Existing Plus Project (Buildout) Conditions. LOS calculation worksheets for this scenario are provided in Appendix G.

TABLE 4.14-7 EXISTING PLUS PROJECT CONDITIONS INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	Existing		Existing Plus Project		Significant Impact?
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	
SR-84 WB Ramps/Thornton Ave	AM	9.5	A	10.7	B	No
	PM	6.1	A	7.5	A	No
SR-84 EB Ramps/Thornton Ave	AM	12.3	B	12.6	B	No
	PM	13.5	B	16.1	B	No
Gateway Blvd/Thornton Ave	AM	16.3	B	13.2	B	No
	PM	12.5	B	17.5	B	No
Jarvis Ave/Newark Blvd	AM	60.4	E	60.6	E	No
	PM	41.1	D	41.8	D	No
Cedar Blvd/Newark Blvd	AM	24.8	C	25.1	C	No
	PM	38.1	D	38.8	D	No
Lake Blvd/Cedar Blvd	AM	12.8	B	13.0	B	No
	PM	13.2	B	13.4	B	No
Willow St/Thornton Ave	AM	21.4	C	35.7	D	Yes
	PM	22.6	C	48.9	D	Yes
Spruce St/Thornton Ave	AM	16.6	B	21.6	C	No
	PM	10.2	B	10.4	B	No
Cherry St/Thornton Ave	AM	22.4	C	24.7	C	No
	PM	23.6	C	26.5	C	No
Newark Blvd/Thornton Ave	AM	22.4	C	23.5	C	No
	PM	24.4	C	26.9	C	No
Cedar Blvd/Thornton Ave	AM	39.7	D	48.4	D	Yes
	PM	33.7	C	38.2	D	Yes

TABLE 4.14-7 EXISTING PLUS PROJECT CONDITIONS INTERSECTION LEVEL OF SERVICE

Intersection	Peak Hour	Existing		Existing Plus Project		Significant Impact?
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	
I-880 SB Ramps/Thornton Ave	AM	10.8	B	10.5	B	No
	PM	13.1	B	13.3	B	No
I-880 NB Ramps/Thornton Ave	AM	9.5	A	10.0	A	No
	PM	10.0	A	10.2	B	No
Willow St/Enterprise Dr*	AM	9.2	A	> 55	F	Yes
	PM	9.6	A	> 55	F	Yes
Cherry St/Central Ave	AM	26.8	C	34.2	C	No
	PM	21.1	C	26.0	C	No
Cedar Blvd/Central Ave	AM	21.6	C	21.7	C	No
	PM	22.8	C	23	C	No
Cherry St/Mowry Ave	AM	33.2	C	40.8	D	Yes
	PM	24.2	C	31.5	C	No
I-880 SB Ramps/Mowry Ave	AM	11.5	B	11.4	B	No
	PM	13.0	B	13.1	B	No
I-880 NB Ramps/Mowry Ave	AM	10.6	B	10.6	B	No
	PM	16.0	B	16.0	B	No

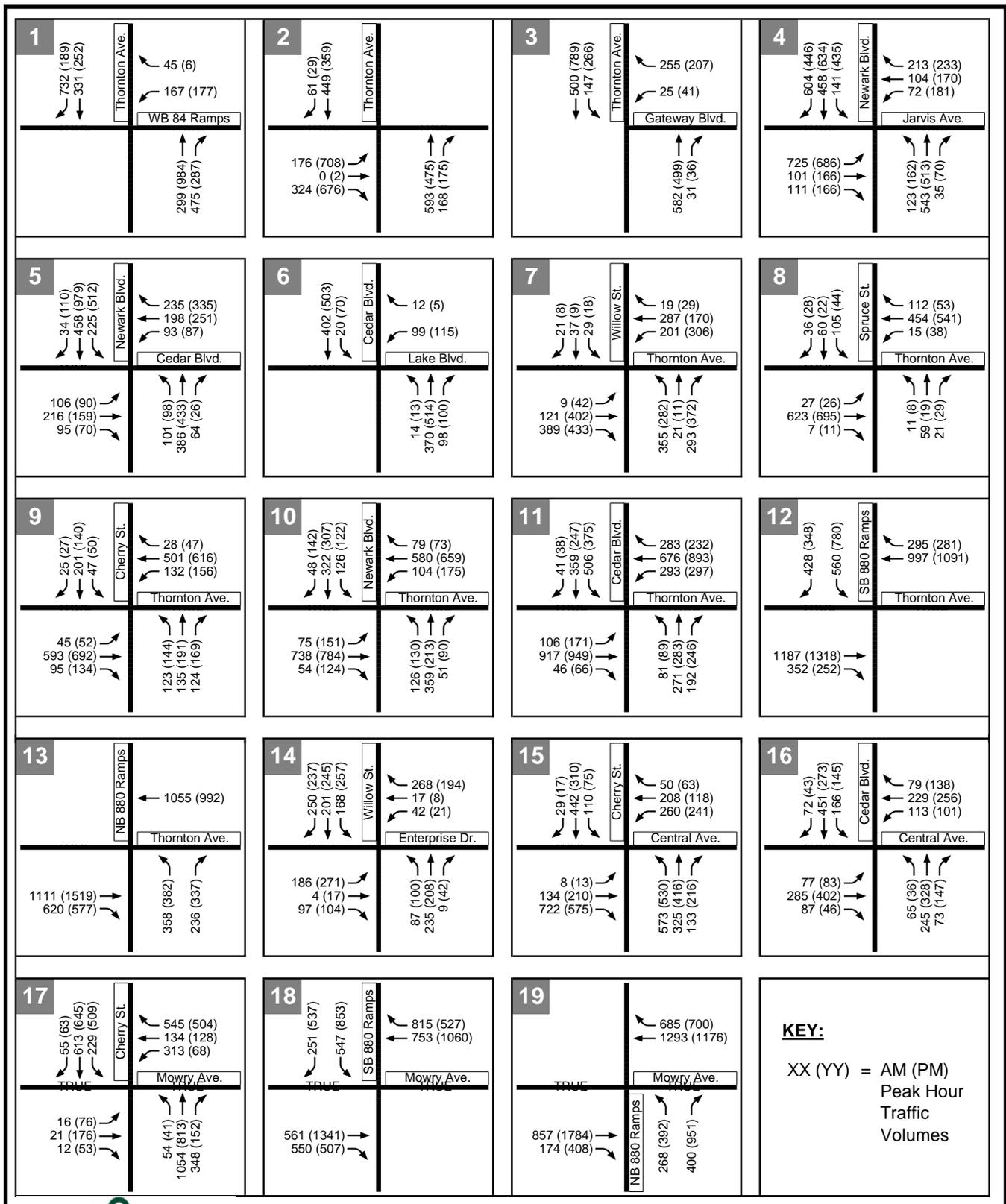
^a Average delay in seconds per vehicle.

*For side-street stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

Bold typeface indicates unacceptable LOS.

Source: Fehr & Peers; March 2011

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Source: Fehr & Peers, March 2011



Not to scale

Existing Plus Project Peak-Hour Intersection Volumes

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Figure 4.14-8

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As shown in Table 4.14-7, under this scenario, all of the study area intersections would continue to operate at acceptable LOS C or better conditions during both the AM and PM peak-hours, with the exception of the following six intersections:

- ◆ Jarvis Avenue/Newark Boulevard (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Newark Boulevard (Signalized) – PM peak-hour
- ◆ Willow Street/Thornton Avenue (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Thornton Avenue (Signalized) – AM and PM peak-hours
- ◆ Willow Street/Enterprise Drive (Unsignalized) – AM and PM peak-hours
- ◆ Cherry Street/Mowry Avenue (Signalized) – AM peak-hour

Because traffic generated by the Specific Plan would cause operations of the following intersections to degrade from an acceptable LOS (LOS C or better) to unacceptable LOS D, E, or F, or exacerbate unacceptable level of operations by increasing the average delay at an intersection by four or more seconds under Project Conditions, the proposed Specific Plan would have a significant project-specific impact at the following four intersections:

- ◆ Willow Street/Thornton Avenue
- ◆ Cedar Boulevard/Thornton Avenue
- ◆ Willow Street/Enterprise Drive
- ◆ Cherry Street/Mowry Avenue

Implementation of Mitigation Measure 4.14-1 would reduce impacts at three of the four intersections. However, no feasible mitigation is available for the intersection of Cedar Boulevard/Thornton Avenue. Therefore, the impact would be significant and unavoidable.

Mitigation Measure

4.14-1 Willow Street/Thornton Avenue: A right turn overlap phase to the northbound approach on Willow Street shall be provided. Additionally, a U-turn restriction for the westbound left turn movement on Thornton Avenue shall be posted. This mitigation would allow the intersection to operate at LOS C during the AM and PM peak-hour under the Existing Plus Project scenario.

Cedar Boulevard/Thornton Avenue: An additional westbound left turn lane from Thornton Avenue to Cedar Boulevard shall be provided. While

no project traffic is added directly to this movement, the addition of this lane would improve overall intersection operations. However, due to the limited right-of-way available along Thornton Avenue and potential secondary impacts (such as increased pedestrian crossing distances), this is not feasible. Therefore, this impact is considered significant and unavoidable.

Willow Street/Enterprise Drive: Two options for mitigation at this intersection are proposed by the Specific Plan, including a roundabout or signalization of the intersection. One of the two options shall be implemented. The proposed mitigation would allow the intersection to operate at LOS C or better during both the AM and PM peak-hour. While a single-lane roundabout would operate acceptably with the proposed traffic volumes, right-turn bypass lanes may be provided to/from the west leg to connect to the four-lane section of Enterprise Drive west of the intersection.

Cherry Street/Mowry Avenue: Mitigation measures were identified at this intersection as part of the Area 3 and 4 Environmental Impact Report. The measures proposed included the addition of a second left-turn lane on the westbound approach, resulting in realignment of the east and westbound approaches and modification to the traffic signal. The operations of the intersection were tested with these mitigation measures; the intersection would continue to operate at LOS D during the AM peak hour. These improvements are not sufficient to mitigate the project's impact; additionally, right-of-way to widen this approach may be needed. Therefore, other mitigation measures were identified, as described below.

The westbound approach of the intersection of Cherry Street/Mowry Avenue shall be modified to include a right turn and a through-right turn lane. This improvement would require modification of the traffic signal and removal of the existing pork chop island. The proposed mitigation measures would allow the intersection to operate at LOS C during both the AM and PM peak-hour.

Table 4.14-8 (Existing Plus Project Conditions with Mitigation) illustrates intersection LOS and average vehicle delay results under Existing Plus Project (Buildout) conditions. LOS calculation worksheets are provided in Appendix G.

TABLE 4.14-8 EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION

Intersection	Peak Hour	Existing Plus Project		Existing Plus Project with Mitigation		Significant Impact w/ Mitigation?
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	
Willow St/Thornton Ave	AM	35.3	D	28.9	C	No
	PM	50.6	D	30.9	C	
Cedar Blvd/Thornton Ave	AM	48.4	D	Significant and Unavoidable		
	PM	38.1	D			
Willow St/Enterprise Dr*	AM	> 55	F	11.7/12.0	B	No
	PM	> 55	F	12.9/15.0	B	
Cherry St/Mowry Ave	AM	40.7	D	32.2	C	No
	PM	31.5	C	31.7	C	

a Average delay in seconds per vehicle.

*Willow Street/Enterprise Drive is an unsignalized intersection under the Existing Plus Project condition, and signalized/roundabout under the mitigated condition.

Bold typeface indicates unacceptable LOS.

Source: Fehr & Peers; March 2011

Level of Significance After Mitigation: Less than Significant, except at the intersection of Cedar Boulevard/Thornton Avenue, which are Significant and Unavoidable.

PUBLIC TRANSIT

4.14-2 The proposed project would create demand for public transit lines serving the area.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The analysis below describes potential impacts to public transit. As described in Section 4.14.4.4 (Trip Generation), no reduction in vehicular trip generation was taken to account for transit use; however, it is expected that the Specific Plan would generate additional demand for transit service. While it is unlikely that the

vehicular and transit impacts would both occur simultaneously, the assumptions below illustrate a reasonable worst-case scenario for analysis of transit impacts within the EIR.

AC Transit and BART provide transit service to the project area. Bus route 251 and 275 currently operate near the Specific Plan area, providing direct transit services to/from the site. Table 4.14-9 (Existing Average Ridership) displays the average ridership serviced by bus route 251 and 275 during the weekday and weekend based upon data obtained from AC Transit.

TABLE 4.14-9 EXISTING AVERAGE RIDERSHIP

Route	Weekday	Weekend
251	1028	374
275	266	141

Source: AC Transit Average Daily Ridership Automatic Passenger Counters, Sept-Oct 2010

It is expected that the Specific Plan would generate additional demand for transit service. The City has a transit mode share of 3.4 percent, based on journey to work data from the U.S. Census (2000). Given the transit-orientation of the Specific Plan, however, it is expected that the transit mode share of the Plan Area may be higher than the existing Citywide share, up to ten percent transit trips if adequate service is provided. Applying this range of mode share to the projected number of trips generated by the Specific Plan would equate to a new transit demand of between 25 and 70 morning and 50 and 132 evening riders.

This demand may increase ridership on bus routes 251 and 275, however, as shown in Table 4.14-4, both of these routes operate on 60 minute headways, which is likely too infrequent to attract a substantial number of new riders. Without the addition of more frequent transit service, ridership is not expected to increase significantly.

The demand for transit service would be accommodated by the development of the Dumbarton Rail Transit Station as described in the Specific Plan. The Transit Station would provide commuter rail service from the Union City Intermodal Transit Center across the Dumbarton Bridge to Menlo Park, and finally connect to Caltrain service that runs from San Francisco to San Jose. However, the future of the Dumbarton Rail Line is uncertain as of the publication of this Draft EIR. Therefore, it is assumed, as a reasonable worst-case, that alternative transit service

would need to be provided to accommodate the demand generated by the site. Because the implementation of the Dumbarton Rail Line is uncertain, this impact is considered potentially significant. Implementation of Mitigation Measure 4.14-2 requiring the City to coordinate with AC Transit to improve bus service to the Specific Plan area would reduce impacts to less than significant. However, ultimate implementation would be under AC Transit's jurisdiction and cannot be guaranteed. Thus, the impact would be significant and unavoidable.

Mitigation Measure

4.14-2 The City shall coordinate with AC Transit to improve bus service to the Specific Plan area to lessen the impact of vehicular traffic on the local and regional roadways. Potential transit accommodations may include:

- ◆ Implementation of shuttle service to the Ardenwood Park and Ride lot to provide a connection to the Dumbarton Express bus line and the Fremont and/or Union City BART stations
- ◆ Rerouting bus lines 251 and/or 275 through the Specific Plan area to provide convenient stop(s) with bus shelters and benches
- ◆ Addition of a new bus line to serve the Specific Plan area

While the addition of any of these improved transit services would reduce the Specific Plan's impact to a less-than-significant level, implementation of these mitigation measures is under AC Transit's jurisdiction and cannot be guaranteed. Therefore, the impact to transit facilities is considered significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

PEDESTRIAN

4.14-3 The proposed project would increase pedestrian activity within the Specific Plan area, and to/from the surrounding roadway network.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

Traffic Section 4.14

A goal of the Specific Plan is to create a pedestrian- and bicycle-friendly area, by providing bicycle and pedestrian connections throughout the Specific Plan area, the City and beyond. The Specific Plan proposes to install sidewalks or other adjacent pedestrian facilities such as plazas along all new streets within the Specific Plan area. Additionally, the Specific Plan includes a policy to limit the number of driveways along residential streets, which reduces the number of conflict points for both bicyclists and pedestrians.

Mitigation Measures

4.14-3 No mitigation required.

Level of Significance After Mitigation: Not applicable.

BICYCLE

4.14-4 The proposed project would increase bicycle activity with the Specific Plan area, and to/from the surrounding roadway network. The project would add additional bike lanes, bike routes, and a connection to the existing Bay Trail.

Level of Significance Before Mitigation: Less Than Significant

Impact Analysis

As previously described, bicycle facilities currently exist along Thornton Avenue, Willow Street, Enterprise Drive and Central Avenue. Bicycle impacts of a project are evaluated on the basis of whether the project would affect:

1. The bikeway system by changing the design, width, or location of existing or planned bicycle facilities (i.e., lanes or paths)
2. The routing of bicyclists
3. Conditions of the existing bicycle environment by creating hazards such as adding excessive vehicular volumes that cross bicycle facilities used by children on their way to school.

The project proposes to provide a bicycle network throughout the Specific Plan area using both the internal street network and multi-use trails. Designated bicycle lanes would be provided on Enterprise Drive, Willow Street, and Central Avenue. Additionally, multi-use trails that connect to the Bay Trail and travel along the perimeter of the Specific Plan area would be added as a project feature.

Mitigation Measures

4.14-4 No mitigation required.

Level of Significance After Mitigation: Not applicable.

SITE ACCESS AND CIRCULATION

4.14-5 Traffic generated by the proposed project would cause unacceptable operations at the Enterprise Drive/Willow Street intersection.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Existing Site Access

Access to the project site would be provided by Enterprise Drive at the intersection of Enterprise Drive/Willow Street. This segment of Enterprise Drive currently provides access for a relatively small number of industrial uses in the area.

Future Site Access

Traffic from the Specific Plan would utilize the intersection of Enterprise Drive/Willow Street. The operations of the unsignalized intersection of Enterprise Drive/Willow Street were evaluated with LOS calculations and peak-hour signal warrants. As shown in Table 4.14-7, the intersection of Enterprise Drive/Willow Street would operate at LOS F during both the AM and PM peak-hour with the addition of traffic generated by the Specific Plan. The intersection also meets peak-hour signal warrants during the AM and PM peak-hours. Implementation of Mitigation Measure 4.14-1 requiring either a single-lane roundabout or a signalized intersection at Enterprise Drive/Willow Street would reduce this impact to less than significant.

Mitigation Measure

4.14-5 Implement Mitigation Measure 4.14-1.

The Specific Plan proposes to improve the Enterprise Drive/Willow Street intersection into either a single-lane roundabout or a signalized intersection. Table 4.14-10 (Existing Plus Project Conditions with Mitigation: Willow Street/Enterprise Drive) displays the intersection LOS and average vehicle delay under the Existing Plus Project Conditions with mitigation. The roundabout

alternative was evaluated using the planning HCM methods described in *Roundabouts: An Informational Guide (2nd Edition, 2011)*.

Table 4.14-10 EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION: WILLOW STREET/ENTERPRISE DRIVE

Intersection	Peak Hour	Existing Plus Project		Existing Plus Project w/ Mitigation (Roundabout)		Existing Plus Project w/ Mitigation (Signalized)	
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS
Willow St/ Enterprise Dr*	AM	> 55	F	12.0	B	11.7	B
	PM	> 55	F	15.0	B	12.9	B

^a Average delay in seconds per vehicle.

* For side-street stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

Bold typeface indicates unacceptable LOS.

Source: Fehr & Peers; March 2011

As shown in Table 4.14-10, the intersection of Willow Street/Enterprise Drive would operate at an acceptable LOS C or better with the proposed mitigation. More detailed analysis of the Willow Street/Enterprise Drive intersection should be completed as the improvements progress through design stages to ensure adequate and efficient operations.

Level of Significance After Mitigation: Less Than Significant

4.14.4.8 POTENTIAL IMPACTS AND MITIGATION MEASURES – FUTURE YEAR 2035 PLUS PROJECT BUILDOUT: CUMULATIVE IMPACTS

This section presents an analysis of the Future Year 2035 traffic conditions both with and without the Specific Plan at buildout. The scenarios analyzed in this section are as follows:

- ◆ Year 2035 No Project Conditions
- ◆ Year 2035 Plus Project (Buildout) Conditions

Year 2035 intersection geometrics were assumed to be the same as existing geometric conditions. Thus, the intersections analyzed for project specific impacts are also analyzed for this cumulative impact analysis. Figure 4.14-9 (Future Year 2035 No Project Peak Hour Intersection Volumes) illustrates the projected peak-hour intersection volumes for the Year 2035 No Project Conditions.

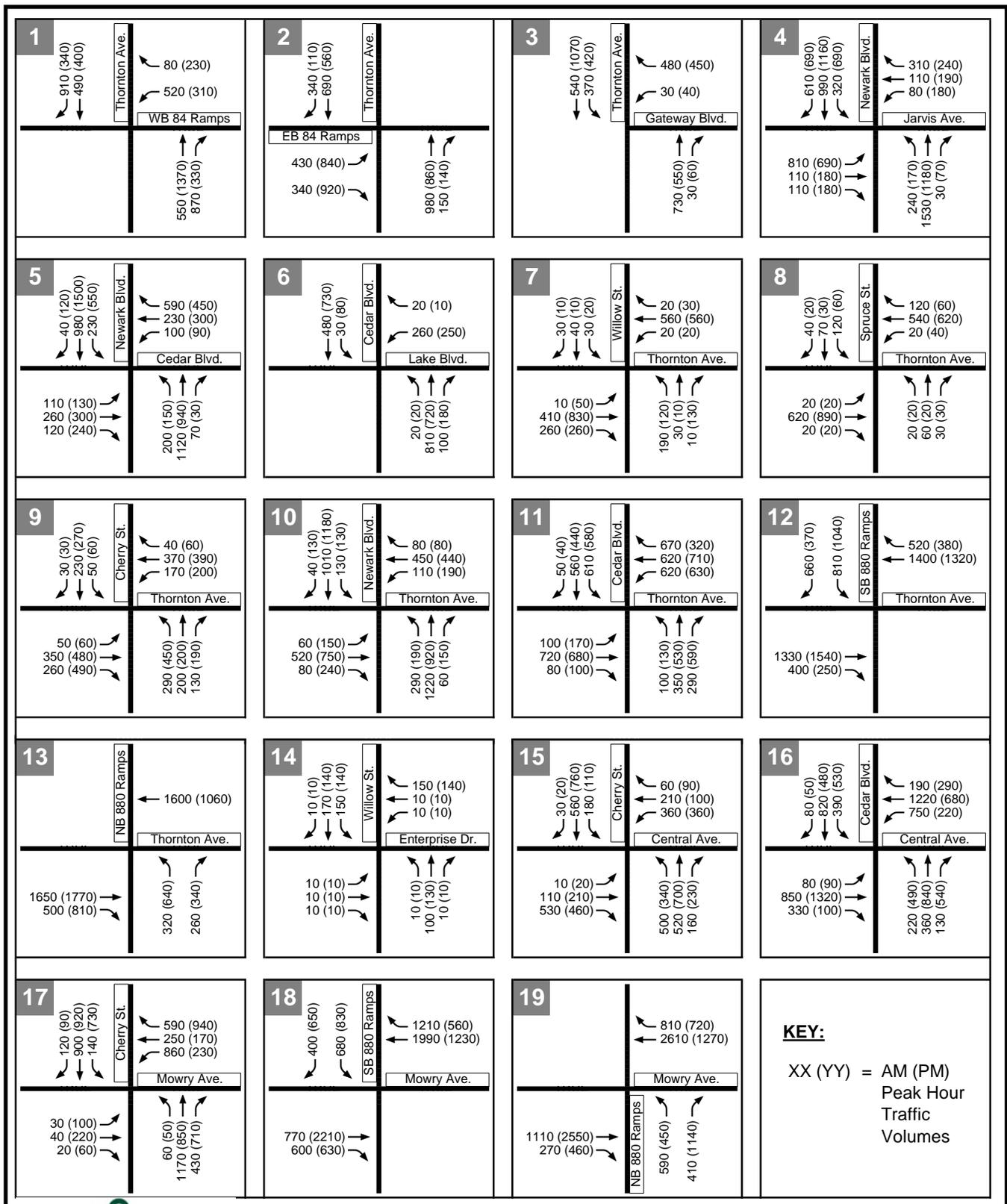
Analysis of Future Year 2035 No Project Conditions and Future Year 2035 Plus Project (Buildout) Conditions are presented below. Intersection operations were assessed using the methodologies described in Section 4.14.1. Peak-hour traffic volumes at the study area intersections under the Plus Project scenario are illustrated in Figure 4.14-10 (Future Year 2035 Plus Project Peak Hour Intersection Volumes).

FUTURE YEAR 2035 NO PROJECT TRAFFIC CONDITIONS

To estimate the cumulative baseline turning movement volumes, intersection forecasts were developed using the Alameda County Congestion Management Agency (ACCMA) Travel Demand Model. Traffic forecasts were developed using the difference method and the difference between the future year (2035) and base year (2005) model volumes were calculated and added to existing traffic counts.

Table 4.14-11 (Future Year 2035 No Project Conditions Level of Service) illustrates intersection LOS and average vehicle delay results for the study area intersections under Year 2035 No Project Conditions. LOS calculation worksheets are provided in Appendix G.

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Source: Fehr & Peers, March 2011



Not to scale

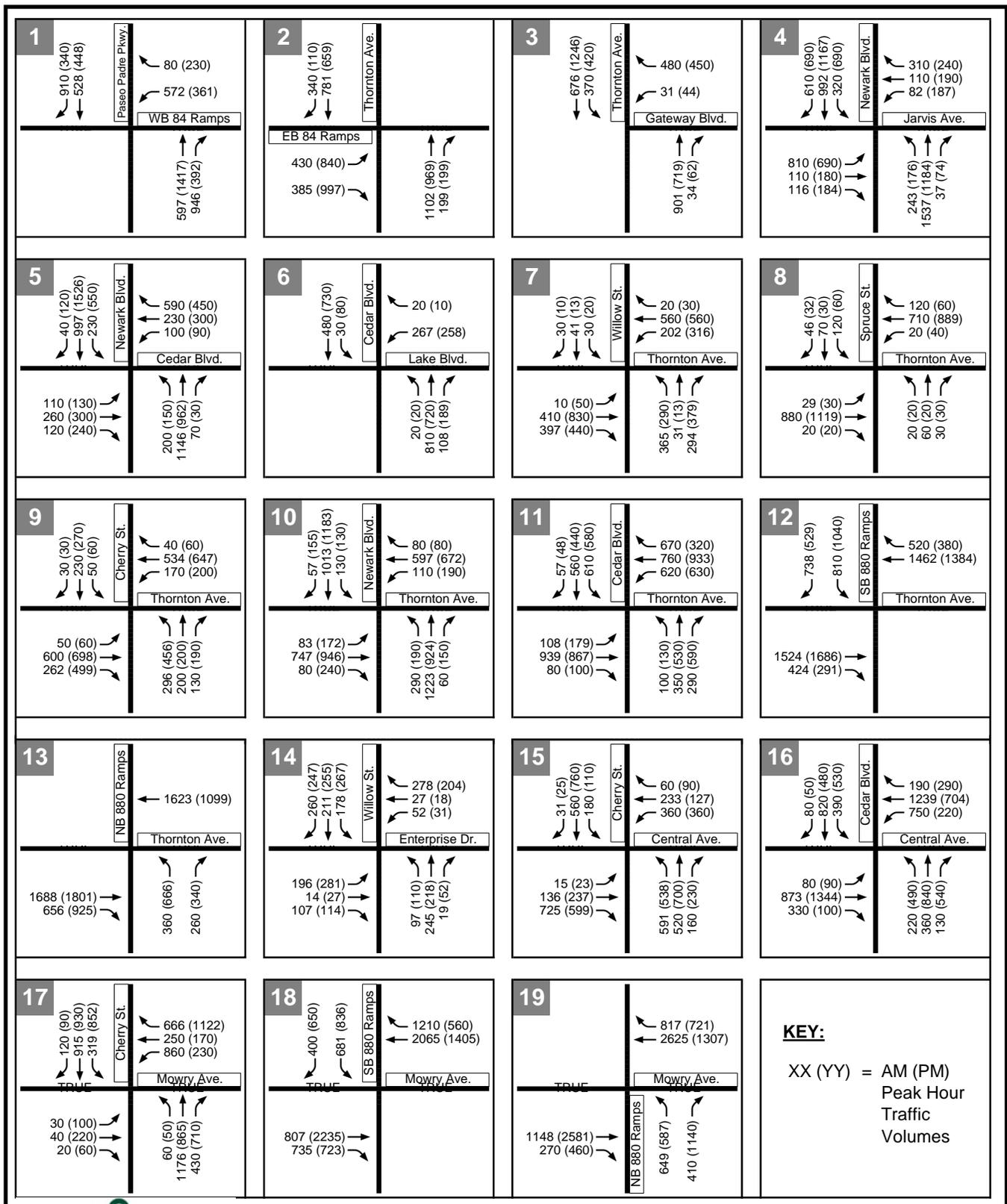
Future Year 2035 No Project Peak-Hour Intersection Volumes

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Figure 4.14-9

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Source: Fehr & Peers, March 2011



Not to scale

Future Year 2035 Plus Project Peak-Hour Intersection Volumes

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Figure 4.14-10

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As shown in Table 4.14-11, all of the study area intersections would operate at acceptable LOS C or better under Year 2035 No Project Conditions with the exception of the following seven intersections:

- ◆ Jarvis Avenue/Newark Boulevard (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Newark Boulevard (Signalized) – AM and PM peak-hours
- ◆ Cherry Street/Thornton Avenue (Signalized) – PM peak-hour
- ◆ Newark Boulevard/Thornton Avenue (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Thornton Avenue (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Central Avenue (Signalized) – AM and PM peak-hours
- ◆ Cherry Street/Mowry Avenue (Signalized) – AM and PM peak-hours

Table 4.14-11 FUTURE YEAR 2035 NO PROJECT CONDITIONS INTERSECTION LEVELS OF SERVICE

Intersection	Future Year 2035 No Project Conditions		
	Peak Hour	Delay ^a (Sec)	LOS
SR-84 WB Ramps/Thornton Ave	AM	14.2	B
	PM	11.1	B
SR-84 EB Ramps/Thornton Ave	AM	12.7	B
	PM	25.9	C
Gateway Blvd/Thornton Ave	AM	15.4	B
	PM	21.8	C
Jarvis Ave/Newark Blvd	AM	94.1	F
	PM	73.9	E
Cedar Blvd/Newark Blvd	AM	69.5	E
	PM	79.1	E
Lake Blvd/Cedar Blvd	AM	15.8	B
	PM	16.1	B
Willow St/Thornton Ave	AM	22	C
	PM	24.4	C
Spruce St/Thornton Ave	AM	16	B
	PM	11.8	B
Cherry St/Thornton Ave	AM	25.8	C
	PM	42.8	D
Newark Blvd/Thornton Ave	AM	36.9	D
	PM	63.1	E

Table 4.14-11 FUTURE YEAR 2035 NO PROJECT CONDITIONS INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Future Year 2035 No Project Conditions	
		Delay ^a (Sec)	LOS
Cedar Blvd/Thornton Ave	AM	74.8	E
	PM	123	F
I-880 SB Ramps/Thornton Ave	AM	13.5	B
	PM	17.4	B
I-880 NB Ramps/Thornton Ave	AM	8.3	A
	PM	13.8	B
Willow St/Enterprise Dr*	AM	14.8	B
	PM	14.4	B
Cherry St/Central Ave	AM	30.0	C
	PM	28.7	C
Cedar Blvd/Central Ave	AM	> 80	F
	PM	> 80	F
Cherry St/Mowry Ave	AM	67.4	E
	PM	> 80	F
I-880 SB Rams/Mowry Ave	AM	11.8	B
	PM	14.1	B
I-880 NB Ramps/Mowry Ave	AM	10.3	B
	PM	34.9	C

a Average delay in seconds per vehicle.

* For one or two-way stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

Bold typeface indicates unacceptable LOS.

Source: Fehr & Peers; March 2011

FUTURE YEAR 2035 PLUS PROJECT (BUILDOUT) CONDITIONS

4.14-6 The proposed project would increase cumulative traffic volumes and have a potentially significant cumulative impact on ten intersections.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

Future Year 2035 Plus Project traffic volumes were developed by adding the traffic generated by the Specific Plan, to the Future Year 2035 No Project forecasts, using the process described in Section 4.14.4.4. The project trips were assigned to the roadway network based on directions of approach and departure presented on Figure 4.14-6.

Table 4.14-12 (Future Year 2035 Plus Project Conditions Intersection Level of Service) illustrates intersection LOS and average vehicle delay results under Year 2035 Plus Project (Buildout) Conditions. LOS calculation worksheets are provided in Appendix G.

TABLE 4.14-12 FUTURE YEAR 2035 PLUS PROJECT CONDITIONS INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Future Year 2035 No Project		Future Year 2035 Plus Project		Significant Impact?
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	
SR-84 WB Ramps/Thornton Ave	AM	14.2	B	14.7	B	No
	PM	11.1	B	12.1	B	No
SR-84 EB Ramps/Thornton Ave	AM	12.7	B	13.0	B	No
	PM	25.9	C	37.3	D	Yes
Gateway Blvd/Thornton Ave	AM	15.4	B	16.0	B	No
	PM	21.8	C	44.2	D	Yes
Jarvis Ave/Newark Blvd	AM	> 80	F	> 80	F	No
	PM	73.9	E	75.3	E	No
Cedar Blvd/Newark Blvd	AM	69.5	E	70.9	E	No
	PM	79.1	E	> 80	F	No
Lake Blvd/Cedar Blvd	AM	15.8	B	16.0	B	No
	PM	16.1	B	16.2	B	No
Willow St/Thornton Ave	AM	22.0	C	33.5	C	No
	PM	24.4	C	61.5	E	Yes
Spruce St/Thornton Ave	AM	16.0	B	20.1	C	No
	PM	11.8	B	15.1	B	No

TABLE 4.14-12 FUTURE YEAR 2035 PLUS PROJECT CONDITIONS INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Future Year 2035 No Project		Future Year 2035 Plus Project		Significant Impact?
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	
Cherry St/Thornton Ave	AM	25.8	C	30.5	C	No
	PM	42.8	D	51.7	D	Yes
Newark Blvd/Thornton Ave	AM	36.9	D	45.0	D	Yes
	PM	63.1	E	78.1	E	Yes
Cedar Blvd/Thornton Ave	AM	74.8	E	89.4	F	Yes
	PM	123	F	136.2	F	Yes
I-880 SB Ramps/Thornton Ave	AM	13.5	B	14.0	B	No
	PM	17.4	B	19.2	B	No
I-880 NB Ramps/Thornton Ave	AM	8.3	A	8.8	A	No
	PM	13.8	B	14.5	B	No
Willow St/Enterprise Dr*	AM	14.8	B	> 55	F	Yes
	PM	14.4	B	> 55	F	Yes
Cherry St/Central Ave	AM	30.0	C	36.5	D	Yes
	PM	28.7	C	39.9	D	Yes
Cedar Blvd/Central Ave	AM	> 80	F	> 80	F	No
	PM	> 80	F	> 80	F	No
Cherry St/Mowry Ave	AM	67.4	E	79.9	E	Yes
	PM	> 80	F	> 80	F	Yes
I-880 SB Rams/Mowry Ave	AM	11.8	B	11.8	B	No
	PM	14.1	B	14.1	B	No
I-880 NB Ramps/Mowry Ave	AM	10.3	B	10.9	B	No
	PM	34.9	C	35.5	D	Yes

a Average delay in seconds per vehicle.

*For side-street stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

Bold typeface indicates unacceptable LOS.

Source: Fehr & Peers, March 2011.

As shown in Table 4.14-12, the following thirteen intersections would operate at LOS D, E, or F during peak-hours:

- ◆ SR-84 EB Ramps/Thornton Avenue (Signalized) – PM peak-hour
- ◆ Gateway Boulevard/Thornton Avenue (Signalized) – PM peak-hour
- ◆ Jarvis Avenue/Newark Boulevard (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Newark Boulevard (Signalized) – AM and PM peak-hours
- ◆ Willow Street/Thornton Avenue (Signalized) – PM peak-hour
- ◆ Cherry Street/Thornton Avenue (Signalized) – PM peak-hour
- ◆ Newark Boulevard/Thornton Avenue (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Thornton Avenue (Signalized) – AM and PM peak-hours
- ◆ Willow Street/Enterprise Drive (Unsignalized) – AM and PM peak-hours
- ◆ Cherry Street/Central Avenue (Signalized) – AM and PM peak-hours
- ◆ Cedar Boulevard/Central Avenue (Signalized) – AM and PM peak-hours
- ◆ Cherry Street/Mowry Avenue (Signalized) – AM and PM peak-hours
- ◆ I-880 NB Ramps/Mowry Avenue (Signalized) – PM peak-hour

Because traffic generated by the Specific Plan would cause intersection LOS to degrade from an acceptable LOS (LOS C or better) or exacerbate LOS D, E, or F operations by increasing the average delay at an intersection by four or more seconds under Project Conditions, the Specific Plan would have a cumulative impact on the following ten intersections:

- ◆ SR-84 EB Ramps/Thornton Avenue
- ◆ Gateway Boulevard/Thornton Avenue
- ◆ Willow Street/Thornton Avenue
- ◆ Cherry Street/Thornton Avenue
- ◆ Newark Boulevard/Thornton Avenue
- ◆ Cedar Boulevard/Thornton Avenue
- ◆ Willow Street/Enterprise Drive
- ◆ Cherry Street/Central Avenue
- ◆ Cherry Street/Mowry Avenue
- ◆ I-880 NB Ramps/Mowry Avenue

Implementation of Mitigation Measure 4.14-6 would reduce impacts at the five of the ten intersections. However, feasible mitigation is not available at the other five intersections resulting in significant and unavoidable impacts.

Mitigation Measure

4.14-6 SR 84 Eastbound Ramps/Thornton Avenue: An additional eastbound right turn lane on the SR 84 Eastbound Off-Ramp at the intersection of SR 84 Eastbound Ramps/Thornton Avenue shall be provided. However, this intersection is outside of the City's jurisdiction. SR 84 is a Caltrans-controlled facility, and implementation of this mitigation measure cannot be guaranteed. Therefore, this impact is considered significant and unavoidable.

Gateway Boulevard/Thornton Avenue: The northbound right turn lane on Thornton Avenue at the intersection of Gateway Boulevard/Thornton Avenue shall be restriped to provide a shared through-right turn lane. The existing north leg has three receiving lanes to make this improvement feasible. This mitigation would allow the intersection to operate at LOS B during the AM peak-hour and LOS D with delay reduction in the PM peak-hour.

Willow Street/Thornton Avenue: The intersection of Willow Street/Thornton Avenue shall have a right turn overlap phase to the northbound approach on Willow Street. This mitigation would allow the intersection to operate at LOS C during the AM Peak hour and LOS D during the PM Peak hour.

Cherry Street/Thornton Avenue: The intersection of Cherry Street/Thornton Avenue shall have an additional eastbound right turn lane on Thornton Avenue. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owner on the southwest corner of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.

Newark Boulevard/Thornton Avenue: The intersection of Newark Boulevard/Thornton Avenue shall have an additional northbound left turn lane on Newark Boulevard to accommodate the heavy left turn movement. While no project traffic is added directly to this movement, the addition of this lane would improve overall intersection operations. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owners on the southeast and southwest corners of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.

Cedar Boulevard/Thornton Avenue: The intersection of Cedar Boulevard/Thornton Avenue shall have an additional westbound left turn lane on Thornton Avenue to accommodate the high left turn demand. While no project traffic is added directly to this movement, the addition of this lane would improve overall intersection operations. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owners on the northeast and southeast corners of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.

Willow Street/Enterprise Drive: Two options for mitigation at this intersection are proposed, including a roundabout or signalization of the intersection. One of the two options shall be implemented. The proposed mitigation measures would allow the intersection to operate at LOS C or better during both the AM and PM peak-hour. While a single-lane roundabout would operate acceptably with the proposed traffic volumes, right-turn bypass lanes may be provided to/from the west leg to connect to the four-lane section of Enterprise Drive west of the intersection.

Cherry Street/Central Avenue: The intersection of Cherry Street/Central Avenue shall have an additional eastbound right turn lane on Central

Avenue. However, due to the built out nature of the City, limited right-of-way is available at the intersection. The City would need to exercise eminent domain to obtain the right-of-way, resulting in impacts to the land owner on the southwest corner of the intersection. Additionally, potential secondary impacts (such as increased pedestrian crossing distances and impacts to bicyclists in the corridor) would occur with the improvement. Therefore, this improvement is not feasible and the impact is considered significant and unavoidable.

Cherry Street/Mowry Avenue: Mitigation measures were identified at this intersection as part of the Area 3 and 4 Environmental Impact Report. The measures proposed included the addition of a second left-turn lane on the westbound approach, and resulting in realignment of the east and westbound approaches and modification to the traffic signal. The operations of the intersection were tested with these mitigation measures; these improvements are not sufficient to mitigate the project's impact; additionally, right-of-way to widen this approach may be needed. Therefore, other mitigation measures were identified, as described below.

The westbound approach at the intersection of Cherry Street/Mowry Avenue shall be restriped to include a right turn and a through-right turn lane. The proposed mitigation measures would allow the intersection to operate at LOS E during the AM peak-hour and LOS F with improved delay during the PM peak-hour.

Table 4.14-13 illustrates intersection LOS and average vehicle delay results under Future Year 2035 Plus Project (Buildout) conditions. LOS calculation worksheets are provided in Appendix G.

TABLE 4.14-13 FUTURE YEAR 2035 PLUS PROJECT CONDITIONS WITH MITIGATION

Intersection	Peak Hour	Future Year 2035 Plus Project		Future Year 2035 Plus Project w/ Mitigation		Significant Impact w/ Mitigation?
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	
SR-84 EB Ramps/Thornton Ave	AM	13.0	B	Significant and Unavoidable		
	PM	37.3	D	Significant and Unavoidable		
Gateway Blvd/Thornton Ave	AM	16.0	B	18.1	B	No
	PM	44.2	D	35.7	D	No
Willow St/Thornton Ave	AM	33.5	C	27.3	C	No
	PM	61.5	E	36.2	D	No
Cherry St/Thornton Ave	AM	30.5	C	Significant and Unavoidable		
	PM	51.7	D	Significant and Unavoidable		
Newark Blvd/Thornton Ave	AM	45.0	D	Significant and Unavoidable		
	PM	78.1	E	Significant and Unavoidable		
Cedar Blvd/Thornton Ave	AM	89.4	F	Significant and Unavoidable		
	PM	> 80	F	Significant and Unavoidable		
Willow St/Enterprise Dr*	AM	> 55	F	11.1/12.0	B	No
	PM	> 55	F	12.2/15.0	B	No
Cherry St/Central Ave	AM	36.5	D	Significant and Unavoidable		
	PM	39.9	D	Significant and Unavoidable		
Cherry St/Mowry Ave	AM	79.9	E	78.9	E	No
	PM	> 80	F	> 80	F	No

a Average delay in seconds per vehicle.

*Willow Street/Enterprise Drive is an unsignalized intersection under the Existing Plus Project condition, and Signalized under the mitigated condition

Bold typeface indicates unacceptable LOS.

Source: Fehr & Peers; March 2011

Level of Significance After Mitigation: Significant and Unavoidable.

FUTURE YEAR 2035 SITE ACCESS AND CIRCULATION

4.14-7 Traffic generated by the proposed project would contribute to unacceptable operations at the Enterprise Drive/Willow Street intersection under Cumulative Conditions.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

As described previously, traffic from the Specific Plan would access much of the Specific Plan area through the intersection of Enterprise Drive/Willow Street. The operations of the unsignalized Enterprise Drive/Willow Street intersection were evaluated under Future Year 2035 conditions. As shown in Table 4.14-12, the intersection of Enterprise Drive/Willow Street would operate at LOS F during both the AM and PM peak-hour with addition of traffic generated by the Specific Plan. The intersection also meets peak-hour signal warrants during the AM and PM peak-hours.

Implementation of Mitigation Measure 4.14-6 requiring either a single-lane roundabout or a signalized intersection at Enterprise Drive/Willow Street would reduce this impact to less than significant.

Mitigation Measure

4.14-7 Implement Mitigation Measure 4.14-6.

The Specific Plan proposes to improve the Enterprise Drive/Willow Street intersection into either a signalized intersection or a roundabout. Table 4.14-14 (Future Year 2035 Plus Project Conditions with Mitigation: Willow Street/Enterprise Drive) displays the intersection LOS and average vehicle delay under Future Year 2035 Conditions with mitigation.

TABLE 4.14-14 FUTURE YEAR 2035 PLUS PROJECT CONDITIONS WITH MITIGATION:
WILLOW STREET/ENTERPRISE DRIVE

Intersection	Peak Hour	Future Year 2035 Plus Project		Future Year 2035 Project w/ Mitigation (Roundabout)		Future Year 2035 Plus Project w/ Mitigation (Signalized)	
		Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS	Delay ^a (Sec)	LOS
Willow St/Enterprise Dr*	AM	> 55	F	12.0	B	11.1	B
	PM	> 55	F	15.0	B	12.2	B

a Average delay in seconds per vehicle.

Bold typeface indicates unacceptable LOS.

* For side-street stop controlled intersections, the delay shown is the worst delay experienced by any of the approaches.

Source: Fehr & Peers; March 2011

As shown in Table 4.14-14, the intersection of Willow Street/Enterprise Drive would operate at an acceptable LOS C or better with the proposed mitigation under Future Year 2035 Conditions. More detailed analysis of the Willow Street/Enterprise Drive intersection should be completed as the improvements progress through design stages to ensure adequate and efficient operations.

Level of Significance After Mitigation: Less Than Significant

REGIONAL ROADWAY OPERATIONS

4.14-8 The proposed project would increase traffic on regional roadways in the project vicinity.

Level of Significance Before Mitigation: Potentially Significant

Impact Analysis

The ACTC requires analysis of project impacts to the Metropolitan Transportation System (MTS) roadways if the proposed project generates more than 100 PM peak-hour trips. As indicated in Table 4.14-6, the trip generation for the Specific Plan would exceed that threshold. As per the MTS' Congestion Management Program (CMP), the MTS roadways that the project may affect are I-880, SR-84, and Thornton Avenue.

Based upon the significance criteria described in Section 4.14.4.1, a project is considered to have a significant impact on MTS roadway if the project causes a roadway segment operations to degrade from LOS E or better under Without Project Conditions to LOS F under Project Conditions (or an increase of 0.02 or more in the V/C ratio on a segment already operating at LOS F under Without Project Conditions). As per the CMP, LOS E is considered to be acceptable LOS for MTS facilities. Table 4.14-15 (Level of Service Criteria: CMP Roadway) summarizes the CMP roadway LOS criteria.

TABLE 4.14-15 LEVEL OF SERVICE CRITERIA: CMP ROADWAY

Volume-To-Capacity Ratio	Level of Service (LOS)
0.35	A
0.58	B
0.75	C
0.90	D
1.00	E
Variable	F

Source: Highway Capacity Manual, Transportation Research Board, 1985.

The ACTC provided the Countywide Transportation Demand Model for Year 2005 to forecast AM and PM peak-hour roadway segment (link) volumes on the MTS network. The Countywide Model used ABAG Projections’ 2007 land use data for year 2035. The project’s trips were added to the model forecasts. Link volume-to-capacity (v/c) ratios were calculated based upon the model forecasts and summarized in Tables 4.14-16 (Year 2035 Congestion Management Program Level of Service Analysis). The link capacities were calculated using the methods outlined in the Highway Capacity Manual (HCM, 2000).

All of the roadway segments are projected to operate at LOS E or better with the exception of the following six segments under the Future Year 2035 Plus Project Conditions:

- ◆ I-880, from SR 84 Eastbound Ramps to Thornton Avenue
- ◆ I-880, from Thornton Avenue to Mowry Avenue
- ◆ I-880, from Mowry Avenue to Stevenson
- ◆ SR 84, from West of Thornton Avenue to Thornton Avenue
- ◆ SR 84, from Thornton Avenue to Newark Boulevard
- ◆ SR 84, from Newark Boulevard to I-880

With the additional project traffic, the following three segments would operate at LOS F:

- ◆ Thornton Avenue, from Willow Street to Spruce Street
- ◆ Thornton Avenue, from Spruce Street to Cherry Street
- ◆ Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps

As shown in Table 4.14-13, the proposed project would cause the following five roadway segments to degrade from LOS E or better under Without Project to LOS F under Project Conditions, or result in an increase of 0.02 or more in the V/C ratio on a segment already operating at LOS F under Without Project Conditions:

- ◆ I-880, from from SR 84 Eastbound to Thornton Avenue
- ◆ I-880, from Mowry Avenue to Stevenson Boulevard
- ◆ Thornton Avenue, from Willow Street to Spruce Street
- ◆ Thornton Avenue, from Spruce Street to Cherry Street
- ◆ Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps

Therefore, the project would have a significant impact on the five roadway segments listed above. Mitigation for roadway segment impacts would require adding travel lanes and widening roadways throughout the City. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, any widening would require property acquisition. Widening of Thornton Avenue could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Additionally, four of the impacted roadway segments (on I-880 and SR 84) are Caltrans facilities, and not within the City of Newark's jurisdiction. Funding and construction of any necessary improvements is uncertain. Due to the number of affected properties and financial implications, along with the fact that the project cannot legally be conditioned upon the construction of improvements over land over which neither the applicant or the City has control, roadway segment impacts are considered significant and unavoidable.

Mitigation Measures

4.14-8 Prior to issuance of building permits for a Specific Plan use, the applicant shall pay all applicable transportation-related fees in accordance with the latest adopted fee schedule at the time permits are sought. Such fees shall include, but not be limited to, the City of Newark Capital Facilities Fee

for Transportation, and the ACTC Regional Transportation Impact Fee. Payment of these fees would partially mitigate the impacts of the Specific Plan; however, since the fee programs would not fully fund all the mitigation necessary, the impact to regional roadway segments is considered significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

TABLE 4.14-16 YEAR 2035 CONGESTION MANAGEMENT PROGRAM LEVEL OF SERVICE ANALYSIS

Roadway Segment	Direction	# of Lanes	Capacity ^a	2035 No Project			2035 Plus Project			Δ in V/C Ratio ^b (AM/PM)	Significant Impact?
				Volume (AM/PM)	V/C Ratio (AM/PM)	LOS (AM/PM)	Volume (AM/PM)	V/C Ratio (AM/PM)	LOS (AM/PM)		
I-880, from SR – 84 EB to Thornton Ave	NB	3 + Aux	7,100	6,259/8,081	0.88/1.14	D/F	6,415/8,196	0.90/1.15	D/F	0.02/0.01	No
	SB	3	6,060	7,130/6,158	1.18/1.02	F/F	7,205/6,317	1.19/1.04	F/F	0.01/0.02	Yes
I-880, from Thornton Ave to Mowry Ave	NB	3 + Aux	7,100	5,230/7,908	0.74/1.11	C/F	5,238/7,919	0.74/1.12	C/F	0.00/0.01	No
	SB	3	6,060	6,890/5,561	1.14/0.92	F/E	6,914/5,601	1.14/0.92	F/E	0.00/0.00	No
I-880, from Mowry Ave to Stevenson	NB	3 + Aux	7,100	5,329/8,103	0.75/1.14	C/F	5,329/8,103	0.75/1.14	C/F	0.00/0.00	No
	SB	3	6,060	6,904/5,024	1.14/0.83	F/D	7,062/5,151	1.17/0.85	F/D	0.03/0.02	Yes
SR 84, from West of Thornton Ave to Thornton Ave	EB	3	6,060	2,489/7,926	0.41/1.31	B/F	2,532/8,003	0.42/1.32	B/F	0.01/0.01	No
	WB	3	6,060	5,148/2,057	0.85/0.34	D/A	5,223/2,119	0.86/0.35	D/A	0.01/0.01	No
SR 84, from Thornton Ave to Newark Blvd	EB	3	6,060	2,219/6,532	0.37/1.08	B/F	2,269/6,583	0.37/1.09	B/F	0.00/0.01	No
	WB	2	4,010	4,256/2,210	1.06/0.55	F/B	4,304/2,269	1.07/0.57	F/B	0.01/0.02	No
SR 84, from Newark Blvd to I-880	EB	3	6,060	2,329/6,133	0.38/1.01	B/F	2,379/6,184	0.39/1.02	B/F	0.01/0.01	No
	WB	2 + Aux	5,035	4,630/3,137	0.92/0.62	E/C	4,678/3,196	0.93/0.63	E/C	0.01/0.01	No
Thornton Ave, from WB SR 84 Ramps to EB SR 84 Ramps	SB	2	3,650	1,118/1971	0.31/0.54	A/B	1,205/2,070	0.33/0.57	A/B	0.02/0.03	No
	NB	2	3,650	1,024/512	0.28/0.14	A/A	1,146/0,621	0.31/0.17	A/A	0.03/0.03	No
Thornton Ave, from EB SR 84 Ramps to Gateway Blvd	SB	3	2,800	401/706	0.14/0.25	A/A	531/882	0.19/0.32	A/A	0.05/0.07	No
	NB	2	1,870	603/612	0.32/0.33	A/A	773/779	0.41/0.42	B/B	0.09/0.09	No
Thornton Ave, from Gateway Blvd to Willow St	SB	1	1,025	456/556	0.44/0.54	B/B	587/736	0.57/0.72	B/C	0.13/0.18	No
	NB	1	1,025	425/652	0.41/0.64	B/C	600/821	0.59/0.80	B/D	0.18/0.16	No
Thornton Ave, from Willow St to Spruce St	EB	1	935	459/566	0.49/0.61	B/C	744/824	0.80/0.88	D/D	0.31/0.27	No
	WB	1	935	426/656	0.46/0.70	B/C	605/962	0.65/1.03	C/F	0.19/0.33	Yes
Thornton Ave, from Spruce St to Cherry St	EB	1	935	688/684	0.74/0.73	C/C	949/917	1.01/0.98	F/E	0.27/0.25	Yes
	WB	1	935	446/933	0.48/1.00	B/E	611/1,208	0.65/1.29	C/F	0.17/0.29	Yes
Thornton Ave, from Cherry St to Newark Blvd	EB	2	1,870	572/292	0.31/0.16	A/A	822/510	0.44/0.27	B/A	0.13/0.11	No
	WB	2	1,870	513/898	0.27/0.48	A/B	671/1,156	0.36/0.62	A/C	0.09/0.14	No
Thornton Ave, from Newark Blvd to Cedar Blvd	EB	2	1,870	653/855	0.35/0.46	A/B	871/1,040	0.47/0.56	B/B	0.12/0.10	No
	WB	2	1,870	665/686	0.36/0.37	B/B	799/909	0.43/0.49	B/B	0.07/0.12	No
Thornton Ave, from Cedar Blvd to I-880	EB	3	2,800	1,867/1,838	0.67/0.66	C/C	2,085/2,023	0.74/0.72	C/C	0.07/0.06	No
	WB	2	1,870	1,537/1,833	0.82/0.98	D/E	1,671/2,056	0.89/1.10	D/F	0.07/0.12	Yes

TABLE 4.14-16 YEAR 2035 CONGESTION MANAGEMENT PROGRAM LEVEL OF SERVICE ANALYSIS

Roadway Segment	Direction	# of Lanes	Capacity ^a	2035 No Project			2035 Plus Project			Δ in V/C Ratio ^b (AM/PM)	Significant Impact?
				Volume (AM/PM)	V/C Ratio (AM/PM)	LOS (AM/PM)	Volume (AM/PM)	V/C Ratio (AM/PM)	LOS (AM/PM)		
SB Ramps											
Thornton Ave, from I-880 SB Ramps to I-880 NB Ramps	EB	3	2,800	1,900/1,468	0.68/0.52	C/B	2,094/1,613	0.75/0.58	C/B	0.07/0.06	No
	WB	3	2,800	1,832/2,022	0.65/0.72	C/C	1,891/2,086	0.68/0.75	C/C	0.03/0.03	No

a Roadway capacities were taken from the Countywide Transportation Model

b Change in V/C ratio from Year 2035 No Project.

Source: Fehr & Peers; March 2011

5 ALTERNATIVES

5.1 INTRODUCTION

Section 15126.6 of the California Environmental Quality Act Guidelines (CEQA Guidelines) requires an Environmental Impact Report (EIR) to describe and evaluate a reasonable range of alternatives to a proposed project. The purpose of the evaluation is to identify ways to mitigate or avoid the significant effects that a project may have on the environment. The range of alternatives required in an EIR is governed by a “rule of reason” that requires an EIR to select and evaluate only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). An EIR does not need to consider every conceivable alternative to a proposed project, nor is it required that an EIR consider alternatives that are infeasible. Rather, it must consider alternatives that could feasibly attain most of the project’s basic objectives, while avoiding or substantially lessening any significant adverse environmental effects of the project. The EIR must evaluate the comparative merits of the alternatives and provide sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project to foster informed decision-making and public participation. In addition, CEQA Guidelines Section 15126.6(e) requires that an EIR specifically evaluate the impacts associated with the alternative of “no project” to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

This chapter provides a brief description of the proposed project, project goals and objectives, and potentially significant project impacts, followed by a description and evaluation of each alternative selected for inclusion in the EIR. Finally, this chapter concludes with a comparison of the alternatives and identification of the environmentally superior alternative.

5.2 PROJECT SUMMARY

5.2.1 PROJECT CHARACTERISTICS

The proposed Dumbarton Transit Oriented Development (TOD) Specific Plan (project) would provide a comprehensive policy and regulatory framework to guide future development and redevelopment within the approximately 205-acre Dumbarton TOD Specific Plan area. The proposed Specific Plan would establish the allowable land uses, development regulations, design guidelines, necessary infrastructure improvements, and an implementation plan to direct future development and redevelopment of the Dumbarton TOD Specific Plan area.

Implementation of the proposed Specific Plan would allow a mix of residential, office, retail, public/quasi-public, and park and open space uses to develop in close proximity to planned regional public transit.

Table 5-1 (Land Use Summary) provides a summary of the proposed land uses and the maximum development that would be permitted under the Dumbarton TOD Specific Plan at project buildout.

TABLE 5-1 LAND USE SUMMARY

Land Use/Zoning Designation	Total
Maximum Residential Units	2,500 units
Low Density Residential (LDR)	16.8 acres
Medium Density Residential (MDR)	67.9 acres
Medium High Density Residential (MHDR)	59.3 acres
High Density Residential (HDR)	5.0 acres
Retail (R)	5.0 acres
Commercial (C)	7.2 acres
Transit Station (TS)	6.1 acres (including parking areas)
Parks and Open Space (POS)	16.3 acres (including parkland provided through the City's Parks Ordinance)
Miscellaneous (M)	23.1 acres
TOTAL	206.7 acres

Source: Dumbarton TOD Specific Plan, March 2011

Note : Acreages are rounded to the nearest tenth of an acre and subject to change based upon final engineering.

5.2.2 PROJECT OBJECTIVES

The City of Newark’s objectives for the proposed project are based on goals, objectives, and policies contained within the Newark General Plan, previous work completed for the Newark Area Two Specific Plan, demographic and market research, and the physical characteristics of the Dumbarton TOD Specific Plan area. The following lists the project objectives:

- ◆ Implement the City's objectives and long-term programmatic planning for the Specific Plan area as set forth in the General Plan and the 1999 Specific Plan;
- ◆ Establish a zoning-level framework to guide future development projects within the Specific Plan consistent with the General Plan;
- ◆ Implement strategies to ensure success for the Specific Plan area developers, homebuilders, and the City of Newark;
- ◆ Guide the development of a sustainable community that includes a variety of residential, retail, employment generating, and recreational opportunities in close proximity to each other;
- ◆ Provide for a mix of housing opportunities at a range of densities from single-family detached to multi-family housing to meet the varied housing needs of the community;
- ◆ Effectuate the City's General Plan goals, policies, and programs that require a mix of housing types at a range of densities and for a range of income levels, including but not limited to the following:
 - “Provide housing opportunities for households with a wide range of incomes.” (Housing Element Goal 2 (Housing Element, p. 62.))
 - “Provide zoning districts that provide standards for multi-use development as well as for unique combinations of similar uses, such as single- with multi-family uses.” (Land Use Element Goal 3, Program 9 (General Plan, p. 3-8).)
 - “Maintain a desirable quality of life in the community through preservation of a small town, neighborhood atmosphere and the promotion of balanced land uses.” (Land Use Element Goal 1 (General Plan, p. 3-5).)
- ◆ Create compact, connected, safe, and walkable neighborhoods with convenient access to a future, planned transit station along the DRC, to existing employment centers, including Silicon Valley, to parks and open space, and commercial services;
- ◆ Provide a sufficient number of residential units within walking distance of the future, planned transit station to generate the ridership necessary to support the station if and when the DRC Project is implemented or alternative transit service is established;
- ◆ Encourage the development of a predominantly vacant area of land for its highest and best use;
- ◆ Guide the development of a new community with a distinct identity, architectural style and sense of place while being compatible with existing neighborhoods; and

- ◆ Create a mix of land uses that will contribute to the local economy, employment base and fiscal health of the City.

5.2.3 POTENTIALLY SIGNIFICANT PROJECT IMPACTS

Chapter 4 (Environmental Analysis) of this EIR describes the potential impacts of the proposed project. As identified in that chapter, the project would result in a number of potentially significant environmental impacts, some of which could be mitigated to a less than significant level. The following summarizes the proposed project's *potentially significant* impacts *prior* to implementation of mitigation measures:

- ◆ Aesthetics – No potentially significant aesthetic impacts were identified.
- ◆ Air Quality – Construction of future development allowed under the Dumbarton TOD Specific Plan would increase the short-term emission of air pollutants that could exceed established air quality standards.
- ◆ Biological Resources – Implementation of the Dumbarton TOD Specific Plan could result in the loss of habitat for several special status plant and animal species; disturbance to special status animal species; or, the death of individual adult and young special status animal species. In addition, future development within the Specific Plan area would likely result in impacts to waters of the State/U.S. Protected trees could also be removed as a result of future development activities within the Specific Plan area. Finally, implementation of individual projects within the Specific Plan area would contribute to a cumulative loss of plant communities/wildlife habitats (ruderal grassland, areas of wetland vegetation, and “waters of the U.S. and State”), common and special status plant and animal species, and protected trees.
- ◆ Cultural Resources – Construction activities associated with future development allowed by the Dumbarton TOD Specific Plan area could damage or destroy potentially significant unknown cultural resources, including historic, archaeological, or paleontological resources, and/or human remains. In addition, the project could cumulatively contribute to the damage or destruction of cultural resources.
- ◆ Geology and Soils – Future development within the Specific Plan area could experience structural damage from seismic-related ground shaking and secondary events, such as liquefaction or landslides and pose a threat to the safety of people present within the area at the time. In addition, soils within the Specific Plan area could result in subsidence or differential settlement, or be subject to expansion and contraction. These conditions could create structural damage. Construction activities associated with future development have the potential to increase soil erosion.

- ◆ Greenhouse Gas Emissions – The project could generate a significant amount of greenhouse gas emissions without the incorporation of certain design features to mitigate such emissions.
- ◆ Hazards and Hazardous Materials – The public and/or environment could accidentally be exposed to hazardous materials during construction and operation of future development allowed by the Specific Plan.
- ◆ Hydrology, Drainage, and Water Quality – Proposed drainage could create the potential for hydromodification and result in offsite erosion. In addition, stormwater runoff associated with future development projects could exceed the conveyance and capacity of proposed receiving facilities or the receiving facilities may not be in adequate condition to receive stormwater runoff from proposed drainage sheds and on or offsite flooding could occur. Future storm drainage lines may not have sufficient room to cross over the Hetch Hetchy Aqueduct. Cumulative impacts on hydrology and water quality would result from incremental changes that degrade water quality or contribute to drainage and flooding problems within and immediately adjacent to the Specific Plan area and downstream at San Francisco Bay outfalls.
- ◆ Land Use and Planning – No potentially significant land use and planning impacts were identified.
- ◆ Noise – Construction activities associated with future development facilitated by the Specific Plan would expose adjacent sensitive receptors to sporadic high noise and vibration levels. Additionally, future residents would also be exposed to sporadic high noise and vibration levels as the Specific Plan area builds out. Structures could also be damaged as a result of construction-related vibration. Future residential uses adjacent to the DRC project could experience train noise in excess of standards established for residential uses. Finally, traffic from the proposed project would increase noise levels along surrounding roadways. Finally, traffic generated by the project would contribute to cumulative increases in noise.
- ◆ Population and Housing – No potentially significant population and housing impacts were identified.
- ◆ Public Services and Utilities – The proposed project could result in potential impacts to wastewater service and facilities. The existing sewer pipelines may not be sized to accommodate buildout of the Dumbarton TOD Specific Plan area. In addition, dual 33-inch sewage force mains under the Specific Plan area would likely require structural upgrades or relocation as a result of future development proposed by the Specific Plan. A 14-inch gravity sewer line in Enterprise Drive may require structural upgrades as a result of future development associated with the Specific Plan.

- ◆ Recreation – The construction of proposed recreational facilities could result in temporary increases in air emissions, dust, noise, and erosion from a variety of construction activities, including excavation, grading, vehicle travel on unpaved surfaces, and vehicle and equipment exhaust.
- ◆ Traffic – The addition of project traffic to the existing roadway network would cause operations to degrade from an acceptable Level of Service (LOS) (i.e. LOS C or better) to unacceptable LOS D, E, or F, or it would exacerbate unacceptable level of operations by increasing the average intersection delay by four or more seconds at the intersections of Willow Street/Thornton Avenue, Cedar Boulevard/Thornton Avenue, Willow Street/Enterprise Drive, and Cherry Street/Mowry Avenue. In addition, the Willow Street/Enterprise Drive intersection also meets peak-hour signal warrants during the AM and PM peak hours. No feasible mitigation is available for the intersection of Cedar Boulevard/Thornton Avenue and this impact would be significant and unavoidable.

The project's increased demand for transit service may not be met by Dumbarton Rail Corridor (DRC) project, as the future of the DRC project is uncertain as of the publication of this Draft EIR and improved bus service to the Specific Plan area cannot be guaranteed, as it is under Alameda County (AC) Transit's jurisdiction. Thus, this impact would be significant and unavoidable.

The addition of project traffic to future year 2035 (cumulative) conditions would cause intersection LOS to degrade from acceptable to unacceptable or exacerbate operations by increasing the average delay by four or more seconds at the following ten intersections: SR-84 EB Ramps/Thornton Avenue, Gateway Boulevard/Thornton Avenue, Willow Street/Thornton Avenue, Cherry Street/Thornton Avenue, Newark Boulevard/Thornton Avenue, Cedar Boulevard/Thornton Avenue, Willow Street/Enterprise Drive, Cherry Street/Central Avenue, Cherry Street/Mowry Avenue, and I-880 NB Ramps/Mowry Avenue. No feasible mitigation is possible at five of these intersections (SR-84 Eastbound Ramps/Thornton Ave, Cherry St/Thornton Ave, Newark Blvd/Thornton Ave, Cedar Blvd/Thornton Ave, and Cherry St/Central Ave) and impacts would be significant and unavoidable. The Willow Street/Enterprise Drive intersection also meets peak-hour signal warrants during the AM and PM peak hours.

The addition of project traffic to future year 2035 conditions would degrade operations on the following five roadway segments: I-880, from SR 84 Eastbound to Thornton Avenue; I-880, from Mowry Avenue to Stevenson Boulevard; Thornton Avenue, from Willow Street to Spruce Street; Thornton Avenue, from Spruce Street to Cherry Street; and Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps. Due to the number of affected properties and financial implications, along with the fact that the project cannot legally be conditioned upon the construction of improvements over land over which neither the applicant or the City has control, roadway segment impacts are considered significant and unavoidable. Mitigation measure 4.14-8 would require project applicants to pay all transportation-related fees in accordance with the latest adopted fee schedule at the time permits are sought. However, since the fee programs would not fully fund all the mitigation necessary, the impact to regional roadway segments is considered significant and unavoidable.

5.3 PROJECT ALTERNATIVES

5.3.1 SELECTION OF PROJECT ALTERNATIVES

In accordance with CEQA, appropriate project alternatives are those that meet most of the project's basic objectives and avoid or substantially lessen the significant environmental impacts of the proposed project. The alternatives analyzed in this chapter were selected for their potential to eliminate or reduce project impacts, or for their potential to generate fewer impacts, or require lesser levels of mitigation. These alternatives include:

- ◆ Alternative 1: No Project/No Build (Status Quo)
- ◆ Alternative 2: High Density Residential
- ◆ Alternative 3: Medium High Density Residential

The Draft EIR does not analyze an alternative site for the proposed project because there is no other available site in the City within appropriate walking distance of the Dumbarton Rail Corridor (DRC) project that is large enough to accommodate the number of residential units necessary to generate the ridership required to support a future transit station.

5.3.2 COMPARISON OF ALTERNATIVES

CEQA does not specify the methodology for comparing alternatives. However, the issues and impacts that are most germane to a particular project must be evaluated when comparing an alternative to a proposed project. As such, the issues and impacts analyzed in project alternatives vary depending on the project type and the environmental setting. Long-term impacts (e.g., visual impacts and permanent loss of habitat or land use conflicts) are those that are generally given more weight in comparing alternatives. Impacts associated with construction (i.e., temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

The alternatives analysis below compares each alternative to the proposed project according to whether it would have a mitigating or adverse effect for each of the environmental resource areas analyzed in this EIR.

5.3.3 ALTERNATIVES ANALYSIS

ALTERNATIVE 1: NO PROJECT/NO BUILD (STATUS QUO)

Description of Alternative

Under the No Project/No Build (Status Quo) Alternative (Alternative 1), the development and redevelopment which would be established by the Specific Plan, namely, a mix of residential, office, retail, public/quasi-public, and park and open space uses would not occur. The General Plan would not be amended, the Dumbarton TOD Specific Plan would not be adopted, and the site would not be rezoned. The zoning designations for the land comprising the Specific Plan area would remain a combination of High Technology Park District, Limited Industrial District and General Industrial District. Therefore, under Alternative 1, there would be no immediate physical or operational changes within the Specific Plan area and, thus, the existing conditions would remain unchanged. None of the Project Objectives associated with the Specific Plan would be achieved by Alternative 1, including the creation of a mix of housing (as set forth in the General Plan) and employment opportunities, all within walking distance of the future, planned DRC transit station.

Environmental Impacts Compared to the Proposed Project

Aesthetics

Under Alternative 1: No Project/No Build, the Specific Plan area would not be developed as a mix of residential, office, retail, public/quasi-public, and park and open space uses as provided by the Specific Plan and, therefore, the project site would remain primarily vacant, weedy industrial land with the exception of an active chemical blending and distribution facility located in the northeastern corner (the Gallade site), a storage area for base-rock and tractor trailers used in construction projects located in the northeastern portion, and a dog training facility and a police firing range located in the south central portion. Because there would be no immediate development and the site would remain largely as vacant industrial land, existing views of the surrounding area, including of the Don Edwards San Francisco Bay National Wildlife Refuge, would not be disturbed by new structures. At the same time, because the Gallade site would remain immediately adjacent to existing residences, and would not be replaced by a park, the existing visual impact associated with the Gallade site would not be removed. Without redevelopment guided by the Specific Plan, which would preserve existing views of the surrounding area, would create new parks and open space and trails and would be required to comply with strict development regulations and design guidelines to ensure quality design, the currently vacant industrial land within the Specific Plan area would not be replaced by land uses which are more complimentary of these existing residences. Because the project site would remain largely as vacant, weedy industrial land and fields and would not be replaced by more complimentary land uses which preserve the existing aesthetic values of the area, the aesthetic impacts under Alternative 1: No Project/No Build would generally be increased in comparison to the proposed project.

Air Quality

Under the Alternative 1: No Project/No Build, there would be no physical or operational changes within the Specific Plan area caused by the construction of Specific Plan land uses, and, therefore, construction activities and/or additional vehicle trips to development associated with Specific Plan uses would not occur. Therefore, Alternative 1 would result in a decrease in short-term construction and operational air quality impacts in comparison to the proposed project.

Biological Resources

The No Project/No Build Alternative would eliminate potentially significant impacts to several special status plant and animal species, as well as impacts to

waters of the State/U.S. The No Project/No Build Alternative would also eliminate potential impacts to protected trees that could also be removed as a result of future development activities within the Specific Plan area. Therefore, Alternative 1: No Project/No Build would result in a decrease in impacts to biological resources in comparison to the proposed project.

Cultural Resources

Alternative 1: No Project/No Build would eliminate potential damage to potentially significant unknown cultural resources, including historic, archaeological, or paleontological resources, and/or human remains caused by the construction of Specific Plan uses. Therefore, Alternative 1 would result in a decrease in impacts to cultural resources in comparison to the proposed project.

Geology and Soils

Potentially significant impacts related to exposing future residential units within the Specific Plan area to ground shaking, earthquake induced settlement, or adverse soil conditions would be avoided with implementation of Alternative 1: No Project/No Build. Therefore, Alternative 1 would result in a decrease in impacts from geology and soils in comparison to the proposed project.

Greenhouse Gas Emissions

An increase in direct and indirect sources of greenhouse gas emissions associated with Specific Plan uses would not occur under Alternative 1: No Project/No Build. Therefore, Alternative 1 would result in a decrease in greenhouse gas emissions in comparison to the proposed project.

Hazards and Hazardous Materials

Certain properties within the Dumbarton TOD Specific Plan are known to have contaminated groundwater and soils. Remediation of such contaminants would be required prior to future development according to risk-based standards and depending upon the nature of the land use proposed and specific site conditions. In general, residential land use also requires a higher degree of remediation than commercial or industrial use. By providing for a mix of new residential and commercial uses, the proposed project would potentially create additional land value to absorb remediation costs and incentives to facilitate the remediation of Specific Plan area properties according to the land use proposed on each.

Under Alternative 1: No Project/No Build, remediation of contaminated groundwater and soils within the Specific Plan area would be less certain as the

existing R&D and industrial zoning would remain, which has not attracted new businesses to the area over the past 10 years and, with less or no incentive for new development, there would be less land value to absorb remediation costs and facilitate property remediation and redevelopment. There would be no construction of Specific Plan uses which could expose construction workers or future residents and business employees to residual contaminants, but there would be far less incentive for the remediation of impacted properties and residual contaminant levels would likely be higher as compared to the proposed project. Therefore, Alternative 1, which would leave the Specific Plan area largely as vacant, weedy industrial land and fields, would result in a greater impact from hazards and hazardous materials in comparison to the proposed project.

Hydrology, Drainage, and Water Quality

Under Alternative 1: No Project/No Build, the potentially significant surface water runoff and water quality impacts due to construction activities and post-construction non-point source pollution associated with Specific Plan uses would not occur. Therefore, Alternative 1: No Project/No Build would result in a decrease in hydrology, drainage and water quality impacts in comparison to the proposed project with respect to hydrology and water quality due to the overall decrease in the amount of impervious surfaces.

Land Use and Planning

The General Plan, as amended by the 1999 Specific Plan, designates the project site as Limited Industrial, Special Industrial and General Industrial. The project site has a zoning designation of High Technology Park District, Limited Industrial District and General Industrial District on the City of Newark Zoning Map. Under Alternative 1: No Project/No Build, the General Plan would not be amended, the Dumbarton TOD Specific Plan would not be adopted, the project site would not be rezoned and redeveloped, and existing conditions at the project site would remain unchanged. Therefore, Alternative 1: No Project/No Build would remain consistent with the City's (unamended) General Plan and Zoning Ordinance, but the project area would remain largely vacant, weedy industrial land and fields, the Gallade chemical blending and distribution facility would remain immediately adjacent to existing residences and the project area would not be redeveloped to provide for land uses more complimentary with existing residences to the northeast and east of the project area. Current land use conflicts between the project area and these existing residences would remain. On balance, the project area would continue to be incompatible with surrounding uses and, therefore, would result in greater land use impacts in comparison to the proposed project.

Noise

Under Alternative 1: No Project/No Build, construction activities associated with the Specific Plan would not occur and, therefore, adjacent sensitive receptors and future sensitive receptors would not be exposed to sporadic high noise and vibration levels from such construction. In addition, high density residential, commercial and retail uses would be developed near the DRC Project and residents and workers in this area would not be exposed to train noise. Finally, there would be no subsequent increases in noise levels along surrounding roadways from an increase in vehicle trips associated with Specific Plan uses. Therefore, Alternative 1: No Project/No Build would result in a reduction in noise impacts in comparison to the proposed project.

Population and Housing

The Alternative 1: No Project/No Build would maintain existing zoning and conditions within the Specific Plan area, which does not provide for new residential development, and would, therefore, not add approximately 8,150 additional residents to the City under full buildout of the Specific Plan by the year 2030. However, as illustrated by the Housing Element of the City of Newark General Plan, if the Specific Plan is not adopted, the projected additional population growth through the year 2030 would likely occur elsewhere within the City of Newark, including Areas 3 and 4. Therefore, Alternative 1: No Project/No Build would result in similar impacts in comparison to the proposed project.

Public Services and Utilities

The Alternative 1: No Project/No Build would eliminate potential impacts to wastewater service and facilities, as well as the increased need for public services and utilities in the City associated with Specific Plan uses. Therefore, Alternative 1: No Project/No Build would result in a decrease in impacts to public services and facilities as compared to the proposed project.

Recreation

Under Alternative 1: No Project/No Build, the project site would not add additional new residences and, therefore, would not increase demand for recreational uses. Without implementation of the proposed project, the project site would remain disturbed and primarily vacant with the exception of a chemical blending and distribution facility located in the northeastern corner of the project site. Proposed recreational opportunities within the Specific Plan area would not be constructed, including an internal trail that would provide a trail connection to the existing Bay Trail along Willow Avenue. Therefore, under Alternative 1: No

Project/No Build, no new recreational facilities would be developed, but there would be decreased increase demand for new recreational uses in comparison to the proposed project.

Traffic

Alternative 1: No Project/No Build would eliminate approximately 14,131 daily trips that would travel externally onto the adjacent roadway network under project conditions. This would eliminate the significant and unavoidable impact to the Cedar Boulevard/Thorton Avenue intersection, as well as a significant and unavoidable impact to transit, and cumulative impacts to the regional roadway network. Therefore, Alternative 1: No Project/No Build would result in decreased impacts to traffic in comparison to the proposed project.

ALTERNATIVE 2: HIGH DENSITY RESIDENTIAL

Description of Alternative

Under the High Density Residential Alternative (Alternative 2), development would be concentrated around the space provided for the future DRC transit station as shown in Figure 5-1 (Alternative 2: High Density Residential). The mix of residential, office, retail, public/quasi-public, and park and open space uses would remain the same, along with the maximum of 2,500 residential units. However, housing would consist of high density (60 units/acre) development on approximately 42 acres, rather than a variety of residential housing types on approximately 147.2 acres. The acreage proposed for office, retail, and public/quasi-public uses would remain the same with approximately 35,000 square feet of retail use and 195,000 square feet of office use. Under Alternative 2, the amount of park and open space uses would increase from 16.31 acres to 121.5 acres. Thus, substantially less area of the Specific Plan area would be developed with housing; however, the same number of units would be construction. Table 5-2 (Comparison of Alternative 2 and the Proposed Project) shows a comparison between Alternative 2 and the proposed project.

This alternative assumes that there would be a transfer of development rights for those properties that would provide additional open space and parks.

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NOTE: Areas delineated are approximate and intended for conceptual purposes.

- R Residential
- C Commercial/Retail
- T Transit Station
- P Park
- O Open Space

Source: RBF Consulting, Dahlin Group (2011)

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TABLE 5-2 COMPARISON OF ALTERNATIVE 2 AND THE PROPOSED PROJECT

Dumbarton TOD Specific Plan		High Density Residential Alternative	
Land Use	Total	Land Use	Total
Residential Units	2,500 (147.2 acres)	Residential Units	2,500 (42 acres)
Commercial Retail	5.0 acres (35,000 square feet)	Commercial Retail	6.56 acres (35,000 square feet)
Commercial Office	7.2 acres (195,000 square feet)	Commercial Office	5.87 acres (195,000 square feet)
Transit Station	6.1 acres	Transit Station	6.11 acres
Parks and Open Space	16.3 acres	Parks and Open Space	121.51 acres
Miscellaneous	23.1 acres	Miscellaneous	22.95 acres

Environmental Impacts Compared to the Proposed Project

Aesthetics

Under Alternative 2: High Density Residential, there would be a change in the visual character of the Specific Plan area with a much higher density of residential uses within approximately 42 acres and an increase of 121.5 acres of parks and open space in comparison to the proposed project. Although, the Specific Plan would result in a less than significant impact with respect to aesthetics, this alternative would result in an overall reduction in the footprint of development within the Specific Plan area in comparison to the proposed project increasing the amount of parks and open space within the project site, which would improve the overall aesthetic value of the project site. Therefore, Alternative 2: High Density Residential would result in decreased impacts to aesthetics in comparison to the proposed project.

Air Quality

The potentially significant short-term air quality impacts that would result with implementation of the proposed project would be slightly less under Alternative 2: High Density Residential as the reduced footprint for residential uses and increased footprint for parks and open space would result in a reduction in the amount of grading and site preparation activities within the project site. In addition, with a change in the type of residential use to primarily high density residential, a slight

reduction in the amount of vehicle trips would occur. Therefore, this alternative would result in a slight decrease in air quality impacts in comparison to the proposed project.

Biological Resources

Alternative 2: High Density Residential would slightly reduce the impact to special status plant and animal species within the project site with an increase in the amount of open space. This alternative would also slightly reduce the impacts to waters of the State/U.S. Alternative 2: High Density Residential would also reduce potential impacts to protected trees that would be incorporated within a significantly larger parks and open space areas proposed under this alternative. Therefore, Alternative 2: High Density Residential would result in a decrease in impacts to biological resources in comparison to the proposed project.

Cultural Resources

Alternative 2: High Density Residential would result in a slight decrease in impacts to cultural resources with a reduced footprint for residential uses and increased footprint for parks and open space. This would result in a reduction in the amount of grading and site preparation activities within the project site. Therefore, Alternative 2: High Density Residential would result in a slight decrease in cultural resource impacts in comparison to the proposed project.

Geology and Soils

The potentially significant impacts related to ground shaking, earthquake induced settlement, or adverse soil conditions under Alternative 2: High Density Residential would be similar to the proposed project with implementation of mitigation measures incorporated herein. Therefore, Alternative 2: High Density Residential would result in similar impacts in comparison to the proposed project.

Greenhouse Gas Emissions

With the construction of a higher density residential development within a smaller footprint, the number of vehicle trips is anticipated to be reduced, which would subsequently reduce the amount of greenhouse gas emissions associated under Alternative 2: High Density Residential. For example, a single family detached home typically generates a slightly greater number of trips at 0.75 trips per day during the AM peak hour as compared to 0.51 trips for a high density residential use (e.g. apartment). Based on the construction of 2,500 high density residential uses, a reduction in the number of trips from residential uses would occur under

this alternative. Therefore, this alternative would result in slightly less greenhouse gas emissions in comparison to the proposed project.

Hazards and Hazardous Materials

Alternative 2: High Density Residential would construct the same number of residential units as the proposed project but within a smaller footprint. Because of the smaller development footprint, there would be less risk of workers being exposed to hazardous materials during construction of these residences as compared to the construction of residences for the proposed project. As with the proposed project, remediation would be necessary within this smaller development footprint to prevent an unacceptable risk to human health and the environmental from residual contaminants.

Similar to the proposed project, the development of parks and open space uses could accidentally expose workers to hazardous materials during construction and operation within the Specific Plan area. Therefore, Alternative 2: High Density Residential would result in similar impacts to the proposed project with respect to hazards and hazardous materials.

Hydrology, Drainage, and Water Quality

The potentially significant surface water runoff impacts due to construction activities would be reduced under Alternative 2: High Density Residential due to decrease in the amount of site preparation and grading activities within the project site, albeit with a smaller development area for residential uses. In addition, with an increase of parks and open space, the amount of pervious surfaces would be greater, which would result in a decrease in stormwater runoff. Therefore, Alternative 2: High Density Residential would result in a decrease in hydrology, drainage and water quality impacts in comparison to the proposed project.

Land Use and Planning

Similar to the proposed project, Alternative 2: High Density Residential would be an extension of the existing residential and commercial retail/office uses located in the project vicinity and would not create substantial land use impacts and/or divide the City and/or surrounding area. Therefore, Alternative 2: High Density Residential would result in similar land use impacts as compared to the proposed project.

Noise

Under Alternative 2: High Density Residential, construction activities associated with future development facilitated by the Specific Plan would be similar to the proposed project and would expose adjacent and future sensitive receptors to sporadic high noise and vibration levels. In addition, under Alternative 2: High Density Residential Alternative, a more densely developed residential area adjacent to the train station would expose a greater number of residents to periodic train noise.

Due to the lower trip generation rates for high density residential uses, Alternative 2: High Density Residential Alternative would result in a decrease in the amount of vehicular traffic from residential uses that would occur along surrounding roadways, which would result in a decrease in the amount of noise from mobile sources associated with residential uses.

Overall, Alternative 2: High Density Residential would result in a slight reduction in noise impacts in comparison to the proposed project.

Population and Housing

As with the proposed project, Alternative 2: High Density Residential would add a total of 2,500 new residential units. Unlike the proposed project, all of these units would be high density, multi-family units instead of the mix of densities proposed by the project. The average household size within the City of Newark is 3.26 persons, however, as noted in the Housing Element, this household size is largely driven by the preponderance of single family housing within the City. If, as would be the case under Alternative 2, all residential units constructed were multi-family units, the average household size would be expected to be less than 3.26 persons given the smaller, more compact nature of multi-family, high density housing.

The City's Parks Ordinance assumes an average of 2.4 persons per dwelling unit for the purpose of calculating the need for new parks associated with residential subdivisions. If one assumes an average of 2.4 persons per household under Alternative 2, given that all new residences would be multi-family units, Alternative 2 would add 6,000 additional residents to the City under full buildout by the year 2030 as opposed to 8,150 residents under the proposed project. Therefore, Alternative 2: High Density Residential would result in the same number of housing units as the proposed project but in similar or decreased impacts in population growth in comparison to the proposed project.

Public Services and Utilities

Because Alternative 2: High Density Residential would add fewer residents than the proposed project, there would be slightly less demand for wastewater service, water supply and related facilities. This alternative would also result in slightly decreased impacts to public services, including police protection, fire, and schools. Therefore, Alternative 2: High Density Residential would result in similar or slightly decreased impacts in comparison to the proposed project.

Recreation

Because Alternative 2: High Density Residential would add fewer residents than the proposed project, it would also create less demand for recreational parks and open space. Less parkland would, therefore, be required for residential uses constructed by Alternative 2 under the City's Parks Ordinance. This alternative would also significantly increase the amount of park and open space within the project site. Therefore, Alternative 2: High Density Residential would result in the same ratio of parkland required per resident but more overall parkland in comparison to the proposed project.

Traffic

With the construction of higher density residential uses within a reduced footprint, a subsequent reduction in the number of vehicle trips would occur due to a reduction in the trip generation rates for each use. This is because a single family detached home typically generates 0.75 trips per day during the AM peak hour as compared to 0.51 trips for a high density residential use (e.g., apartment).

Therefore, even with a slight reduction in the number of trips associated with residential uses, Alternative 2: High Density Residential would result in similar traffic impacts as compared to the proposed project.

ALTERNATIVE 3: MEDIUM HIGH DENSITY RESIDENTIAL

Description of Alternative

Under the Medium High Density Residential Alternative (Alternative 3), residential development would be concentrated away from sensitive biological resources as shown in Figure 5-2 (Alternative 3: Medium High Density Residential).

TABLE 5-3 COMPARISON OF ALTERNATIVE 3 AND THE PROPOSED PROJECT

Dumbarton TOD Specific Plan		Medium Density Residential Alternative	
Land Use	Total	Land Use	Total
Residential Units	2,500 (147.2 acres)	Residential Units	2,500 (83 acres)
Commercial Retail	5.0 acres (35,000 square feet)	Commercial Retail	6.56 acres (35,000 square feet)
Commercial Office	7.2 acres (195,000 square feet)	Commercial Office	5.87 acres (195,000 square feet)
Transit Station	6.1 acres	Transit Station	6.11 acres
Parks and Open Space	16.3 acres	Parks and Open Space	80.51 acres
Miscellaneous	23.1 acres	Miscellaneous	22.95 acres

The mix of residential, office, retail, public/quasi-public, and park and open space uses would remain the same, along with the maximum of 2,500 residential units. However, housing types would consist of medium high density (30 units/acre) development on approximately 83 acres, rather than a variety of residential types on approximately 147.2 acres. The acreage proposed for office, retail, and public/quasi-public uses would remain the same and approximately 35,000 square feet of retail use and 195,000 square feet office use would be developed.

Under Alternative 3, the remainder of the Specific Plan area (not developed for residential, office and retail uses) would be rezoned from the current industrial/R&D/office zoning to park and open space; the amount of park and protected open space uses would, therefore, increase from 16.31 acres to approximately 80.5 acres. Thus, substantially less of the Specific Plan area would be developed with housing. Table 5-3 (Comparison of Alternative 3 and the Proposed Project) shows a comparison between Alternative 3 and the proposed project.

This alternative assumes that there would be a transfer of development rights for those properties that would provide additional open space and parks.



NOTE: Areas delineated are approximate and intended for conceptual purposes.

- R Residential
- C Commercial/Retail
- T Transit Station
- P Park
- O Open Space

Source: RBF Consulting, Dahlin Group (2011)

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Environmental Impacts Compared to the Proposed Project

Aesthetics

Under Alternative 3: Medium High Density Residential, there would be a change in the visual character of the Specific Plan area with a concentration of residential uses within 83 acres, including preservation of additional open space. Although, the proposed project would result in a less than significant impact with respect to aesthetics, Alternative 3: Medium High Density Residential would result in an overall reduction in the footprint of development in comparison to the proposed project and, therefore, would result in a decrease impacts.

Air Quality

Under Alternative 3: Medium High Density Residential Alternative, housing types would consist of medium high density (30 units/acre) development on approximately 83 acres, rather than a variety of residential types on approximately 147.2 acres. With the construction of primarily medium high density residential uses within a reduced footprint, air quality emissions would likely be less due to a reduction in the number of vehicle trips to the project site. In addition, this alternative would result in a decrease in the amount of area subject to construction activities based on the preservation of approximately 63.84 acres of open space. Therefore, this alternative would result in a reduction in the amount of grading and site preparation at the project site, which would reduce the amount of short-term construction emissions. Therefore, Alternative 3: Medium High Density Residential would result in reduction in air quality impacts in comparison to the proposed project.

Biological Resources

Alternative 3: Medium High Density Residential Alternative would reduce the impact to special status plant and animal species within the project site with an increase in the amount of open space. This alternative would also slightly reduce the impacts to waters of the State/U.S. Alternative 3: Medium High Density Residential Alternative would also reduce potential impacts to protected trees that could be incorporated within the open space areas proposed under this alternative. Therefore, Alternative 3: Medium High Density Residential Alternative would result in a decrease in impacts to biological resources in comparison to the proposed project.

Cultural Resources

Alternative 3: Medium High Density Residential would result in a reduction in impacts to cultural resources within a reduced building footprint for medium density residential uses. The reduced ground disturbance area may result in a decrease in impacts to potentially significant unknown cultural resources, including historic, archaeological, or paleontological resources, and/or human remains due to a reduction in ground disturbance. Therefore, Alternative 3: Medium High Density Residential would result in a decrease in cultural resources impacts as compared to the proposed project.

Geology and Soils

The potentially significant impacts related to ground shaking, earthquake induced settlement, or adverse soil conditions under Alternative 3: Medium High Density Residential would be similar to the proposed project with implementation of mitigation measures incorporated herein. Therefore, Alternative 3: Medium Density Residential would result in similar impacts to the proposed project.

Greenhouse Gas Emissions

With the construction of a more dense residential development within a smaller footprint, the number of vehicle trips from residential uses is anticipated to be reduced slightly, which would subsequently reduce the amount of greenhouse gas emissions associated with such uses. For example, a single family detached home typically generates 0.75 trips per day during the AM peak hour, high density residential use (e.g. apartment) typically generates 0.51 trips per day during the AM peak hour, and a residential condominium/townhome typically generates 0.44 trips per dwelling unit during the AM peak hour. A medium high density residential project would slightly reduce the amount of residential vehicle trips to the project site in comparison to the proposed project, which would reduce the amount of greenhouse gas emissions associated with residential uses.

Hazards and Hazardous Materials

Alternative 3: Medium High Density Residential would construct the same number of residential uses as the proposed project within a smaller footprint. Because of the smaller residential development footprint, there would be less risk of workers being exposed to hazardous materials during construction of these residences as compared to the proposed project. As with the proposed project, remediation would be necessary within this smaller development footprint to prevent an unacceptable risk to human health and the environment from residual contaminants.

However, similar to the proposed project, Alternative 3: Medium Density Residential could accidentally expose workers to hazardous materials during construction and operation within the Specific Plan area. Therefore, Alternative 3: Medium High Density Residential would likely result in similar impacts to the proposed project.

Hydrology, Drainage, and Water Quality

The potentially significant surface water runoff impacts due to construction activities would be reduced under Alternative 3: Medium High Density Residential due to a decrease in the amount of site preparation and grading activities within the project site. In addition, with preservation of approximately 63.84 acres of historic marsh and areas of seasonal wetland vegetation in comparison to the proposed project, the amount of pervious surfaces would be greater, which would result in a decrease in stormwater runoff. Therefore, Alternative 3: Medium High Density Residential would result in a decrease in hydrology, drainage and water quality impacts in comparison to the proposed project.

Land Use and Planning

Similar to the proposed project, Alternative 3: Medium High Density Residential would be an extension of the existing residential and commercial retail/office uses located in the project vicinity and would not create substantial land use impacts. Alternative 3: Medium High Density Residential would not require significant land use changes that would create land use conflicts and/or divide the City and/or surrounding area. Therefore, Alternative 3: Medium High Density Residential would result in similar land use impacts to the proposed project.

Noise

Under Alternative 3: Medium High Density Residential, construction activities associated with future development facilitated by the Specific Plan would be similar to the proposed project and would expose adjacent and future sensitive receptors to sporadic high noise and vibration levels. In addition, under Alternative 3: Medium High Density Residential, a more densely developed residential area adjacent to the train station would expose a greater number of people to periodic train noise.

Due to the lower trip generation rates for medium high density residential uses, Alternative 3 would result in a decrease in the amount of vehicular traffic that would occur along surrounding roadways, which would result in a decrease in the

amount of noise from mobile sources. Therefore, Alternative 3: Medium High Density Residential would result in a slight reduction in noise impacts in comparison to the proposed project.

Population and Housing

As with the proposed project, Alternative 2: High Density Residential would add a total of 2,500 new residential units. Unlike the proposed project, all of these units would be medium high density, multi-family units instead of the mix of densities proposed by the project. The average household size within the City of Newark is 3.26 persons, however, as noted in the Housing Element, this household size is largely driven by the preponderance of single family housing within the City. If, as would be the case under Alternative 3, all residential units constructed were multi-family units, the average household size would be expected to be less than 3.26 persons given the smaller, more compact nature of multi-family, high density housing.

The City's Parks Ordinance assumes an average of 2.4 persons per dwelling unit for the purpose of calculating the need for new parks associated with residential subdivisions. If one assumes an average 2.4 persons per household under Alternative 3, given that all new residences would be multi-family units, Alternative 3 would add 6,000 additional residents to the City under full buildout by the year 2030 as opposed to 8,150 residents under the proposed project. Therefore, Alternative 3: Medium High Density Residential would result in the same number of housing units as the proposed project but in similar or decreased impacts in population growth in comparison to the proposed project.

Public Services and Utilities

Because Alternative 3: Medium High Density Residential would add fewer residents than the proposed project, there would be slightly less demand for wastewater service, water supply and related facilities. Alternative 3: Medium High Density Residential would also result in slightly decreased impacts to public services, including police protection, fire, and schools. Therefore, Alternative 3 would result in similar or slightly decreased impacts in comparison to the proposed project.

Recreation

Because Alternative 3: Medium High Density Residential would add fewer residents than the proposed project, it would also create less demand for recreational parks and open space. Less parkland would, therefore, be required for residential uses constructed under Alternative 3 under the City's Parks Ordinance. Therefore,

Alternative 3: Medium High Density Residential would result in the same ratio of parkland required per resident. However, the proposed project would substantially increase the amount of open space within the project site, which would provide additional recreational opportunities in the vicinity of the project site.

Traffic

Under the Medium High Density Residential Alternative (Alternative 3), housing types would consist of medium high density (30 units/acre) development on approximately 83 acres, rather than a variety of residential types on approximately 147.2 acres. With the construction of primarily medium high density residential uses within a reduced footprint, the number of vehicle trips would likely be less. For example, a single family detached home typically generates 0.75 trips per day during the AM peak hour, high density residential use (e.g. apartment) typically generates 0.51 trips per day during the AM peak hour, and a residential condominium/townhome typically generates 0.44 trips per dwelling unit during the AM peak hour. A medium high density residential project would typically be comprised of townhomes and condominiums, which typically results in the least amount of trips. However, even with a slight reduction in the number of trips, Alternative 3: Medium High Density would result in similar traffic impacts to the proposed project.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives. Alternative 1: No Project/No Build would be the environmentally superior alternative as the significant and unavoidable impacts related to transportation and circulation, as well as impacts associated with air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hydrology, drainage and water quality, noise, and public services and utilities would be avoided. Among the other alternatives, Alternative 2: High Density Residential and Alternative 3 Medium High Density Residential would equally be considered the environmentally superior alternatives, as both alternatives would reduce impacts related to: aesthetics, air quality, biological resources, cultural resources, greenhouse gas emissions, hydrology, drainage, and water quality, public services and utilities, population and housing, recreation, and noise. Neither of the

two alternatives are anticipated to entirely eliminate the significant and unavoidable transportation impacts and neither alternative would achieve several of the Project Objectives of the proposed project while creating similar or increased impacts in areas of aesthetics, geology and soils, hazards and hazardous materials, land use and planning and traffic.

The proposed project would achieve each of the Project Objectives while creating similar or decreased impacts as compared to all of the Project Alternatives considered herein, with the exception of Alternative 1, assuming no development occurs under existing zoning.

Table 5-4 (Comparison of Alternative Project Impacts to the Proposed Project) presents a comparison of the impacts associated with the alternatives with those of the proposed project for each of the environmental resource areas analyzed above.

TABLE 5-4 COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

Topic	Alternative 1 No Project/ No Build (Status Quo)	Alternative 2 High Density Residential	Alternative 3 Medium High Density Residential
Aesthetics	+	-	-
Air Quality	-	-	-
Biological Resources	-	-	-
Cultural Resources	-	-	-
Geology and Soils	-	NC	NC
Greenhouse Gas Emissions	-	-	-
Hazards and Hazardous Materials	+	NC	NC
Hydrology, Drainage, and Water Quality	-	-	-
Land Use and Planning	+	NC	NC
Noise	-	-	-
Population and Housing	NC	-	-
Public Services and Utilities	-	-	-
Recreation	+/-	-	-
Traffic	-	NC	NC

Notes:

- + Greater impact than that of the proposed project
- Decreased impact from that of the proposed project
- +/- Greater impact with regard to some aspects of impact and decreased impact in other aspects
- NC No substantial change in impact from that of the proposed project

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6 OTHER CEQA CONSIDERATIONS

6.1 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15162(b) of the California Environmental Quality Act Guidelines (CEQA Guidelines) requires an environmental impact report (EIR) to discuss the significant impacts of a proposed project that cannot be reduced to a less than significant level. These impacts are referred to as “significant and unavoidable impacts” of the project.

6.1.1 TRAFFIC

As described in Section 4.14 (Traffic), the proposed project would have the following significant and unavoidable traffic impacts:

- ◆ The addition of project traffic to existing conditions would cause intersection Level of Service (LOS) at Cedar Boulevard/Thornton Ave to degrade from acceptable to unacceptable during the PM peak hour and exacerbate operations by increasing the average delay by four or more seconds during the AM peak hour.
- ◆ The project’s increased demand for transit service may not be met by Dumbarton Rail Corridor (DRC) project, as the future of the DRC project is uncertain as of the publication of this Draft EIR and improved bus service to the Specific Plan area cannot be guaranteed, as it is under Alameda County (AC) Transit’s jurisdiction.
- ◆ The addition of project traffic to future year 2035 conditions would cause intersection LOS to degrade from acceptable to unacceptable or exacerbate operations by increasing the average delay by four or more seconds at the following five intersections: SR-84 Eastbound Ramps/Thornton Ave, Cherry St/Thornton Ave, Newark Blvd/Thornton Ave, Cedar Blvd/Thornton Ave, and Cherry St/Central Ave.
- ◆ The addition of project traffic to future year 2035 conditions would degrade operations on the following five roadway segments: I-880, from SR 84 Eastbound to Thornton Avenue; I-880, from Mowry Avenue to Stevenson Boulevard; Thornton Avenue, from Willow Street to Spruce Street; Thornton Avenue, from Spruce Street to Cherry Street; and, Thornton Avenue, from Cedar Boulevard to I-880 Southbound Ramps.

6.2 SIGNIFICANT AND IRREVERSIBLE CHANGES

Section 15126.2(c) of the CEQA Guidelines requires an EIR to discuss the significant irreversible environmental changes that would result from

implementation of a proposed project. Examples include: primary or secondary impacts of the project that would generally commit future generations to similar uses (e.g., highway improvements that would provide access to a previously inaccessible area); uses of nonrenewable resources during the initial and continued phases of the project (because a large commitment of such resources make removal or nonuse thereafter unlikely); and/or, irreversible damage that could result from any potential environmental accidents associated with the project.

6.2.1 CHANGES IN LAND USE WHICH COMMIT FUTURE GENERATIONS

Implementation of the proposed project would result in the conversion of approximately 205 acres of undeveloped or underutilized land to a mix of residential, office, retail, public/quasi-public, and park and open space uses. Development of the proposed project would constitute a long-term commitment to these uses, as it is unlikely that circumstances would arise that would justify the return of the land to its original condition.

6.2.2 CONSUMPTION OF NON-RENEWABLE RESOURCES

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the project's initial construction, infrastructure installation, and connection to existing utilities and its continued maintenance. Construction of the project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing maintenance and life of the proposed project. An increase in the public use of land use on the site would result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the project would increase consumption of available supplies, including gasoline. These energy resource demands relate to initial project construction, project operation, and on-going maintenance, as well as, the transport of people and goods to and from the project site.

6.2.3 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

No explosives or other hazardous materials would be used within the planning area. Accidental spills of fuel, paints or other construction-related materials might occur during construction. However, these types of accidents would be limited because site development would be implemented and overseen by experienced construction workers. Such potential spills would not result in irreversible environmental changes.

6.3 GROWTH INDUCING IMPACTS

CEQA requires that an EIR evaluate the “growth-inducing” effects of a proposed project. According to Section 15126.2(d) of the CEQA Guidelines, growth-inducing effects include:

- ◆ Fostering economic or population growth, or the construction of additional housing;
- ◆ Removing obstacles to population growth;
- ◆ Taxing existing community services or facilities, requiring the construction of new facilities that could cause significant environmental effects; and,
- ◆ Encouraging and facilitating other activities that could significantly affect the environment, either individually or cumulatively.

A project can directly or indirectly induce growth. Construction of new housing would directly induce growth. However, if a project creates substantial new permanent employment opportunities, it could indirectly induce growth by stimulating the need for additional housing and services to support the new employment demand. It could also indirectly induce growth by removing infrastructure limitations or regulatory constraints on a required public service, such as roads or water service.

Section 15126.2(d) also states that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. However, it should be noted that growth can be detrimental if it is not consistent with land use plans and growth management policies established to ensure orderly growth and development that is supported by adequate public services. Should a proposed project induce growth beyond planned levels or rates or exceed reliable population projections, it could indirectly cause additional adverse impacts on the environment and public services beyond those identified, mitigated, or

acknowledged in local planning documents. Therefore, this growth inducement analysis evaluates the consistency of the growth caused or induced by the proposed project with the growth envisioned for the City of Newark (City) in the City of Newark General Plan (General Plan).

6.3.1 FOSTER ECONOMIC GROWTH

The proposed project would provide opportunities for new retail and office space within the City. This new space could attract new businesses that would provide new employment opportunities within the City. However, it is possible that existing businesses located elsewhere in the City would choose to relocate to some of this new space and would not create new jobs in the City. To the extent that additional jobs may be created, the project could have a growth inducing effect on employment in the City.

6.3.2 POPULATION AND HOUSING GROWTH

The Specific Plan would allow the construction of approximately 2,500 residential units. The construction of these new homes would be phased over time based on market conditions as would population growth and has the potential to attract approximately 8,150 new residents at full buildout based on the General Plan Housing Element estimate of 3.26 persons per household.

The California Department of Finance (DOF) estimates that the City's population was 44,035 in 2009 and the Housing Element identifies that the City's population will be 52,500 in 2030. This would result in the addition of 8,465 residents over the next 20 years. The project would add 8,150 new residents to the City, which would be within the growth estimates identified in the General Plan. The combined effects of the population growth associated with the growth projections of the General Plan, as well as the proposed project and the Areas 3 and 4 Specific Plan would not result in any additional impacts beyond those identified, mitigated, or acknowledged in this Draft EIR or the Newark Areas 3 and 4 Draft EIR.

6.3.3 REMOVE OBSTACLES TO GROWTH

Existing sewer pipelines may not be sized to accommodate full buildout of the Dumbarton TOD Specific Plan area and capacity increases may be required. In addition, dual 33-inch sewage force mains operated by the East Bay Dischargers Authority (EBDA) traverse under the Specific Plan from south to north and are sensitive to movement, heavy construction, or intense uses over them and would likely require structural upgrades or relocation as a result of future development

proposed by the Specific Plan. A 14-inch gravity sewer line in Enterprise Drive that serves as a redundant line for larger mains in Willow Street and the Southern Pacific Railroad corridor right-of-way is shallow and in disrepair and may require structural upgrades as a result of future development associated with the Specific Plan. New water distribution mains would also be necessary to serve the fire and domestic water needs associated with future development allowed by the Specific Plan, and new roads would be required as well.

Necessary infrastructure enhancements and upgrades would be designed to accommodate full buildout of the Dumbarton TOD Specific Plan area. These infrastructure capacity increases would remove barriers that currently inhibit growth associated specifically with the Dumbarton TOD Specific Plan area. Removing these barriers to growth within the Specific Plan area, would result in the potential environmental impacts associated with the proposed project, as discussed throughout this Draft EIR.

6.3.4 TAX EXISTING COMMUNITY SERVICES OR FACILITIES

Substantial increases in population growth may tax existing community services and facilities, thus requiring the construction of new facilities that could cause significant environmental effects. The construction of new facilities may also result in the need to expand service capacity, which would then allow future population growth. As described in Section 4.13 (Public Services, Utilities and Service Systems), the proposed project would not result in significant environmental effects related to public services and utilities with the implementation of mitigation measures. Therefore, the proposed project would not substantially tax existing public services and utilities.

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8 REFERENCES

- Alameda County Department of Environmental Health Website, Hazardous Materials/Waste Program Overview, <http://www.acgov.org/acch/hazard/>, accessed February 8, 2011.
- Alameda County Water District. 2005. Urban Water Management Plan 2006-2010, Public Review Draft.
- Basin Research Associates. 2007. Archaeological Records Search and Field Review, 43-Acre Property – Willow Street and Vicinity, City of Newark, Alameda County.
- Bay Area Air Quality Management District. 2010. Bay Area 2010 Clean Air Plan.
- Bay Area Air Quality Management District. 2010. CEQA Air Quality Guidelines.
- Bay Conservation and Development Commission. 1969. San Francisco Bay Plan.
- Bean, Lowell John, editor. 1994. The Ohlone: Past and Present Native Americans of the San Francisco Bay Region.
- Berlogar Geotechnical Consultants. 2006. Preliminary Geotechnical Investigation, Hill Parcel, Enterprise Drive and Hickory Street, Newark, California.
- Berlogar Geotechnical Consultants. 2007. Addendum to Naturally Occurring Asbestos Investigation, Design and Construction Considerations, Hill Parcel of the Cargill Salt Property Southwest Comer of Enterprise Drive and Hickory Street Newark, California.
- Berlogar Geotechnical Consultants. 2007. Naturally Occurring Asbestos Investigation Hill Parcel of the Cargill Salt Property Southwest Corner of Enterprise Drive and Hickory Street Newark, California.
- Berlogar Geotechnical Consultants. 2009. Due Diligence Level Geotechnical Investigation, Torian Parcel, Willow Street and Perrin Avenue, Newark, California.
- Berlogar Geotechnical Consultants. 2010. Due Diligence Level Geotechnical Investigation, Cargill Hill Parcel, Hickory Street, Newark, California.
- California Air Resources Board, Aerometric Data Analysis and Measurement System (ADAM) Air Quality Data Statistics, <http://www.arb.ca.gov/adam/welcome.html>, accessed March 1, 2011.
- California Air Resources Board. 2008. Climate Change Scoping Plan, A Framework for Change.

- California Air Resources Board and U.S. Environmental Protection Agency. 2008. National and California Ambient Air Quality Standards.
- California Department of Transportation website, Officially Designated State Scenic Highways, <http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm>, accessed February 14, 2011.
- California Environmental Protection Agency. 2008. AB 1493 Briefing Package.
- California Environmental Protection Agency, Climate Action Team. 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature (Executive Summary).
- California Regional Water Quality Control Board San Francisco Bay Region. 1994. Order No. 94-096, Newark Sportsman's Club; and Cargill Salt Division, Newark, Alameda County.
- California Regional Water Quality Control Board, San Francisco Bay Region, Final Site Cleanup Requirements and Rescission of Orders NOS. 98-108 and R2-2005-0004 For Honeywell International Inc., for the property located at 8333 Enterprise Drive, Newark, Alameda County, July 115, 1998.
- California Regional Water Quality Control Board, San Francisco Bay Region. 2007. Order No. 98-067, Revision to the Site Cleanup Requirements and Rescission of Order No. 89-110, For Jones-Hamilton Company., for the property located at 8400 Enterprise Drive, Newark, Alameda County.
- California Regional Water Quality Control Board San Francisco Bay Region. 1998. Order No. 98-067. Revision to Site Cleanup Requirements and Rescission of Order No. 89-110 for Jones-Hamilton Company, for the property located at 8400 Enterprise Drive, Newark, Alameda County.
- California Regional Water Quality Control Board San Francisco Bay Region. 2004. Newark Gun Club, Alameda County – Certification of Remediation Completion Report.
- California Regional Water Quality Control Board San Francisco Bay Region. 2007. Transmittal of Final Site Cleanup Requirements Order No. R2-2007-0005, for the Former Baron-Blakeslee Facility, 8333 Enterprise Drive, Newark, Alameda County.
- City of Newark. 1992. General Plan Update Project 2007.
- City of Newark. 1999. Area Two Specific Plan.
- City of Newark. 2010. Housing Element of the General Plan.

- City of Newark. 2011. Dumbarton TOD Specific Plan.
- City of Newark. 2011. Municipal Code.
- City of Newark Website, <http://www.newark.org/visitors/history/>), accessed March 14, 2011.
- Crawford Consulting, Inc. 2006. Preliminary Data Submittal, Environmental Site Assessment Sampling Program, Torian Parcels at 37555 Willow Street, SLIC Site #742, Newark, California.
- ENGEQ. 2007. Torian Parcels Geotechnical Summary.
- ENGEOTECH, Inc. 1999. Soil and Foundation Investigation for Proposed Industrial Building, Enterprise Drive, Newark, California.
- England Geosystem, Environmental Engineering. 2001. Proposed Final Remedial Actions and Cleanup Standards FMC Corporation, Newark, California.
- Enviroforensics. 2009. 2008 Second Semiannual Groundwater Monitoring Report, 37445 Willow Street, Newark, California.
- EnviroStor Database, <http://www.envirostor.dtsc.ca.gov/public/>, accessed February 10, 2011.
- GeoTracker Database, <http://geotracker.swrcb.ca.gov/>, accessed February 10, 2011.
- GeoTrans, Inc. 2006. Revised Curtailment Report and Feasibility Study for EDB-Impacted Area of Parcels B and I, FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California.
- Google Earth. 2011. Aerial Photographs.
- HARZA. 1994. Soil Excavation and Treatment, Romic Environmental Technologies Corporation, 37445 Willow Street, Newark, California.
- HARZA. 1996. Facility Closure, Romic Environmental Technologies Corporation, Newark, California.
- Intergovernmental Panel on Climate Change, Climate Change. 1996. The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC.
- Levy, Richard. 1978. Costanoan, in Handbook of North American Indians, vol. 8 (California).

- Lowney Associates. 1998. Phase I Environmental Site Assessment and Soil Quality Evaluation, Enterprise Drive Ltd., Newark, California.
- MacGregor, Bruce. 1976. The Centennial History of Newark, 2001 Edition.
- Monk & Associates, Inc. 2011. Biological Resource Analysis, City of Newark, Specific Plan Environmental Impact Report, City of Newark, California.
- Northwest Information Center. 2011. Records Search Results for the Proposed Dumbarton Transit Oriented Development (TOD) Specific Plan Project, Newark, Alameda County, California.
- Parsons. 2009. Annual Compliance Report – Calendar Year 2008, Groundwater Extraction and Treatment System Monitoring, FMC Corporation, 8787 Enterprise Drive, Newark, Alameda County, California.
- RBF Consulting. 2011. Site Visit.
- San Francisco Estuary Institute Website: <http://www.sfei.org>, accessed March 7, 2011.
- State of California. 2011. California Environmental Quality Act, Public Resources Code Section 21000 et seq.
- State of California, Office of Planning and Research. 2011. California Environmental Quality Act Guidelines, California Code of Regulations [CCR] Title 14, Section 15000 et seq.
- Treadwell&Rollo. 1998. Hazardous Material and Geotechnical Evaluation, Newark Specific Plan, Newark, California.
- Treadwell&Rollo. 2001. Phase II Soil and Groundwater Investigation, Proposed Ohlone College Campus, Area 2, Newark, California.
- United States Environmental Protection Agency. 2006. Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2004.
- United States Environmental Protection Agency. 2009. Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances. <http://www.epa.gov/EPA-AIR/1996/January/Day-19/pr-372.html>.
- United States Environmental Protection Agency. 2010. Class I Ozone Depleting Substances. <http://www.epa.gov/ozone/ods.html>.
- United States Environmental Protection Agency. 2010. High GWP Gases and Climate Change. <http://www.epa.gov/highgwp/scientific.html#hfc>

- United States Environmental Protection Agency. 2010. High GWP Gases and Climate Change. <http://www.epa.gov/highgwp/scientific.html#pfc>
- United States Environmental Protection Agency. 2010. High GWP Gases and Climate Change. <http://www.epa.gov/highgwp/scientific.html#sf6>.
- URS. 2005. Revised Final Remedial Action and Cleanup Standards for Soil and Groundwater, Ashland Chemical Inc., 8610 Enterprise Drive, Newark, California.
- URS. 2008. 2008 Second Semi-Annual Monitoring Report, (July through December 2008) Ashland Chemical Company, 8610 Enterprise Drive, Newark, California.
- URS. 2008. 2008 Three Year Status Report, Ashland Chemical Company, 8610 Enterprise Drive, Newark, California.
- URS. 2009. Soil Backfill Activities, Former Ashland Chemical Company, 8610 Enterprise Drive, Newark, California.

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