APPENDIX NOP

Notice of Preparation, Notice of Intent, and Scoping Report

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PLANNING DEPARTMENT

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Notice of Preparation of an Environmental Impact Report / Environmental Impact Statement and Public Scoping Meetings

Date:	December 19, 2012
Case No.:	**2010.0305E**
Project Title:	**Sunnydale-Velasco HOPE SF Master Plan**
Zoning:	RM-1 (Low Density) 40-X Height and Bulk District
Block/Lot:	6310/1, 6311/1, 6312/1, 6313/1, 6314/1, 6315/1
Lot Size:	2,127,187 square feet (48.8 acres) of lots and 209,088 square feet(4.8 acres) of public streets
Project Sponsor	Ramie Dare, Sunnydale Development Co., LLC (415) 355-7118
Lead Agency:	San Francisco Planning Department
Staff Contact:	Nannie Turrell – (415) 575-9047 nannie.turrell@sfgov.org

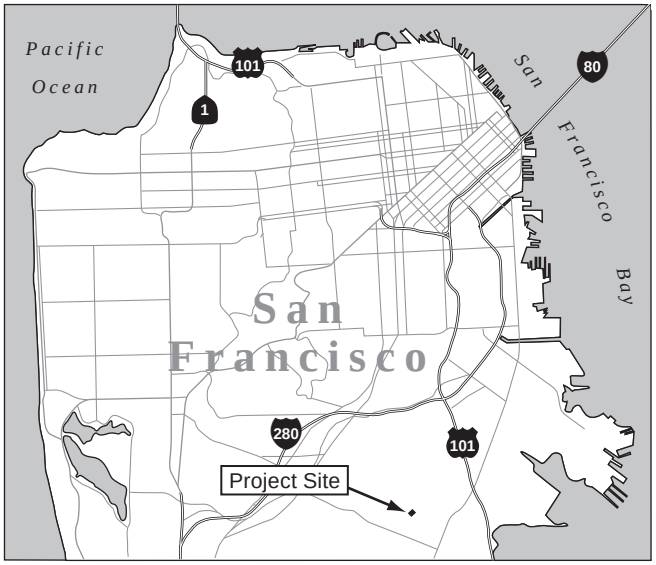
PROJECT DESCRIPTION

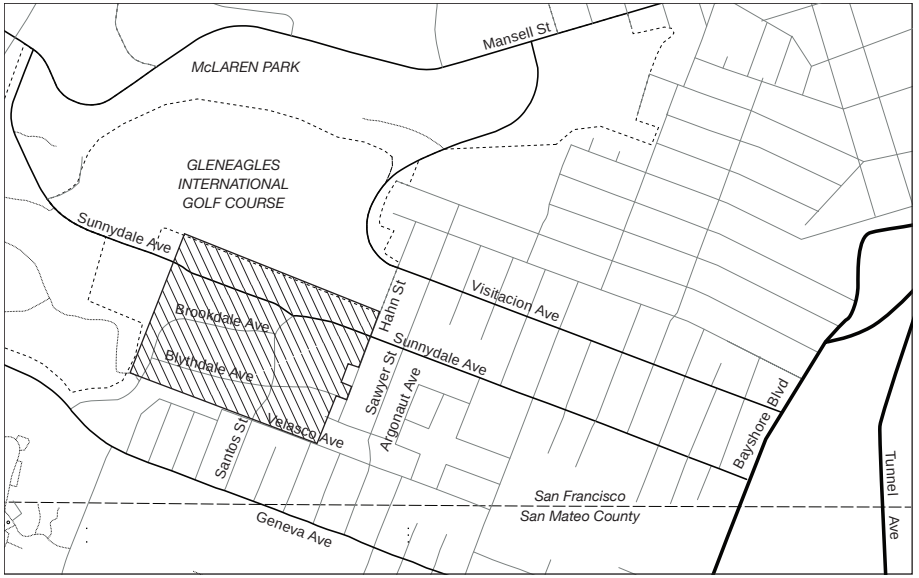
The San Francisco HOPE SF Program, a partnership between the Mayor's Office of Housing and the San Francisco Housing Authority (SFHA), proposes to redevelop the Sunnydale and Velasco Public Housing Developments as a part of its program to revitalize distressed public housing developments in San Francisco. The program—which also includes the Hunters View, Potrero Terrace and Potrero Annex, Westside Courts, and Alice Griffith public housing developments—proposes to rebuild every housing unit, provide homes for current residents, and add new housing at different income levels. HOPE SF plans to redesign these communities with new buildings, streets, parks, and landscaping. Sunnydale Development Co., LLC, comprising co-developers Mercy Housing California and The Related Companies of California, is the developer and project applicant.

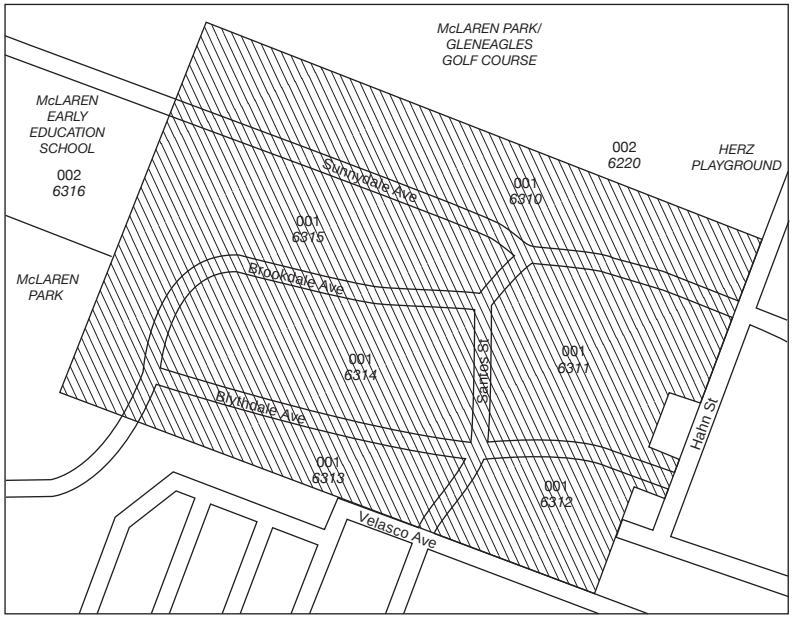
Constructed in 1941 and 1963, respectively, the Sunnydale and Velasco Public Housing Developments together comprise the largest public housing community in the City of San Francisco. The current housing at the project site consists of 785 dwelling units in 94 buildings. The 785 replacement units would remain affordable housing, subsidized by the San Francisco Housing Authority but under management by and the ownership of the project sponsor or related entities. An additional 915 units would comprise 24 percent affordable housing and 76 percent market-rate housing. The project would be built in three major phases.

Project Site

The project site is located in the Visitacion Valley area of San Francisco (see **Figure 1**). The project site, bounded by Hahn Street on the east, Velasco Avenue on the south, and McLaren Park to the north and







0 1000
Feet

Project Site
001 Lot Number
6310 Assessor's Block

0 500
Feet

SOURCE: ESA

2010.0305E: Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 1
Project Location

west, includes Assessor's Blocks 6310-Lot 1, Block 6311-Lot 1, Block 6312-Lot 1, Block 6313-Lot 1, Block 6314-Lot 1, and Block 6315-Lot 1. The site is within the RM-1 Residential, Mixed District, Low Density (one unit per 800 square feet of lot area principally permitted), and 40-X height and bulk district (40-foot-high maximum height, no bulk limits). The 2,127,187-square-foot (approximately 50-acre) project site slopes down from west (Brookdale Avenue) to east (Hahn Street), at slopes ranging from 15.5 percent at its highest and steepest point to a 2-percent slope at the lower elevations. The average grade change is 9 percent. Elevations range from 250 feet at the western edge of the site to 75 feet at the southeastern corner. The topography allows for sweeping views to the south and to the east toward the San Francisco Bay.

Project Setting

The surrounding neighborhood to the south and east is primarily zoned RH-1 (Residential House, one dwelling unit per lot), with one block (6320) zoned RH-2 (Residential House, two dwellings per lot) and several parcels zoned NC-1 (Neighborhood Commercial) to the east on Hahn Street. McLaren Park, to the north and west of the project site, is zoned P (Public Use).

The project site is adjacent to Gleneagles International Golf Course on the north. The golf course is a part of John McLaren Park, which occupies 317 acres and includes Herz Playground, Coffman Pool, and an assortment of playgrounds, athletic fields, tennis and basketball courts, as well as an outdoor amphitheatre, trails, open meadows, a lake and a reservoir.[1] Another open space near the project site is Crocker Amazon Playground, which is to the west of the project site and includes play areas as well as athletic fields, tennis and basketball courts, a skateboard park, community garden and recreation center.[2] The project site is adjacent to residential neighborhoods to the south and east.

The Candlestick Point-Hunters Point Shipyard Phase II Development Plan Project, located about two miles to the east of the project site, is approved for a mix of residential and commercial uses.

The Visitacion Valley Redevelopment Program area includes 46 acres extending on both sides of Bayshore Boulevard roughly between Sunnydale Avenue and Blanken Avenue in the center of the Visitacion Valley neighborhood approximately one mile to the east of the project site. This project includes the reuse of the vacant Schlage Lock property along the east side of Bayshore Boulevard and revitalization of the Leland Avenue commercial corridor.[3] The Visitacion Valley Redevelopment Program envisions a mix of residential and commercial uses in the project area.

The Executive Park Special Use District (SUD) is planned for the approximately 70-acre area between Candlestick Point and Highway 101 to the east of the project site. This new SUD would accommodate a

1 Welcome to McLaren Park. *Features of McLaren Park,* http://www.jennalex.com/projects/fomp/homepage/index.html, accessed July 18, 2010.

2 San Francisco Neighborhood Parks Council. Crocker Amazon Park History, http://www.sfnpc.org/crockeramazonpghistory, accessed July 18, 2010.

3 San Francisco Planning Department. Visitacion Valley Redevelopment Program Draft Environmental Impact Report, June 3, 2008, available online at http://sf-planning.org/ftp/files/mea/2006.1308E_VisValley_DEIR_Pt1.pdf

transition from predominantly office use to mixed use/predominantly residential use with an overall goal to create a vibrant, urban, pedestrian oriented neighborhood characterized by publicly accessible streets.[4]

Project Characteristics

The project sponsor proposes to demolish the existing buildings, including 785 family and senior dwelling units, at the Sunnydale and Velasco public housing complexes in the Visitacion Valley neighborhood, and to build replacement and new housing, new infrastructure, open space and community amenities. Highlights of the plan include:

- Up to 1,700 units of housing, including one-for-one public housing replacement units, affordable rental units and market rate and affordable for-sale units;
- Up to 72,500 square feet of community service, recreational and educational facilities;
- 11.5 acres of new parks and open spaces, including a community garden, a farmer's market pavilion and secure outdoor courtyards within residential buildings;
- 12.2 acres of a new and reconfigured street network potentially including "green" features including bioswales and landscaping; and
- Up to 16,200 square feet of neighborhood-serving retail.

The project sponsor intends to construct the project to LEED® (Leadership in Energy Efficient Design) ND (Neighborhood Development) standards.

Figures 2 through 5 illustrate the proposed project plan. The project sponsor proposes to demolish and replace the existing 94 two-story residential buildings within the Sunnydale and Velasco public housing development with approximately 34 new two- to six-story buildings. The completed project would occupy approximately 2,184,560 square feet of floor area for a net increase of 1,419,668 square feet. The height of the new buildings would range from 40 to 60 feet above ground level with 18 buildings at 40 feet or less in height and 15 buildings at 50 feet in height, and one building at 60 feet in height. Thirty-three of the buildings would contain family dwelling units; the single building at 60 feet in height would contain senior housing and would have some retail and community services on the ground floor. The buildings would be a mix of the following:

- Townhouse/Rowhouse—Attached, multistory, single-family homes (15 to 30 units per acre);
- Stacked Flats—One-story apartments arranged one over the other (25 to 40 units per acre);
- Podium Building—A building with a parking garage below and residences or other uses above (40 to 50 units per acre);
- Corridor Building—An apartment building with units accessed from a central corridor (40 to 60 units per acre);
- Mixed Use—Retail or public use on ground floor with senior housing above (50 to 80 units per acre); and

[4] San Francisco Planning Department. Executive Park: General Plan, Planning Code Text, and Map Amendments and Adoption of Design Guidelines—Executive Summary, Case No. 2006.0422EMTUZ, April 21, 2011.



SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 2
Proposed Project - Building Type Plan



SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 3
Proposed Project - Height Diagram

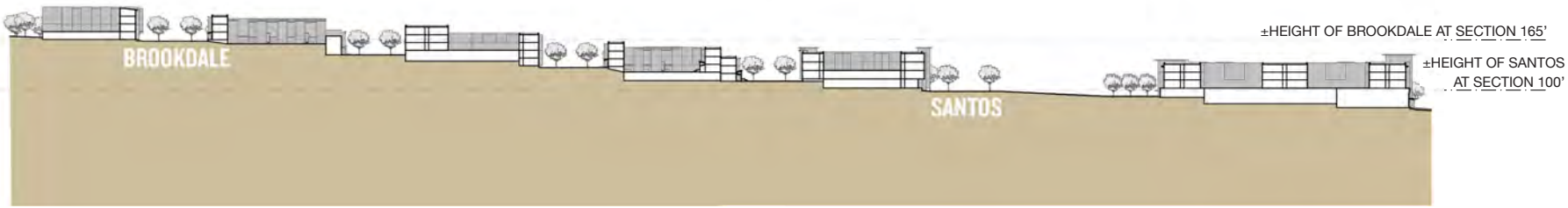


SOURCE: Van Meter Williams Pollack

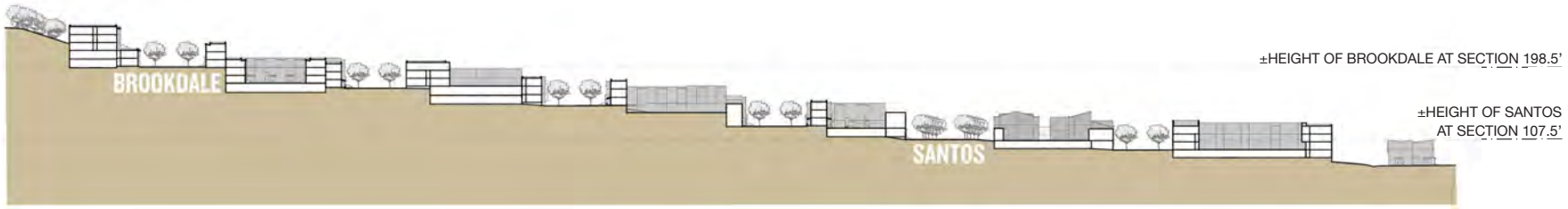
Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 4

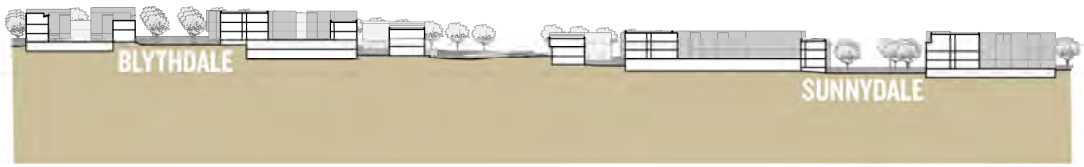
Proposed Project -
New and Reconfigured Streets and Preliminary Parcel Map



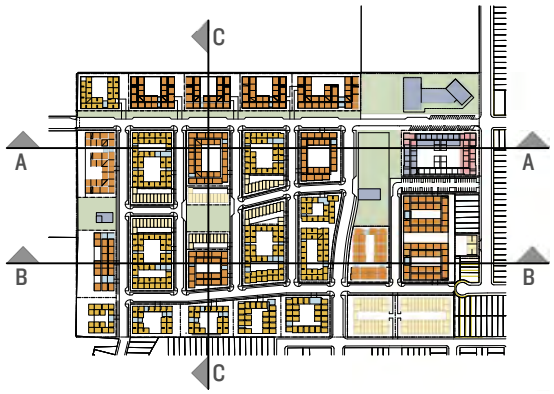
SECTION A



SECTION B



SECTION C



SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 5
Proposed Project -
Elevation Drawing

- Also proposed is up to 72,500 square feet of community-serving space in several locations, including a separate two-story community center, which would house recreational facilities for use by project residents and residents of the neighborhood, with youth and early childhood education programs.

The project sponsor proposes realigning Sunnydale, Brookdale and Blythedale Avenues and Santos Street and adding new cross streets to create a street grid that would improve connectivity and access within the development and to Hahn Street. Brookdale Avenue would be realigned to connect with Sunnydale Avenue; new cross streets would connect Blythedale Avenue to Sunnydale Avenue at three different locations; Blythedale Avenue would be realigned at Hahn Street to connect with Sunrise Way; and a pair of new streets would link Blythedale Avenue and Hahn Street one block north of Sunrise Way (see Figure 2).

The proposed project would increase the number of dwelling units on the site from 785 to approximately 1,700, an increase of some 915 units. Of the new units, 785 would be replacement public housing dwelling units, on a one-for-one basis, that would remain affordable housing, subsidized by the San Francisco Housing Authority but under management by and the ownership of the developers or related entities. Of the additional approximately 915 units, 24 percent (approximately 221 units including 150 senior housing units) would be affordable housing while 76 percent (approximately 694 units) would be market rate housing. In total, 60 percent of the proposed project would be affordable housing while the remaining 40 percent would be set aside as market-rate housing.

The project site currently contains 430 off-street surface parking spaces (0.55 spaces per dwelling unit) and 452 on-street parking spaces. The proposed project would provide approximately 1,437 off-street parking spaces (0.85 spaces per dwelling unit) in underground and at-grade parking garages in mixed-use and residential buildings, and 525 on-street parking spaces.

Table 1 is a summary of existing and proposed development.

The proposed project would include a stormwater management system that would meet the City's Stormwater Management Ordinance requirements for stormwater management. The proposed project would collect, detain and potentially retain some stormwater within the project site such that the rate and amount of stormwater run off from the site does not negatively impact the capacity of the City's treatment facilities. The following features could be included: seasonal waterways and rain gardens (planted depressions that allow rainwater runoff from walkways, parking lots, and roofs, to be absorbed into the ground); bioswales for stormwater retention in the public right of way where grades allow and on private lots; porous concrete pavements used in sidewalks and parking areas of the public right-of-way where grades allow; flexible space for community gatherings and performances; space for a farmer's market; community growing gardens; residential courtyards; playgrounds; and community parks. The project sponsor anticipates that the proposed project would be built to LEED® ND standards and would be designed to include energy saving and sustainability features.

TABLE 1
EXISTING AND PROPOSED DEVELOPMENT

	Existing Uses (to be demolished)	New Construction (Approximate)
Residential	764,892 square feet	2,185,000 square feet
Retail	0	16,000 square feet
Parking	Surface	570,000 structured
Other	29,276 square feet of daycare youth programs and maintenance	72,500 square feet of recreation building, pavilion, and community services
Total Gross Square Footage (GSF)	794,168 GSF	2,843,500 GSF
Dwelling units	785	1,700
Parking spaces	430 off street 452 on street	1,437 off street 525 on street
Number of buildings	94	37
Height of buildings	20-35 feet	40-60 feet
Number of stories	2	2-4

At project buildout, the project site would be configured as follows:

Use	No. of Acres
New and Configured Streets	12.2
Residential and Community Facilities Development Sites	30.0
New Parks	5.6
Sunnydale Avenue Linear Open Space	1.0
Total Site Area	48.8

The project would be built in three major phases. The current residents would be moved to available residences on the project site as each phase is constructed, or they would be given housing vouchers by the Housing Authority for relocation elsewhere during the construction period. The new dwellings would be populated as each phase is completed.

Approvals Required

The project sponsor proposes to apply for a rezoning that would create a Special Use District (SUD) to allow certain non-residential uses such as community services, retail, and recreational and educational facilities that would otherwise not be permitted or require conditional use authorization. The SUD could also memorialize the ability to distribute the allowed density unevenly across the project site (i.e., certain

blocks could develop at higher densities than would be otherwise allowed as long as the density of the entire site is not exceeded) and enable modifications from the strict quantitative requirements of the *Planning Code* to allow for more flexibility in placement of rear yards, setbacks, location and number of parking and loading spaces, among other standards. The rezoning would also include changes to the *Planning Code* height and bulk map for portions of the site to allow buildings up to 60 feet in height.

The project sponsor may also seek approval of a Development Agreement by the Board of Supervisors under Chapter 56 of the *Administrative Code*.

The proposed new street grid would be subject to approval by the San Francisco Fire Department, San Francisco Department of Public Works, and the Sustainable Streets and MUNI Planning Divisions of the San Francisco Municipal Transportation Agency (SFMTA).

The project would require a *General Plan* Referral (Section 2A.53 of the *Administrative Code*) from the Planning Department or Planning Commission.

The project would also require building and demolition permits, which would require review and approval by the Planning Department and Department of Building Inspection (DBI).

The proposed site stormwater management system would require approval from the San Francisco Public Utilities Commission to meet the Stormwater Design Guidelines.

FINDING

This project may have a significant effect on the environment and an Environmental Impact Report is required. This determination is based upon the criteria of the State CEQA Guidelines, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance).

The Environmental Impact Report (EIR) will be prepared as part of a combined Environmental Impact Report / Environmental Impact Statement (EIR / EIS). The federal Department of Housing and Urban Development (HUD) intends to prepare an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA) to satisfy the requirements of federal environmental statutes. HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility to the City and County of San Francisco. HUD has given notice that the City and County of San Francisco Mayor's Office of Housing (MOH), as the Responsible Entity, will prepare a joint EIR / EIS with the San Francisco Planning Department.

PUBLIC SCOPING PROCESS

Pursuant to the State of California Public Resources Code Section 21083.9 and California Environmental Quality Act Guidelines Section 15206, public scoping meetings will be held to receive oral comments concerning the scope of the EIR.

- The first meeting will be held on **Saturday, January 5, 2013, at 10:00 a.m. at the Visitacion Valley Library, 201 Leland Avenue, San Francisco, CA 94134.**

- The second meeting will be held on **Saturday, January 12, 2013, at 10:00 a.m. at the Sunnydale Community Room, 1652 Sunnydale Avenue, San Francisco, CA 94134.**

Written comments will also be accepted at these meetings and until 5:00 p.m. on **Friday, January 18, 2013.** Written comments should be sent to Bill Wycko, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

If you work for a responsible State agency, we need to know the views of your agency regarding the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency.

December 19, 2012
Date

Bill Wycko
Environmental Review Officer

proceed in communicating with the trade community as the agency shifts from the Automated Commercial System (ACS) to ACE as functionality becomes available.

- The work of the One U.S. Government at the Border Subcommittee: Recommendation for addressing a One U.S. Government Approach to Trusted Trader Programs and provide the subcommittee term end report.
- The Intellectual Property Rights Enforcement Subcommittee's work on providing CBP with guidance on new tools to be used in the port of entry to help identify counterfeit products, the distribution chain management and serialization pilot project, and modification to the CBP recordation database of federally registered trademarks, trade names and copyrights.
- The Anti-Dumping/Countervailing Duties Subcommittee's term end report and a discussion on the impact of trade enforcement and trade intelligence initiatives.
- The Bond Subcommittee's work on proposed modifications to the CBP Form 5106 (Importer Identification Input Record), liquidated damages/mitigation guidelines, and the use of single transaction bonds (STBs) when additional security is merited. The Subcommittee will respond to the CBP Deputy Commissioner's request to look into the possibility of issuing bonds prior to the foreign departure of goods that are intended for importation into the United States.
- An update from CBP's Agriculture Programs and Trade Liaison on the July 2012 USDA/Animal Plant Health Inspection Service (APHIS) and CBP Joint Stakeholder Conference.

Prior to the COAC taking action on any of these topics of the eight above-mentioned subcommittees, working groups, and Agriculture Programs and Trade Liaison, members of the public will have an opportunity to provide comments orally or, for comments submitted electronically during the meeting, by reading the comments into the record.

The COAC will also receive term-end reports, updates and discuss the following Initiatives and Subcommittee topics that were discussed throughout the 12th Term meetings as set forth below:

- The National Strategy for Global Supply Chain Security as it relates to an effort to solicit, consolidate, and provide to DHS sector and stakeholder input on implementation of the National Strategy.
- The work of the Land Border Security Subcommittee: updates and observations on the Customs—the 21st Century Border Management Initiative and Beyond the Border initiatives.
- The Air Cargo Security Subcommittee's work on the Air Cargo Advance Screening (ACAS) pilot, and a discussion of the operational involvement of freight forwarders as well as the next steps in drafting a notice of proposed rulemaking.
- The Export Subcommittee's work on where it stands in identifying incentives for U.S. exporters to participate in Customs-Trade Partnership Against Terrorism (C–TPAT)/Authorized Economic Operator (AEO) programs and a review of the subcommittee's scope and goals for the 13th Term COAC.

Dated: November 9, 2012.

Maria Luisa O'Connell,

Senior Advisor for Trade, Office of Trade Relations.

[FR Doc. 2012–27850 Filed 11–15–12; 8:45 am]

BILLING CODE 9111–14–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR–5670–N–01]

Notice of Intent To Prepare an Environmental Impact Statement for the HOPE SF Development at Sunnydale and Velasco Public Housing Developments, San Francisco, CA

AGENCY: Office of the Assistant Secretary for Community Planning and Development, HUD.

ACTION: Notice of Intent to Prepare an EIS and to Conduct Public Scoping Meeting.

SUMMARY: The Department of Housing and Urban Development (HUD) gives notice to the public, agencies, and Indian tribes that the City and County of San Francisco's Mayor's Office of Housing (MOH) as the Responsible Entity in accordance with 24 CFR 58.2, intends to prepare a Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the HOPE SF Development at the Sunnydale and Velasco Public Housing Developments (Sunnydale HOPE SF Master Plan Project). The EIR/EIS will be a joint National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document.

The EIR will satisfy requirements of CEQA (Public Resources Code 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations 15000 et seq.), which require that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. The Proposed Action is subject to NEPA, because funding for the project may include HUD funds from programs subject to regulation by 24 CFR part 58; these include, but are not limited to, Community Development Block Grant (CDBG) funds under Title I of the Housing and Community Development Act of 1974; Home Investment Partnership Program (HOME) grants under Title II of the Cranston-Gonzales National Affordable Housing Act of 1990, as amended; Project Based Section 8 Vouchers under Section 8(o)(13) of the United States Housing Act of 1937; and/or Public Housing operating subsidies for mixed income developments authorized under the U.S. Housing Act of 1937, Section 35. In accordance with specific statutory authority and HUD's regulations at 24 CFR part 58 (Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities), HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility by the City and County of San Francisco. This notice is issued in accordance with the Council on Environmental Quality (CEQ) regulations at 40 CFR parts 1500–1508.

A Draft EIR/EIS will be prepared for the Proposed Action described herein. Comments relating to the Draft EIR/EIS are requested and will be accepted by the contact person listed below. When the Draft EIR/EIS is completed, a notice will be sent to individuals and groups known to have an interest in the Draft EIR/EIS and particularly in the environmental impact issues identified therein. Any person or agency interested in receiving a notice and making comment on the Draft EIR/EIS should contact the person listed below within 30 days of publication of this notice.

This EIS will be a NEPA document intended to satisfy requirements of Federal environmental statutes. In accordance with specific statutory authority and HUD's regulations at 24 CFR part 58 (Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities), HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility by the City and County of San Francisco. The EIR will be a CEQA document intended to satisfy State environmental statutes (Public Resources Code 21000 et seq. and 14 California Code of Regulations 15000 et seq.).

ADDRESSES: All interested agencies, tribes, groups, and persons are invited to submit written comments on the scope of the Draft EIS to the contact person shown below. Comments received will be considered in the preparation and distribution of the Draft EIS. Particularly solicited is information on reports or other environmental studies planned or completed in the project area, major issues that the EIS should consider, recommended mitigation measures, and alternatives to the Proposed Action. Federal agencies having jurisdiction by law, special expertise or other special interest should report their interest and indicate their readiness to aid in the EIS effort as a ''Cooperating Agency.''

FOR FURTHER INFORMATION CONTACT: Eugene Flannery, Environmental Compliance Manager, City and County of San Francisco Mayor's Office of Housing, 1 South Van Ness Avenue, 5th Floor, San Francisco, CA 94103; Phone: (415) 701–5598; Fax (415) 701–5501; email: *eugene.flannery@sfgov.org.* The Environmental Review Record and information regarding the scoping meeting will be posted online at *http://sf-moh.org/index.aspx?page=155.*

SUPPLEMENTARY INFORMATION:

A. Background

The MOH, acting under authority of section 104(g) of the Housing and Community Development Act of 1974 (42 U.S.C. 5304(g)), section 288 of the HOME Investment Partnerships Act (42 U.S.C. 12838), section 26 of the United States Housing Act of 1937 (42 U.S.C. 1437x) and HUD's regulations at 24 CFR part 58, in cooperation with other interested agencies, will prepare an EIS to analyze potential impacts of the Sunnydale HOPE SF Master Plan Project.

Constructed in 1941 and 1963 respectively, the Sunnydale and Velasco Public Housing Developments together form the City's largest public housing community. Located in the Visitacion Valley area of San Francisco, the project site is bounded by Hahn Street to the east, Velasco Avenue to the south, Brookdale Avenue to the west, and McLaren Park to the north and northwest. It includes Assessor's Blocks 6310-Lot 1, Block 6311-Lot 1, Block 6312-Lot 1, Block 6313-Lot 1, Block 6314-Lot 1, and Block 6315-Lot 1. The 2,127,187-square-foot (approximately 50-acre) project site slopes down from west (Brookdale Avenue) to east (Hahn Street), at slopes ranging from 15.5 percent at its highest and steepest point to a 2-percent slope at the lower elevations. The average grade change is 9 percent. Elevations range from 250 feet above sea level (asl) at the western edge of the site to 75 feet asl at the southeastern corner.

The project site is a quarter of a mile north of Geneva Avenue, which is roughly the border between the City of San Francisco and Daly City and also leads to the I–280 freeway to the west. The project site is approximately three-quarters of a mile west of Bayshore Boulevard, which is a main street that connects the neighborhood to U.S. Highway 101 to the east. Single-family residential and small-multifamily residential uses are immediately adjacent to the site to the south and east, and these uses characterize most of the Visitacion Valley neighborhood. The north and west is McLaren Park, which is the City's second largest park at 312 acres. The park's Gleneagles Golf Course and Herz Playground are directly north of the project site. A sloped natural area of McLaren Park with a walking path to the Crocker Amazon Playground abuts the project site to the west. Also to the west is the partially occupied McLaren campus of the San Francisco Unified School District, which currently houses a pre-kindergarten school.

The Sunnydale and Velasco Public Housing Developments consist of 785 residential units and the Willie Brown Community Center (including the Housing Authority's Leasing Center) located in 94 buildings that are one and two stories (20–35 feet) in height. The buildings are laid out according to the site topography, as are the streets; neither follow the grid pattern of the surrounding neighborhood. In between the buildings is open space of grass and unmaintained landscaping with three play areas. A bungalow on Velasco Street is occupied by Wu Yee Children's Services, which operates a child care program for the neighborhood. Several asphalt surface parking lots are located throughout the site and provide 430 off street parking spaces. The streets internal to the project site provide parking for another 452 automobiles. Three bus stops are located within the project site.

The Sunnydale HOPE SF Master Plan (Proposed Action) would replace all 785 units, the current utility and open space infrastructure, re-align the streets and add new community facilities and park spaces. The Proposed Action would consist of the development of up to 1,700 new residential units that are a mix of public housing replacement units, new affordable units and new market rate units in buildings that range from 40–65 feet in height. The Proposed Action would also include up to 6 acres of new park spaces within the project site, up to 72,500 square feet of community facilities including a new community center, neighborhood-serving retail space, and a child care program.

Alternatives to the Proposed Action

There are three alternatives to the Proposed Action to be analyzed in the EIS. Alternative 1 is a variation of the project density. Alternative sites for the project were explored early in the process, and it was determined that no other more viable site was available.

Alternative 1—Reduced Development Alternative

Number of Units: 1,372.
Maximum Height: 65 feet.
Acreage: 48.8 acres (no change).
Percent Reduction in Units Compared to Proposed Action: 19 percent.

Alternative 2—Replacement of Existing Public Housing Units

Number of Units: 785 units.
Acreage: 48.8 acres.
No new Community Center, no retail, no additional open space.
Percent Reduction in Units Compared to Proposed Action: 53 percent.

Alternative 3—No Project Alternative

The No Project Alternative would analyze the ''no action'' alternative, which would be the continuation of uses on the site; therefore, existing buildings and tenants would remain at the project site and no new buildings or uses would be constructed.

B. Need for the EIS

The proposed project may constitute an action significantly affecting the quality of the human environment and an EIS will be prepared on this project by the City and County of San Francisco's MOH in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*). Responses to this notice will be used to: (1) Determine significant environmental issues, (2) identify data that the EIS should address, and (3) identify agencies and other parties that will participate in the EIS process and the basis for their involvement.

C. Scoping

A public joint EIR/EIS scoping meeting will be held on a date within the comment period and after at least 15 days of publishing this Notice of Intent. Notices of the scoping meeting will be mailed when the date has been determined. The joint EIR/EIS scoping meeting will provide an opportunity for the public to learn more about the project and provide input to the

environmental process. At the meeting, the public will be able to view graphics illustrating preliminary planning work and talk with MOH staff, and members of the consultant team providing technical analysis to the project. Translators will be available. Written comments and testimony concerning the scope of the joint EIR/EIS will be accepted at this meeting. In accordance with 40 CFR 1501.7 affected Federal, State, and local agencies, any affected Indian tribe, and other interested parties will be sent a scoping notice. Owners and occupants within a 300-foot radius will also be notified of the scoping process. In accordance with 24 CFR 58.59, the scoping hearing will be preceded by a notice of public hearing published in the local news media 15 days before the hearing date.

D. Probable Environmental Effects

The following subject areas will be analyzed in the combined EIR/EIS for probable environmental effects: Land Use and Planning (land use patterns, relationship to plans/policies and regulations; Visual Quality/Aesthetics (views/light and glare); Socioeconomics and Community (demographic character changes, displacement); Environmental Justice (disproportionately high and adverse effects on minority and low income populations); Cultural/Historic Resources; Transportation and Circulation; Noise (construction and operational); Air Quality (construction and operational); Greenhouse Gas Emissions; Wind and Shadow; Recreation; Utilities and Service Systems (water supply, stormwater, sewer, solid waste); Public Services (fire, police, schools, parks); Biological Resources; Geology/Soils; Hydrology/Water Quality (erosion control and drainage); Toxic and Hazardous Materials; Mineral and Energy Resources; and Agriculture and Forest Resources.

Questions may be directed to the individual named in this notice under the heading **FOR FURTHER INFORMATION CONTACT**.

Dated: November 8, 2012.

Mark Johnston,

Assistant Secretary for Community Planning and Development (Acting).

[FR Doc. 2012–27985 Filed 11–15–12; 8:45 am]

BILLING CODE 4210–67–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR–5601–N–45]

Federal Property Suitable as Facilities To Assist the Homeless

AGENCY: Office of the Assistant Secretary for Community Planning and Development, HUD.

ACTION: Notice.

SUMMARY: This Notice identifies unutilized, underutilized, excess, and surplus Federal property reviewed by HUD for suitability for use to assist the homeless.

FOR FURTHER INFORMATION CONTACT: Juanita Perry, Department of Housing and Urban Development, 451 Seventh Street SW., Room 7266, Washington, DC 20410; telephone (202) 402–3970; TTY number for the hearing- and speech-impaired (202) 708–2565 (these telephone numbers are not toll-free), or call the toll-free Title V information line at 800–927–7588.

SUPPLEMENTARY INFORMATION: In accordance with 24 CFR part 581 and section 501 of the Stewart B. McKinney Homeless Assistance Act (42 U.S.C. 11411), as amended, HUD is publishing this Notice to identify Federal buildings and other real property that HUD has reviewed for suitability for use to assist the homeless. The properties were reviewed using information provided to HUD by Federal landholding agencies regarding unutilized and underutilized buildings and real property controlled by such agencies or by GSA regarding its inventory of excess or surplus Federal property. This Notice is also published in order to comply with the December 12, 1988 Court Order in *National Coalition for the Homeless* v. *Veterans Administration,* No. 88–2503–OG (D.D.C.).

Properties reviewed are listed in this Notice according to the following categories: Suitable/available, suitable/unavailable, suitable/to be excess, and unsuitable. The properties listed in the three suitable categories have been reviewed by the landholding agencies, and each agency has transmitted to HUD: (1) Its intention to make the property available for use to assist the homeless, (2) its intention to declare the property excess to the agency's needs, or (3) a statement of the reasons that the property cannot be declared excess or made available for use as facilities to assist the homeless.

Properties listed as suitable/available will be available exclusively for homeless use for a period of 60 days from the date of this Notice. Where property is described as for ''off-site use only'' recipients of the property will be required to relocate the building to their own site at their own expense. Homeless assistance providers interested in any such property should send a written expression of interest to HHS, addressed to Theresa Ritta, Division of Property Management, Program Support Center, HHS, room 5B–17, 5600 Fishers Lane, Rockville, MD 20857; (301) 443–2265. (This is not a toll-free number.) HHS will mail to the interested provider an application packet, which will include instructions for completing the application. In order to maximize the opportunity to utilize a suitable property, providers should submit their written expressions of interest as soon as possible. For complete details concerning the processing of applications, the reader is encouraged to refer to the interim rule governing this program, 24 CFR part 581.

For properties listed as suitable/to be excess, that property may, if subsequently accepted as excess by GSA, be made available for use by the homeless in accordance with applicable law, subject to screening for other Federal use. At the appropriate time, HUD will publish the property in a Notice showing it as either suitable/available or suitable/unavailable.

For properties listed as suitable/unavailable, the landholding agency has decided that the property cannot be declared excess or made available for use to assist the homeless, and the property will not be available.

Properties listed as unsuitable will not be made available for any other purpose for 20 days from the date of this Notice. Homeless assistance providers interested in a review by HUD of the determination of unsuitability should call the toll free information line at 1–800–927–7588 for detailed instructions or write a letter to Ann Marie Oliva at the address listed at the beginning of this Notice. Included in the request for review should be the property address (including zip code), the date of publication in the **Federal Register**, the landholding agency, and the property number.

For more information regarding particular properties identified in this Notice (i.e., acreage, floor plan, existing sanitary facilities, exact street address), providers should contact the appropriate landholding agencies at the following addresses: AIR FORCE: Mr. Robert Moore, Air Force Real Property Agency, 143 Billy Mitchell Blvd., San Antonio, TX 78226, (210) 925–3047; GSA: Mr. Flavio Peres, General Services Administration, Office of Real Property

CHANGE IN DATE OF CLOSE OF COMMENT PERIOD

Please be advised that close of the comment period specified in the Notice of Intent To Prepare an Environmental Impact Statement for the HOPE SF Development at Sunnydale and Velasco Public Housing Developments, San Francisco, CA published in the Federal Register on November 16, 2012 has been extended until January 18, 2013.

AGENCY: Mayor's Office of Housing, City and County of San Francisco.

ACTION: Extension of Comment Period for Notice of Intent To Prepare a Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the HOPE SF Development at Sunnydale and Velasco Public Housing Developments, San Francisco, CA.

SUMMARY: The City and County of San Francisco gives notice to the public that the Mayor's Office of Housing (MOH) as the Federal Responsible Entity acting under authority of section 104(g) of the Housing and Community Development Act of 1974 (42 U.S.C. 5304(g)), section 288 of the HOME Investment Partnerships Act (42 U.S.C. 12838), section 26 of the United States Housing Act of 1937 (42 U.S.C. 1437x) and HUD's regulations at 24 CFR part 58, intends to prepare a Draft Environmental Impact Report/Environmental Impact Statement for the HOPE SF Development at the Sunnydale and Velasco Public Housing Developments (Sunnydale-Velasco HOPE SF Master Plan Project). The EIR/EIS will be a joint National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document.

The Proposed Action is the approval by HUD of funding and development agreements associated with redevelopment of the Project Site with affordable housing. This notice is in accordance with regulations of the Council on Environmental Quality at 40 CFR parts 1500 – 1508.

All interested agencies, tribes, groups, and persons are invited to submit written comments on the scope of the EIR/EIS to the contact person shown below. Comments received will be considered in the preparation and distribution of the EIR/EIS. Particularly solicited is information on reports or other environmental studies planned or completed in the project area, major issues that the EIR/EIS should consider, recommended mitigation measures, and alternatives to the Proposed Action. Federal agencies having jurisdiction by law, special expertise or other special interest should report their interest and indicate their readiness to aid in the EIR/EIS effort as a ‘‘Cooperating Agency.’’

Dates: Comments relating to the scope of the EIR/EIS are requested and will be accepted by the contact person listed below until January 18, 2013.

Pursuant to the Council on Environmental Quality Regulations, public scoping meetings will be held to receive oral comments concerning the scope of the EIR/EIS.

- The first meeting will be held on Saturday, January 5, 2013, at 10:00 a.m. at the Visitacion Valley Library, 201 Leland Avenue, San Francisco, CA 94134.

- The second meeting will be held on Saturday, January 12, 2013, at 10:00 a.m. at the Sunnydale Community Room, 1652 Sunnydale Avenue, San Francisco, CA 94134.

Written comments will also be accepted at these meetings and until 5:00 p.m. on Friday, January 18, 2013.

For Further Information: Eugene T. Flannery, Environmental Compliance Manager, Mayor's Office of Housing, 1 South Van Ness Avenue, 5th Floor, San Francisco, CA 94103, 415-701-5598; fax 415-701-5501; Eugene.flannery@sfgov.org. The NOI and this Notice of Extension are available for viewing on the Mayor's Office of Housing website at: http://sf-moh.org/index.aspx?page=155.

SUNNYDALE-VELASCO HOPE SF MASTER PLAN EIR/EIS

Scoping Report

Prepared for the
City and County of San Francisco
Mayor's Office of Housing

March 2013

ESA

SUNNYDALE-VELASCO HOPE SF MASTER PLAN EIR/EIS

Scoping Report

Prepared for
City and County of San Francisco
Mayor's Office of Housing

March 2013

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1. INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA) of 1969, as amended, and Title 24 Part 58 of the Code of Federal Regulations (CFR), as amended, the San Francisco HOPE SF Program, a partnership between the Mayor's Office of Housing (MOH) and the San Francisco Housing Authority (SFHA), intends to prepare an Environmental Impact Report (EIR) / Environmental Impact Statement (EIS) that will analyze the effects of the proposed Sunnydale-Velasco Public HOPE SF Master Plan Project on the human environment. MOH has been designated as the Responsible Entity by the U.S. Department of Housing and Urban Development (HUD), pursuant to 24 CFR Part 58, for assumption of HUD's NEPA authority and lead agency responsibility, while the San Francisco Planning Department serves as the lead agency for purposes of the California Environmental Quality Act (CEQA).

The Sunnydale-Velasco Hope SF Master Plan would include redevelopment for public housing. Funding for the project may include United States Department of Housing and Urban development (HUD) funds including, but are not limited to, Community Development Block Grant (CDBG) funds under Title I of the Housing and Community Development Act of 1974 and Home Investment Partnership Program (HOME) grants under Title II of the Cranston-Gonzales National Affordable Housing Act of 1990 as amended, Project Based Section 8 Vouchers under the United States Housing Act of 1937, Section 8(o)(13) and Public Housing operating subsidies for mixed income developments authorized under the U.S. Housing Act of 1937, Section 35.

This scoping report presents an overview of the scoping process, a description of the Proposed Action and plan alternatives, a summary of the issues raised during scoping and a discussion of how these issues will be addressed in the EIR/EIS.

1.1 Scoping

Notice of Intent

The NEPA scoping period for the Sunnydale-Velasco Hope SF Master Plan Project commenced when HUD published a Notice of Intent (NOI) in the Federal Register, Vol. 77, No. 222 on November 16, 2012, to inform agencies and the general public that a Draft EIR/EIS would be prepared by the City and County of San Francisco, as the Responsible Entity in accordance with 24 CFR Part 58.2. The NOI also solicited comments concerning the Draft EIR/EIS. On December

13, 2012, MOH mailed a Change in Date of Close of Comment Period Notice to applicable agencies. This notice extended the comment period to January 18, 2013. The NOI and Change in Date of Close of Comment Period Notice are included in **Appendix A** of this document.

Within the NOI, HUD identified the following environmental elements for analysis in the EIS:

- Land Use and Planning (Land use patterns, relationship to plans/polices and regulations)
- Visual Quality/Aesthetics (views/light and glare)
- Socioeconomics and Community (demographic character changes displacement)
- Environmental Justice (disportionately high and adverse effects on minority and low income populations)
- Cultural/Historical Resources
- Transportation and Circulation
- Noise (construction and operational)
- Air Quality (construction and operational)
- Greenhouse Gas Emissions
- Wind and Shadow
- Recreation
- Utilities and Service Systems (water supply, stormwater, sewer, solid waste)
- Public Services (fire, police, schools, parks)
- Biological Resources
- Geology/Soils
- Hydrology/Water Quality (erosion control and drainage)
- Hazardous and Hazardous Materials
- Mineral And Energy Resources and
- Agriculture and Forest Resources

This is in addition to the analysis of various statutory and regulatory elements mandated by the HUD regulations at 24 CFR Part 58.

Notice of Preparation

The San Francisco Planning Department published a Notice of Preparation (NOP) for an EIR/EIS and Public Scoping Meetings on December 19, 2012 with the State Clearinghouse (SCH# 2012122040), to inform agencies and the general public that the Draft EIR/EIS would be prepared based upon the criteria of the State CEQA Guidelines, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance). This notice was sent to applicable agencies and organizations, tenants of the project site, and addresses within a 300-foot radius of the project site. The NOP is included in **Appendix A** of this document.

Scoping Meetings

Pursuant to the State of California Public Resources Code Section 21083.9 and CEQA Guidelines Section 15206, two public scoping meetings were held to receive oral comments concerning the scope of the EIR/EIS. The first meeting was held on January 5, 2013, at Visitacion Valley Branch Library at 201 Leland Avenue, San Francisco, CA. The second meeting was held on Saturday, January 12, 2013, at the Sunnydale Community Room, 1654 Sunnydale Avenue, San Francisco, CA. The meetings were attended by neighborhood residents, groups, and interested parties. A PowerPoint presentation was made to provide attendees with information regarding the purpose of "scoping" and other information, including a brief overview of the Proposed Project, a summary of the NEPA and CEQA processes, and a discussion of responsible entities.

Following the PowerPoint presentation, a formal public hearing took place in which attendees that completed speaker cards were given the opportunity to comment on the scope of the EIR/EIS. Public comments received at the hearing are summarized in Section 2 of this document. Copies of the meeting materials and a transcript for each of the two meetings and public comments are included in **Appendix B** of this document. Following the close of the public hearing, there was an informal question and answer period.

Written Public Comments

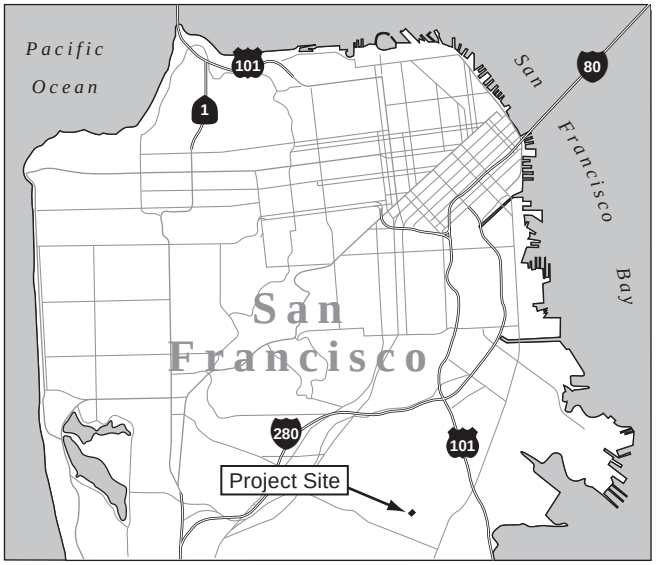
During the scoping period, which ended on January 18, 2013, MOH received four written scoping comments, including e-mails. These comments are summarized in Section 2 and are reproduced in **Appendix C** of this document.

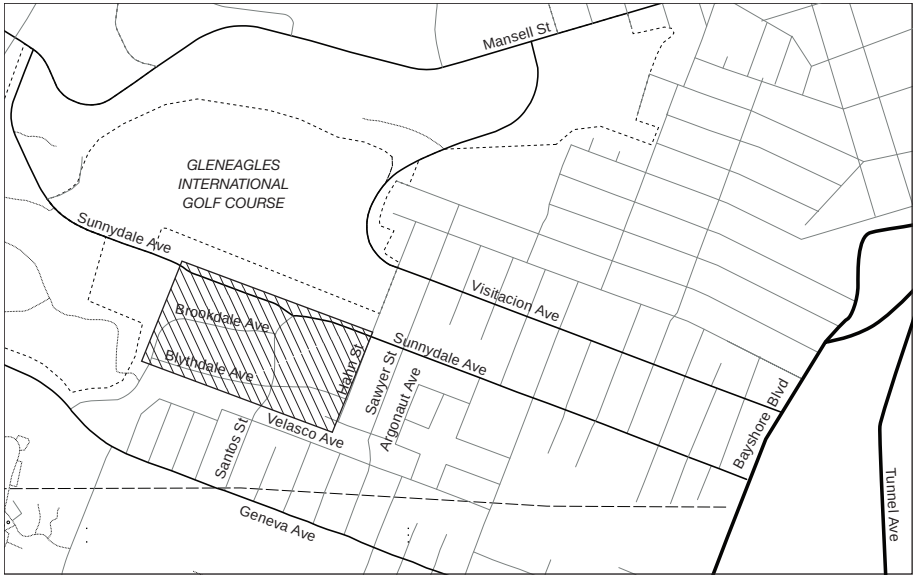
1.2 Proposed Action and Alternatives

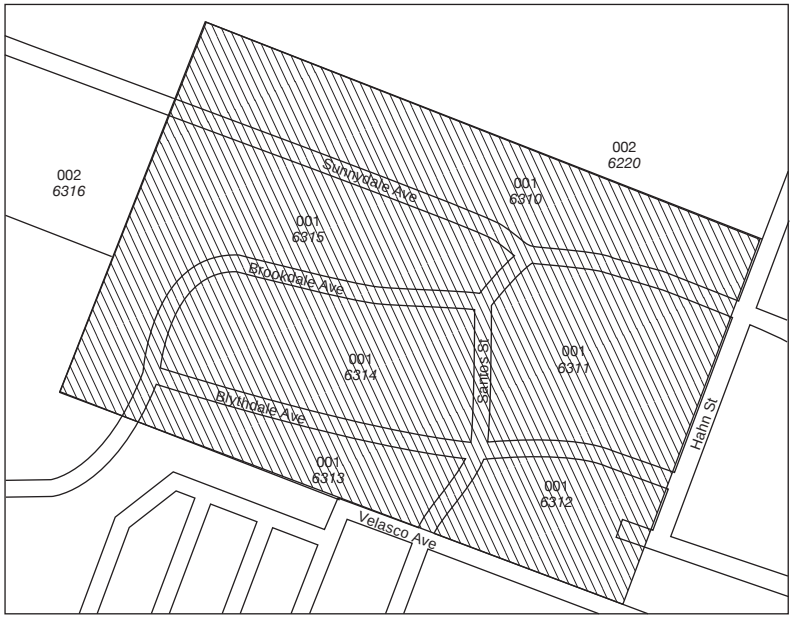
Project Location

Constructed in 1941 and 1963 respectively, the Sunnydale and Velasco Public Housing Developments together form the City's largest public housing community. Located in the Visitacion Valley area of San Francisco (see **Figure 1**), the project site is bounded by Hahn Street to the east, Velasco Avenue to the south, Brookdale Avenue to the west, and McLaren Park to the north and northwest. It includes Assessor's Blocks 6310-Lot 1, Block 6311-Lot 1, Block 6312-Lot 1, Block 6313-Lot 1, Block 6314-Lot 1, and Block 6315-Lot 1. The 2,127,187-square-foot (approximately 50-acre) project site slopes down from west (Brookdale Avenue) to east (Hahn Street), at slopes ranging from 15.5 percent at its highest and steepest point to a 2-percent slope at the lower elevations. The average grade change is 9 percent. Elevations range from 250 feet above sea level (asl) at the western edge of the site to 75 feet asl at the southeastern corner.

The project site is a quarter of a mile north of Geneva Avenue, which is roughly the border between the City of San Francisco and Daly City and also leads to the I-280 freeway to the west. The project site is approximately three-quarters of a mile west of Bayshore Boulevard, which is a







SOURCE: ESA

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 1
Project Location

main street that connects the neighborhood to U.S. Highway 101 to the east. Single-family residential and small-multifamily residential uses are immediately adjacent to the site to the south and east, and these uses characterize most of the Visitacion Valley neighborhood. The north and west is McLaren Park, which is the City's second largest park at 312 acres. The park's Gleneagles Golf Course and Herz Playground are directly north of the project site. A sloped natural area of McLaren Park with a walking path to the Crocker Amazon Playground abuts the project site to the west. Also to the west is the partially occupied McLaren campus of the San Francisco Unified School District, which currently houses a pre-kindergarten school.

The Sunnydale and Velasco Public Housing Developments consist of 785 residential units and the Willie Brown Community Center (including the Housing Authority's Leasing Center) located in 94 buildings that are one and two stories (20–35 feet) in height. The buildings are laid out according to the site topography, as are the streets; neither follow the grid pattern of the surrounding neighborhood. In between the buildings is open space of grass and unmaintained landscaping with three play areas. A bungalow on Velasco Street is occupied by Wu Yee Children's Services, which operates a child care program for the neighborhood. Several asphalt surface parking lots are located throughout the site and provide 430 off street parking spaces. The streets internal to the project site provide parking for another 452 automobiles. Three bus stops are located within the project site.

Proposed Action

The project sponsor proposes to demolish the existing buildings, including 785 family and senior dwelling units, at the Sunnydale and Velasco public housing complexes, and to build replacement and new housing, new infrastructure, open space and community amenities. Highlights of the plan include:

- Up to 1,700 units of housing, including one-for-one public housing replacement units, affordable rental units and market rate and affordable for-sale units;
- Up to 72,500 square feet of community service, recreational and educational facilities;
- 11.5 acres of new parks and open spaces, including a community garden, a farmer's market pavilion and secure outdoor courtyards within residential buildings;
- 12.2 acres of a new and reconfigured street network potentially including "green" features including bioswales and landscaping; and
- Up to 16,200 square feet of neighborhood-serving retail.

The project sponsor intends to construct the project to LEED (Leadership in Energy Efficient Design) ND (Neighborhood Development) standards.

Figures 2 through 5 illustrate the Proposed Project plan. The project sponsor proposes to demolish and replace the existing 94 two-story residential buildings within the Sunnydale and Velasco public housing development with approximately 34 new two- to six-story buildings. The



SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 2
Proposed Project - Building Type Plan



SOURCE: Van Meter Williams Pollack

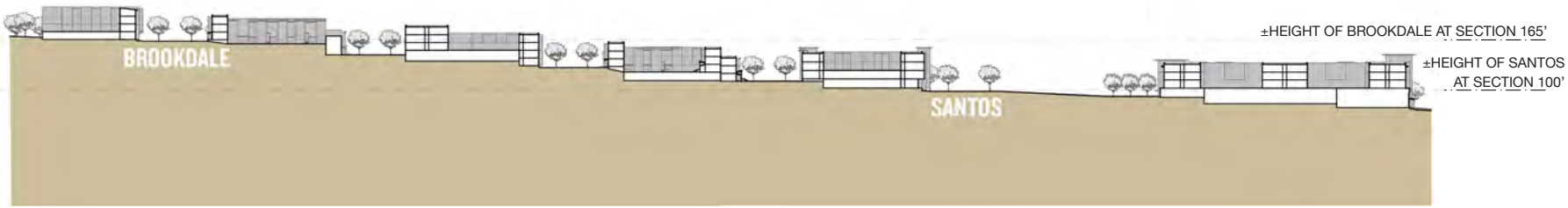
Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 3
Proposed Project - Height Diagram



SOURCE: Van Meter Williams Pollack

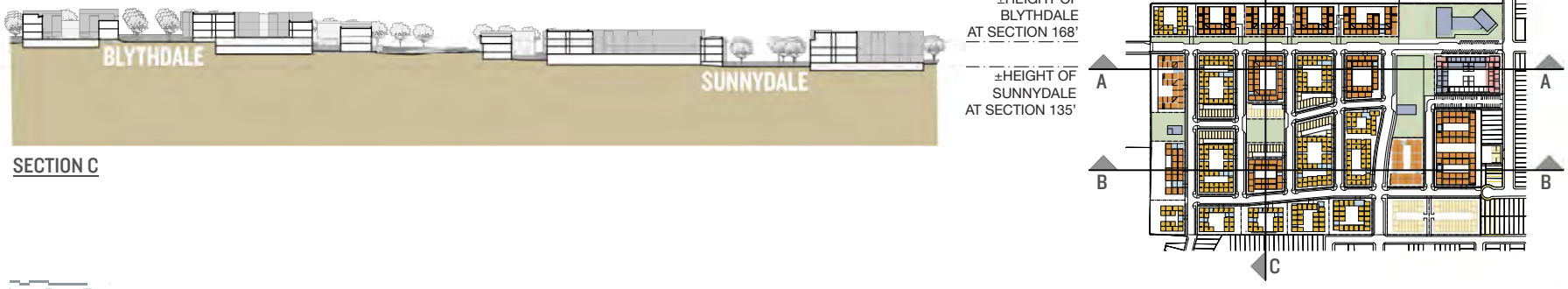
Figure 4
Proposed Project -
New and Reconfigured Streets and Preliminary Parcel Map



SECTION A



SECTION B



SECTION C

SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 5
Proposed Project -
Elevation Drawing

completed project would occupy approximately 2,184,560 square feet of floor area for a net increase of 1,419,668 square feet. The height of the new buildings would range from 40 to 60 feet above ground level with 18 buildings at 40 feet or less in height, 15 buildings at 50 feet in height, and one building at 60 feet in height. Thirty-three of the buildings would contain family dwelling units; the single building at 60 feet in height would contain senior housing and would have some retail and community services on the ground floor. The buildings would be a mix of the following:

- Townhouse/Rowhouse—Attached, multistory, single-family homes (15 to 30 units per acre);
- Stacked Flats—One-story apartments arranged one over the other (25 to 40 units per acre);
- Podium Building—A building with a parking garage below and residences or other uses above (40 to 50 units per acre);
- Corridor Building—An apartment building with units accessed from a central corridor (40 to 60 units per acre);
- Mixed Use—Retail or public use on ground floor with senior housing above (50 to 80 units per acre); and
- Also proposed is up to 72,500 square feet of community-serving space in several locations, including a separate two-story community center, which would house recreational facilities for use by project residents and residents of the neighborhood, with youth and early childhood education programs.

Alternatives

In accordance with NEPA (USC Title 42 Section 4321 et seq.) and CEQA Guidelines Section 15126.6(a), the alternatives to the Proposed Project to be analyzed in the EIR/EIS are as follows:

Alternative 1 – Reduced Development / Density Alternative

Under the Reduced Development / Density Alternative, the existing 94 two-story residential buildings at the project site would be demolished. Up to 1,372 units of housing would be constructed in 37 new buildings. There would be 852 affordable units. This total would include the 785 one-for-one public housing replacement units subsidized by SFHA but under management by and the ownership of the developers or related entities. It would also include 67 affordable rental units. This alternative would also provide 520 market-rate units.

Alternative 2 – Replacement of Existing Public Housing Units

Under this alternative, the existing 94 two-story residential buildings at the Sunnydale and Velasco public housing complexes would be replaced in their same locations. The site plan and building locations and layouts would not change. The new buildings would be designed to accommodate the 785 family and senior dwelling units that are present under existing conditions. These 785 units would remain affordable housing, subsidized by SFHA but under management

by and the ownership of the developers or related entities. As under the Proposed Project, the One-for-One Replacement Alternative would be built in three phases.

Alternative 3 – No Project / No Action Alternative

In accordance with NEPA (24 CFR 1502.14(d)), Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities (24 CFR 58.40(e)) and CEQA Guidelines (Section 15126.6(e)), MOH and Planning are required to examine a No Action Alternative, which analyzes what would be reasonably expected to occur in the foreseeable future if the project were not approved.

Under the No Action Alternative, the existing Sunnydale and Velasco Housing complexes would not be improved. The existing 94 buildings and 785 units would remain in their current conditions. All roadways within and through the project site would retain their current configuration, and no new community buildings, parks, open spaces, or other buildings or infrastructure would be built or renovated. The site would continue to be operated by SFHA, and existing tenants would not be temporarily relocated within the site because there would be no new construction.

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2. SCOPING COMMENTS

Comments received during the scoping period, which ended on January 18, 2013, including comments received at the January 5, 2013 and January 12, 2013 public hearings, are summarized below. They are categorized according to the HUD's NEPA EIS requirements. The list of commenters is provided in **Table 1**. Attachments to comment letters that did not directly comment on the current proposed project are included with comment letters in Appendix C, but they are not summarized below.

TABLE 1
COMMENTERS

Commenter	Group or Agency	Date	Delivery Method
Alm, Erik	Caltrans	January 8, 2013	Mail
Barnett, Chris		January 12, 2013	Public Scoping hearing
Borden, Tom	SF Urban Riders	January 12, 2013	Public Scoping hearing
Bradley, Michelle		January 12, 2013	Public Scoping Meeting Comment Card
Cowan, Robert		January 5, 2013	Public Scoping hearing
Deng, Jenny		January 12, 2013	Public Scoping hearing
Garduno, Clara		January 5, 2013	Public Scoping hearing
Grayson, Romonica	Sunnydale Tenants Association	January 12, 2013	Public Scoping hearing
Hill, Jeanette		January 12, 2013	Public Scoping hearing
Hodges, Anthony		January 12, 2013	Public Scoping hearing
Huizhen, Huang		January 12, 2013	Public Scoping hearing
Jones, Larry	Mercy Housing	January 12, 2013	Public Scoping hearing
Jones, Simme		January 5, 2013	Public Scoping hearing
Maggin, Elena		January 10, 2013	E-mail
Martin, Fran	Visitacion Valley Planning Alliance	January 5, 2013	Public Scoping hearing
Martin, Fran	Visitacion Valley Planning Alliance	January 12, 2013	Public Scoping hearing
Martin, Fran	Visitacion Valley Planning Alliance	January 18, 2013	E-mail
McGary, Ken	Save McLaren Park	January 12, 2013	Public Scoping hearing
Moors, Esau		January 12, 2013	Public Scoping hearing
Smith, Ruby		January 5, 2013	Public Scoping hearing
Smith, Ruby		January 12, 2013	Public Scoping hearing
Torres, Bridgette		January 5, 2013	Public Scoping hearing
Winterstein, Maggie		January 5, 2013	Public Scoping hearing

2.1 General Comments, Summary Comments, and Opinions

Comments

- The commenter states that the community garden will need tall fences and a pathway, similar to the Greenway Project, and that it would be beneficial to extend the greenway along Blythedale Avenue to the central public open space park and community garden. The commenter states that the orchard of Loquat tress is not what was envisioned by the community, but rather a variety of fruit trees was envisioned. The commenter also states that the community garden should be planned as mixed use, to include a bike area and space for Sunnydale Visitacion Valley residents (Fran Martin).

- The commenter states that her attendance at the scoping meeting is for the purpose of representing the senior and disabled communities, in addition to representing the Samoan community at the request of the Episcopal Church (Ruby Smith).

- The commenter states support for the project because of increased opportunities for the residents of Sunnydale. The commenter states that the project will take time but that people will not be displaced, and asks that residents involve neighbors, family members and friends in the process (Fran Martin).

- The commenter states that there is a problem with cockroaches within the current facilities and asks what might be done to ensure that residents do not transport insects into the new facilities (Bridgette Torres).

- The commenter asks what part residents have had in the planning and development of the project, including floor prints, and states concern about the safety of the building design (Romonica Grayson).

- The commenter states support for the project generally, but states that the Proposed Project would reduce the size of her front yard and asks that this be addressed (Jenny Deng).

- The commenter states support of the project's intentions and asks for clear communication regarding how residents will be affected (Chris Barnett).

- The commenter states support of the project and asks how the project will impact current residents (Jeanette Hill).

- The commenter states that safety is important and that the best interest of children and the community should be considered during the planning process (Maggie Winterstein).

- The commenter expresses concern about security within the project area (Huang Huizhen).

- The commenter asks what measures will the city and other organizations take to prevent the spread of cockroaches and other rodents during construction and after project completion (Elena Maggin).

- The commenter states that Sunnydale Creek may run beneath the surface along or near Sunnydale Avenue, and states that special measures must be taken to ensure that it will not cause a dangerous situation in the future (Fran Martin).

EIR/EIS Recommendations

The EIR/EIS will be prepared in accordance with both HUD NEPA requirements and San Francisco Planning Department (Planning) CEQA requirements. This includes a required Statement of Purpose and Need for the proposed action (40 CFR Part 1502.13). Additionally, the EIR/EIS will include a table of contents that directs readers to the location of various discussions regarding the potential affected environment and environmental consequences.

2.2 Scoping

Comments

- The commenter states that scoping meetings are for all residents in Visitacion Valley and Sunnydale residents (Fran Martin).

- The commenter asks if the two scoping meetings will be the same, and requests that a Samoan translator be present at the second meeting. The commenter states that the Samoan Community in Sunnydale should have representation during the review process in order to help relate and explain the process (Maggie Winterstein).

- The commenter expresses support of the project and speaks to the importance of Sunnydale residents attending meetings, seeking information regarding the project, and passing it onto neighbors and family (Larry Jones).

EIR/EIS Recommendations

Pursuant to both HUD NEPA requirements and Planning CEQA requirements, the EIR/EIS will address comments received in writing during the scoping period and made at public hearings.

2.3 Project Description

Comments

- The commenter asks for clarification on how many dwelling units will be provided by the Proposed Project with clarification between numbers of affordable housing units and market rate units (Robert Cowan).

- The commenter states support of the placement of the senior facilities, and asks for information regarding which units will be market-rate and which units will be low-income housing (Ruby Smith).

EIR/EIS Recommendations

Pursuant to both HUD NEPA requirements and Planning CEQA requirements, the EIR/EIS will include a Project Alternatives (EIS) / Project Description (EIR) section that describes the proposal and includes a site plan and uses, in addition to an evaluation of a reasonable range of alternatives.

2.4 Visual Quality / Aesthetics

Comments

- The commenter states that the connectivity between the existing neighborhood and Proposed Project should be considered during the planning process, so that green spaces and architecture features of the Proposed Project will incorporate well with the existing setting (Jeanette Hill).

EIR/EIS Recommendations

The EIR/EIS will generally describe the Proposed Project's effects on visual character and aesthetics, per the HUD NEPA and Planning CEQA requirements.

2.5 Socioeconomics / Population & Housing

Comments

- The commenter asks whether all residents of the Sunnydale Community will have a place to live at the same price upon project completion, and if SFHA will still own the replacement housing. (Bridgette Torres).

- The commenter asks for clarification regarding where residents will be placed during construction, whether construction will happen in phases, and if services will be provided to help residents move their belongings (Bridgette Torres).

- The commenter requests clarification on how construction of the Proposed Project will affect current residents before, during and after construction, and what the next steps will be for residents. The commenter states that his mother received a letter offering residency in Hunters Point through Section 8, and wants to know if she will be able to return upon project completion (Anthony Hodges).

- The commenter asks for details on when the construction will happen and where current residents will be relocated during construction. The commenter also asks if the Proposed Project will make the area a safe environment afterwards (Michelle Bradley).

- The commenter asks where current residents will go once construction begins (Esau Moors).

- The commenter expresses concern that residents will be displaced and unable to return (Ruby Smith).

- The commenter asks where residents will live during construction (Bridgette Torres).

EIR/EIS Recommendations

The EIR/EIS will describe the Proposed Project's effects on demographic character, per the HUD NEPA requirements and the Planning CEQA requirements.

2.6 Community Facilities, Services, and Recreation

Comments

- The commenter states that the Proposed Project should includes aspects that have a dual purpose, with services for Visitacion Valley residents, in order to address the needs of the community in a cohesive and all-inclusive manner (Clara Garduno).

- The commenter states that public facilities such as the Community Center, The Boys & Girls Club and parks need to be available and safe, particularly for children, from violence and gang activity. The commenter states that there is no funding for gang prevention. The commenter also states that mental health services are needed in Sunnydale (Ruby Smith).

- The commenter states that there are no senior facilities or opportunities for the senior population to be involved within the community. The commenter states that activities provided at Mercy Housing are not open to non-residents, and requests that the needs of seniors be addressed in the EIR/EIS (Simmie Jones).

- The commenter asks if services (i.e. police) in the project area would accommodate the bilingual needs of the large Chinese population (Huang Huizhen).

- The commenter states interest in the project's effect on the natural areas of McLaren Park. The commenter states that the environmental review of the Proposed Project should coincide with Proposition B's efforts to improve the park, and consider providing access to the golf course on the Sunnydale side of town (Ken McGary).

- The commenter states appreciation of the Proposed Project's open space component, as well as the integrated environmental features, and adds that the way to lift the community's social capital is through promotion of Sunnydale's open space and natural resources (Chris Barnett).

EIR/EIS Recommendations

The EIR/EIS will describe the Proposed Project's effects on community facilities and services, per the HUD NEPA requirements and Planning CEQA requirements. Effects on educational facilities, commercial facilities, health care, social services, solid waste, wastewater, storm water, water supply, public safety, emergency medical service, open space and recreation, and transportation would be analyzed.

2.7 Transportation and Circulation

Comments

- The commenter states that the community has a problem with traffic and limited parking, and that the area's short streets do not provide adequate parking space for households with multiple vehicles. The commenter also states that buses, meters, and the proximity to the T-train all affect parking. The commenter requests that the project's impacts on traffic and parking be addressed in the EIR/EIS (Simmie Jones).

- The commenter states that the CEQA process should analyze and mitigate increased traffic in Sunnydale due to the Proposed Project (Tom Borden).

- The commenter states that parking is a big issue in Visitacion Valley, particularly with residents owning multiple vehicles and using the sidewalks as parking, and asks that this environmental impact be addressed in the EIR/EIS (Jeanette Hill).

- The commenter states that the environmental document should include an analysis of the impacts of the Proposed Project on State highway facilities in the vicinity of the project site, specifically, impacts to on and off ramps at Third Street/US 101 mainline. The commenter requests a Traffic Impact Study (TIS) to be prepared, including: the plan's traffic impacts; current Average Daily Traffic (ADT) and AM and PM peak hour volumes; schematic illustration and level of service (LOS) analysis; calculation of cumulative traffic volumes; use of the 2000 update of the Highway Capacity Manual as a guide for analysis; Transportation Demand Management strategies; secondary impacts on pedestrians and bicyclists analysis; and mitigation measures (Erik Alm, Caltrans)

EIR/EIS Recommendations

The EIR/EIS will describe the analysis of transportation effects under NEPA and CEQA. It will describe existing transportation conditions within the vicinity of the project site. The EIR/EIS will describe the Proposed Projects' effects on transportation during construction and operation. In accordance with both the HUD NEPA requirements and Planning CEQA requirements, these effects would be analyzed in the Transportation section of the EIR/EIS.

2.8 Air Quality

Comments

- The commenter expresses concern about air quality issues due to the Proposed Project (Huang Huizhen).

- The commenter states concern about hazardous materials, noise, and air quality during construction and asks what will be done to prevent development of respiratory diseases (Elena Maggin).

EIR/EIS Recommendations

Pursuant to both the HUD NEPA requirements and Planning CEQA requirements, the EIR/EIS will analyze the effects of ambient air quality on the project, as well as the project's contribution to community pollution levels. The EIR/EIS will include a consistency or compliance determination of the Proposed Project with the Clean Air Act, Sections 176 (c) and (d), and 40 CFR 6, 51, 93.

2.9 Wind and Shadow

Comments

- The commenter states that wind conditions should be studied to determine the optimal placement for open space (Jeanette Hill).

- The commenter states that a wind study should be done to determine the optimum placement of gardens and buildings in order to limit the force of the wind. Additionally, the commenter states that special measures should be taken to maximize the amount of sunlight in the courtyard (Fran Martin)

EIR/EIS Recommendations

The EIR/EIS will discuss the wind analysis requirements of the San Francisco Planning Code Section 148 and a shadow study in compliance with Section 295.

2.10 Cumulative Effects

Comments

- The commenter states that a current proposal for the San Francisco Urban Riders to put an extreme bike facility should be included in the EIR/EIS, particularly in regard to increased social, aesthetic, traffic, parking social justice, and erosion issues (Fran Martin).

EIR/EIS Recommendations

Pursuant to both HUD NEPA requirements and Planning CEQA requirements, the EIR/EIS will analyze cumulative effects due to other past, present or reasonably foreseeable future actions (40 CFR 1508.7).

2.11 Other Factors

Comments

- The commenter asks whether there will be enough funding to complete the project (Romonica Grayson).

EIR/EIS Recommendations

The EIR/EIS will describe the potential for the Proposed Project to request funds from programs administered by HUD through a Request for Release of Funds (RROF).

APPENDIX A

Notice of Intent & Notice of Preparation

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proceed in communicating with the trade community as the agency shifts from the Automated Commercial System (ACS) to ACE as functionality becomes available.

- The work of the One U.S. Government at the Border Subcommittee: Recommendation for addressing a One U.S. Government Approach to Trusted Trader Programs and provide the subcommittee term end report.
- The Intellectual Property Rights Enforcement Subcommittee's work on providing CBP with guidance on new tools to be used in the port of entry to help identify counterfeit products, the distribution chain management and serialization pilot project, and modification to the CBP recordation database of federally registered trademarks, trade names and copyrights.
- The Anti-Dumping/Countervailing Duties Subcommittee's term end report and a discussion on the impact of trade enforcement and trade intelligence initiatives.
- The Bond Subcommittee's work on proposed modifications to the CBP Form 5106 (Importer Identification Input Record), liquidated damages/mitigation guidelines, and the use of single transaction bonds (STBs) when additional security is merited. The Subcommittee will respond to the CBP Deputy Commissioner's request to look into the possibility of issuing bonds prior to the foreign departure of goods that are intended for importation into the United States.
- An update from CBP's Agriculture Programs and Trade Liaison on the July 2012 USDA/Animal Plant Health Inspection Service (APHIS) and CBP Joint Stakeholder Conference.

Prior to the COAC taking action on any of these topics of the eight above-mentioned subcommittees, working groups, and Agriculture Programs and Trade Liaison, members of the public will have an opportunity to provide comments orally or, for comments submitted electronically during the meeting, by reading the comments into the record.

The COAC will also receive term-end reports, updates and discuss the following Initiatives and Subcommittee topics that were discussed throughout the 12th Term meetings as set forth below:

- The National Strategy for Global Supply Chain Security as it relates to an effort to solicit, consolidate, and provide to DHS sector and stakeholder input on implementation of the National Strategy.
- The work of the Land Border Security Subcommittee: updates and observations on the Customs—the 21st Century Border Management Initiative and Beyond the Border initiatives.
- The Air Cargo Security Subcommittee's work on the Air Cargo Advance Screening (ACAS) pilot, and a discussion of the operational involvement of freight forwarders as well as the next steps in drafting a notice of proposed rulemaking.
- The Export Subcommittee's work on where it stands in identifying incentives for U.S. exporters to participate in Customs-Trade Partnership Against Terrorism (C–TPAT)/Authorized Economic Operator (AEO) programs and a review of the subcommittee's scope and goals for the 13th Term COAC.

Dated: November 9, 2012.

Maria Luisa O'Connell,

Senior Advisor for Trade, Office of Trade Relations.

[FR Doc. 2012–27850 Filed 11–15–12; 8:45 am]

BILLING CODE 9111–14–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR–5670–N–01]

Notice of Intent To Prepare an Environmental Impact Statement for the HOPE SF Development at Sunnydale and Velasco Public Housing Developments, San Francisco, CA

AGENCY: Office of the Assistant Secretary for Community Planning and Development, HUD.

ACTION: Notice of Intent to Prepare an EIS and to Conduct Public Scoping Meeting.

SUMMARY: The Department of Housing and Urban Development (HUD) gives notice to the public, agencies, and Indian tribes that the City and County of San Francisco's Mayor's Office of Housing (MOH) as the Responsible Entity in accordance with 24 CFR 58.2, intends to prepare a Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the HOPE SF Development at the Sunnydale and Velasco Public Housing Developments (Sunnydale HOPE SF Master Plan Project). The EIR/EIS will be a joint National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document.

The EIR will satisfy requirements of CEQA (Public Resources Code 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations 15000 et seq.), which require that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. The Proposed Action is subject to NEPA, because funding for the project may include HUD funds from programs subject to regulation by 24 CFR part 58; these include, but are not limited to, Community Development Block Grant (CDBG) funds under Title I of the Housing and Community Development Act of 1974; Home Investment Partnership Program (HOME) grants under Title II of the Cranston-Gonzales National Affordable Housing Act of 1990, as amended; Project Based Section 8 Vouchers under Section 8(o)(13) of the United States Housing Act of 1937; and/or Public Housing operating subsidies for mixed income developments authorized under the U.S. Housing Act of 1937, Section 35. In accordance with specific statutory authority and HUD's regulations at 24 CFR part 58 (Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities), HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility by the City and County of San Francisco. This notice is issued in accordance with the Council on Environmental Quality (CEQ) regulations at 40 CFR parts 1500–1508.

A Draft EIR/EIS will be prepared for the Proposed Action described herein. Comments relating to the Draft EIR/EIS are requested and will be accepted by the contact person listed below. When the Draft EIR/EIS is completed, a notice will be sent to individuals and groups known to have an interest in the Draft EIR/EIS and particularly in the environmental impact issues identified therein. Any person or agency interested in receiving a notice and making comment on the Draft EIR/EIS should contact the person listed below within 30 days of publication of this notice.

This EIS will be a NEPA document intended to satisfy requirements of Federal environmental statutes. In accordance with specific statutory authority and HUD's regulations at 24 CFR part 58 (Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities), HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility by the City and County of San Francisco. The EIR will be a CEQA document intended to satisfy State environmental statutes (Public Resources Code 21000 et seq. and 14 California Code of Regulations 15000 et seq.).

ADDRESSES: All interested agencies, tribes, groups, and persons are invited to submit written comments on the scope of the Draft EIS to the contact person shown below. Comments received will be considered in the preparation and distribution of the Draft EIS. Particularly solicited is information on reports or other environmental studies planned or completed in the project area, major issues that the EIS should consider, recommended mitigation measures, and alternatives to the Proposed Action. Federal agencies having jurisdiction by law, special expertise or other special interest should report their interest and indicate their readiness to aid in the EIS effort as a ''Cooperating Agency.''

FOR FURTHER INFORMATION CONTACT: Eugene Flannery, Environmental Compliance Manager, City and County of San Francisco Mayor's Office of Housing, 1 South Van Ness Avenue, 5th Floor, San Francisco, CA 94103; Phone: (415) 701–5598; Fax (415) 701–5501; email: *eugene.flannery@sfgov.org.* The Environmental Review Record and information regarding the scoping meeting will be posted online at *http://sf-moh.org/index.aspx?page=155.*

SUPPLEMENTARY INFORMATION:

A. Background

The MOH, acting under authority of section 104(g) of the Housing and Community Development Act of 1974 (42 U.S.C. 5304(g)), section 288 of the HOME Investment Partnerships Act (42 U.S.C. 12838), section 26 of the United States Housing Act of 1937 (42 U.S.C. 1437x) and HUD's regulations at 24 CFR part 58, in cooperation with other interested agencies, will prepare an EIS to analyze potential impacts of the Sunnydale HOPE SF Master Plan Project.

Constructed in 1941 and 1963 respectively, the Sunnydale and Velasco Public Housing Developments together form the City's largest public housing community. Located in the Visitacion Valley area of San Francisco, the project site is bounded by Hahn Street to the east, Velasco Avenue to the south, Brookdale Avenue to the west, and McLaren Park to the north and northwest. It includes Assessor's Blocks 6310-Lot 1, Block 6311-Lot 1, Block 6312-Lot 1, Block 6313-Lot 1, Block 6314-Lot 1, and Block 6315-Lot 1. The 2,127,187-square-foot (approximately 50-acre) project site slopes down from west (Brookdale Avenue) to east (Hahn Street), at slopes ranging from 15.5 percent at its highest and steepest point to a 2-percent slope at the lower elevations. The average grade change is 9 percent. Elevations range from 250 feet above sea level (asl) at the western edge of the site to 75 feet asl at the southeastern corner.

The project site is a quarter of a mile north of Geneva Avenue, which is roughly the border between the City of San Francisco and Daly City and also leads to the I–280 freeway to the west. The project site is approximately three-quarters of a mile west of Bayshore Boulevard, which is a main street that connects the neighborhood to U.S. Highway 101 to the east. Single-family residential and small-multifamily residential uses are immediately adjacent to the site to the south and east, and these uses characterize most of the Visitacion Valley neighborhood. The north and west is McLaren Park, which is the City's second largest park at 312 acres. The park's Gleneagles Golf Course and Herz Playground are directly north of the project site. A sloped natural area of McLaren Park with a walking path to the Crocker Amazon Playground abuts the project site to the west. Also to the west is the partially occupied McLaren campus of the San Francisco Unified School District, which currently houses a pre-kindergarten school.

The Sunnydale and Velasco Public Housing Developments consist of 785 residential units and the Willie Brown Community Center (including the Housing Authority's Leasing Center) located in 94 buildings that are one and two stories (20–35 feet) in height. The buildings are laid out according to the site topography, as are the streets; neither follow the grid pattern of the surrounding neighborhood. In between the buildings is open space of grass and unmaintained landscaping with three play areas. A bungalow on Velasco Street is occupied by Wu Yee Children's Services, which operates a child care program for the neighborhood. Several asphalt surface parking lots are located throughout the site and provide 430 off street parking spaces. The streets internal to the project site provide parking for another 452 automobiles. Three bus stops are located within the project site.

The Sunnydale HOPE SF Master Plan (Proposed Action) would replace all 785 units, the current utility and open space infrastructure, re-align the streets and add new community facilities and park spaces. The Proposed Action would consist of the development of up to 1,700 new residential units that are a mix of public housing replacement units, new affordable units and new market rate units in buildings that range from 40–65 feet in height. The Proposed Action would also include up to 6 acres of new park spaces within the project site, up to 72,500 square feet of community facilities including a new community center, neighborhood-serving retail space, and a child care program.

Alternatives to the Proposed Action

There are three alternatives to the Proposed Action to be analyzed in the EIS. Alternative 1 is a variation of the project density. Alternative sites for the project were explored early in the process, and it was determined that no other more viable site was available.

Alternative 1—Reduced Development Alternative

Number of Units: 1,372.
Maximum Height: 65 feet.
Acreage: 48.8 acres (no change).
Percent Reduction in Units Compared to Proposed Action: 19 percent.

Alternative 2—Replacement of Existing Public Housing Units

Number of Units: 785 units.
Acreage: 48.8 acres.
No new Community Center, no retail, no additional open space.
Percent Reduction in Units Compared to Proposed Action: 53 percent.

Alternative 3—No Project Alternative

The No Project Alternative would analyze the ''no action'' alternative, which would be the continuation of uses on the site; therefore, existing buildings and tenants would remain at the project site and no new buildings or uses would be constructed.

B. Need for the EIS

The proposed project may constitute an action significantly affecting the quality of the human environment and an EIS will be prepared on this project by the City and County of San Francisco's MOH in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*). Responses to this notice will be used to: (1) Determine significant environmental issues, (2) identify data that the EIS should address, and (3) identify agencies and other parties that will participate in the EIS process and the basis for their involvement.

C. Scoping

A public joint EIR/EIS scoping meeting will be held on a date within the comment period and after at least 15 days of publishing this Notice of Intent. Notices of the scoping meeting will be mailed when the date has been determined. The joint EIR/EIS scoping meeting will provide an opportunity for the public to learn more about the project and provide input to the

environmental process. At the meeting, the public will be able to view graphics illustrating preliminary planning work and talk with MOH staff, and members of the consultant team providing technical analysis to the project. Translators will be available. Written comments and testimony concerning the scope of the joint EIR/EIS will be accepted at this meeting. In accordance with 40 CFR 1501.7 affected Federal, State, and local agencies, any affected Indian tribe, and other interested parties will be sent a scoping notice. Owners and occupants within a 300-foot radius will also be notified of the scoping process. In accordance with 24 CFR 58.59, the scoping hearing will be preceded by a notice of public hearing published in the local news media 15 days before the hearing date.

D. Probable Environmental Effects

The following subject areas will be analyzed in the combined EIR/EIS for probable environmental effects: Land Use and Planning (land use patterns, relationship to plans/policies and regulations; Visual Quality/Aesthetics (views/light and glare); Socioeconomics and Community (demographic character changes, displacement); Environmental Justice (disproportionately high and adverse effects on minority and low income populations); Cultural/Historic Resources; Transportation and Circulation; Noise (construction and operational); Air Quality (construction and operational); Greenhouse Gas Emissions; Wind and Shadow; Recreation; Utilities and Service Systems (water supply, stormwater, sewer, solid waste); Public Services (fire, police, schools, parks); Biological Resources; Geology/Soils; Hydrology/Water Quality (erosion control and drainage); Toxic and Hazardous Materials; Mineral and Energy Resources; and Agriculture and Forest Resources.

Questions may be directed to the individual named in this notice under the heading **FOR FURTHER INFORMATION CONTACT**.

Dated: November 8, 2012.

Mark Johnston,

Assistant Secretary for Community Planning and Development (Acting).

[FR Doc. 2012–27985 Filed 11–15–12; 8:45 am]

BILLING CODE 4210–67–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR–5601–N–45]

Federal Property Suitable as Facilities To Assist the Homeless

AGENCY: Office of the Assistant Secretary for Community Planning and Development, HUD.

ACTION: Notice.

SUMMARY: This Notice identifies unutilized, underutilized, excess, and surplus Federal property reviewed by HUD for suitability for use to assist the homeless.

FOR FURTHER INFORMATION CONTACT: Juanita Perry, Department of Housing and Urban Development, 451 Seventh Street SW., Room 7266, Washington, DC 20410; telephone (202) 402–3970; TTY number for the hearing- and speech-impaired (202) 708–2565 (these telephone numbers are not toll-free), or call the toll-free Title V information line at 800–927–7588.

SUPPLEMENTARY INFORMATION: In accordance with 24 CFR part 581 and section 501 of the Stewart B. McKinney Homeless Assistance Act (42 U.S.C. 11411), as amended, HUD is publishing this Notice to identify Federal buildings and other real property that HUD has reviewed for suitability for use to assist the homeless. The properties were reviewed using information provided to HUD by Federal landholding agencies regarding unutilized and underutilized buildings and real property controlled by such agencies or by GSA regarding its inventory of excess or surplus Federal property. This Notice is also published in order to comply with the December 12, 1988 Court Order in *National Coalition for the Homeless* v. *Veterans Administration,* No. 88–2503–OG (D.D.C.).

Properties reviewed are listed in this Notice according to the following categories: Suitable/available, suitable/unavailable, suitable/to be excess, and unsuitable. The properties listed in the three suitable categories have been reviewed by the landholding agencies, and each agency has transmitted to HUD: (1) Its intention to make the property available for use to assist the homeless, (2) its intention to declare the property excess to the agency's needs, or (3) a statement of the reasons that the property cannot be declared excess or made available for use as facilities to assist the homeless.

Properties listed as suitable/available will be available exclusively for homeless use for a period of 60 days from the date of this Notice. Where property is described as for ''off-site use only'' recipients of the property will be required to relocate the building to their own site at their own expense. Homeless assistance providers interested in any such property should send a written expression of interest to HHS, addressed to Theresa Ritta, Division of Property Management, Program Support Center, HHS, room 5B–17, 5600 Fishers Lane, Rockville, MD 20857; (301) 443–2265. (This is not a toll-free number.) HHS will mail to the interested provider an application packet, which will include instructions for completing the application. In order to maximize the opportunity to utilize a suitable property, providers should submit their written expressions of interest as soon as possible. For complete details concerning the processing of applications, the reader is encouraged to refer to the interim rule governing this program, 24 CFR part 581.

For properties listed as suitable/to be excess, that property may, if subsequently accepted as excess by GSA, be made available for use by the homeless in accordance with applicable law, subject to screening for other Federal use. At the appropriate time, HUD will publish the property in a Notice showing it as either suitable/available or suitable/unavailable.

For properties listed as suitable/unavailable, the landholding agency has decided that the property cannot be declared excess or made available for use to assist the homeless, and the property will not be available.

Properties listed as unsuitable will not be made available for any other purpose for 20 days from the date of this Notice. Homeless assistance providers interested in a review by HUD of the determination of unsuitability should call the toll free information line at 1–800–927–7588 for detailed instructions or write a letter to Ann Marie Oliva at the address listed at the beginning of this Notice. Included in the request for review should be the property address (including zip code), the date of publication in the **Federal Register**, the landholding agency, and the property number.

For more information regarding particular properties identified in this Notice (i.e., acreage, floor plan, existing sanitary facilities, exact street address), providers should contact the appropriate landholding agencies at the following addresses: AIR FORCE: Mr. Robert Moore, Air Force Real Property Agency, 143 Billy Mitchell Blvd., San Antonio, TX 78226, (210) 925–3047; GSA: Mr. Flavio Peres, General Services Administration, Office of Real Property

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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Docket No. FR-5670-N-01

Notice of Intent To Prepare an Environmental Impact Statement for the HOPE SF Development at Sunnydale and Velasco Public Housing Developments, San Francisco, CA

AGENCY: Office of the Assistant Secretary for Community Planning and Development, HUD.

ACTION: Notice of Intent to Prepare an EIS and to Conduct Public Scoping Meeting.

SUMMARY: The Department of Housing and Urban Development (HUD) gives notice to the public, agencies, and Indian tribes that the City and County of San Francisco's Mayor's Office of Housing (MOH) as the Responsible Entity in accordance with 24 CFR 58.2, intends to prepare a Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the HOPE SF Development at the Sunnydale and Velasco Public Housing Developments (Sunnydale HOPE SF Master Plan Project). The EIR/EIS will be a joint National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document.

The EIR will satisfy requirements of CEQA (Public Resources Code 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations 15000 et seq.), which require that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. The Proposed Action is subject to NEPA, because funding for the project may include HUD funds from programs subject to regulation by 24 CFR part 58; these include, but are not limited to, Community Development Block Grant (CDBG) funds under Title I of the Housing and Community Development Act of 1974; Home Investment Partnership Program (HOME) grants under Title II of the Cranston-Gonzales National Affordable Housing Act of 1990, as amended; Project Based Section 8 Vouchers under the United States Housing Act of 1937; and/or Section 8(o)(13) and Public Housing operating subsidies for mixed income developments authorized under the U.S. Housing Act of 1937, Section 35. In accordance with specific statutory authority and HUD's regulations at 24 CFR part 58 (Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities), HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility by the City and County of San Francisco. This notice is issued in accordance with the Council on Environmental Quality (CEQ) regulations at 40 CFR parts 1500-1508.

A Draft EIR/EIS will be prepared for the Proposed Action described herein. Comments relating to the Draft EIR/EIS are requested and will be accepted by the contact person listed below. When the Draft EIR/EIS is completed, a notice will be sent to individuals and groups known to have an interest in the Draft EIR/EIS and particularly in the environmental impact issues identified therein. Any person or agency interested in receiving a notice and making comment on the Draft EIR/EIS should contact the person listed below within 30 days of publication of this notice.

This EIS will be a NEPA document intended to satisfy requirements of Federal environmental statutes. In accordance with specific statutory authority and HUD's regulations at 24 CFR part

58 (Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities), HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility by the City and County of San Francisco. The EIR will be a CEQA document intended to satisfy State environmental statutes (Public Resources Code 21000 et seq. and 14 California Code of Regulations 15000 et seq.).

ADDRESSES: All interested agencies, tribes, groups, and persons are invited to submit written comments on the scope of the Draft EIS to the contact person shown below. Comments received will be considered in the preparation and distribution of the Draft EIS. Particularly solicited is information on reports or other environmental studies planned or completed in the project area, major issues that the EIS should consider, recommended mitigation measures, and alternatives to the Proposed Action. Federal agencies having jurisdiction by law, special expertise or other special interest should report their interest and indicate their readiness to aid in the EIS effort as a ''Cooperating Agency.''

FOR FURTHER INFORMATION CONTACT: Eugene Flannery, Environmental Compliance Manager, City and County of San Francisco Mayor's Office of Housing, 1 South Van Ness Avenue, 5th Floor, San Francisco, CA 94103; Phone: (415) 701-5598; Fax (415) 701- 5501; e-mail: eugene.flannery@sfgov.org. The Environmental Review Record and information regarding the scoping meeting will be posted online at http://sf-moh.org/index.aspx?page=155.

SUPPLEMENTARY INFORMATION:

A. Background

The MOH, acting under authority of section 104(g) of the Housing and Community Development Act of 1974 (42 U.S.C. 5304(g)), section 288 of the HOME Investment Partnerships Act (42 U.S.C. 12838), section 26 of the United States Housing Act of 1937 (42 U.S.C. 1437x) and HUD's regulations at 24 CFR part 58, in cooperation with other interested agencies, will prepare an EIS to analyze potential impacts of the Sunnydale HOPE SF Master Plan Project.

Constructed in 1941 and 1963 respectively, the Sunnydale and Velasco Public Housing Developments together form the City's largest public housing community. Located in the Visitacion Valley area of San Francisco, the project site is bounded by Hahn Street to the east, Velasco Avenue to the south, Brookdale Avenue to the west, and McLaren Park to the north and northwest. It includes Assessor's Blocks 6310-Lot 1, Block 6311-Lot 1, Block 6312-Lot 1, Block 6313-Lot 1, Block 6314-Lot 1, and Block 6315-Lot 1. The 2,127,187-square-foot (approximately 50-acre) project site slopes down from west (Brookdale Avenue) to east (Hahn Street), at slopes ranging from 15.5 percent at its highest and steepest point to a 2-percent slope at the lower elevations. The average grade change is 9 percent. Elevations range from 250 feet above sea level (asl) at the western edge of the site to 75 feet asl at the southeastern corner.

The project site is a quarter of a mile north of Geneva Avenue, which is roughly the border between the City of San Francisco and Daly City and also leads to the I-280 freeway to the west. The project site is approximately three-quarters of a mile west of Bayshore Boulevard, which is a main street that connects the neighborhood to U.S. Highway 101 to the east. Single-family residential and small-multifamily residential uses are immediately adjacent to the site to the south and east, and these uses characterize most of the Visitacion Valley neighborhood. The north and west is McLaren Park, which is the City's second largest park at 312 acres. The park's Gleneagles Golf Course and Herz Playground are directly north of the project site. A

sloped natural area of McLaren Park with a walking path to the Crocker Amazon Playground abuts the project site to the west. Also to the west is the partially occupied McLaren campus of the San Francisco Unified School District, which currently houses a pre-kindergarten school.

The Sunnydale and Velasco Public Housing Developments consist of 785 residential units and the Willie Brown Community Center (including the Housing Authority's Leasing Center) located in 94 buildings that are one and two stories (20–35 feet) in height. The buildings are laid out according to the site topography, as are the streets; neither follow the grid pattern of the surrounding neighborhood. In between the buildings is open space of grass and unmaintained landscaping with three play areas. A bungalow on Velasco Street is occupied by Wu Yee Children's Services, which operates a child care program for the neighborhood. Several asphalt surface parking lots are located throughout the site and provide 430 off street parking spaces. The streets internal to the project site provide parking for another 452 automobiles. Three bus stops are located within the project site.

The Sunnydale HOPE SF Master Plan (Proposed Action) would replace all 785 units, the current utility and open space infrastructure, re-align the streets and add new community facilities and park spaces. The Proposed Action would consist of the development of up to 1,700 new residential units that are a mix of public housing replacement units, new affordable units and new market rate units in buildings that range from 40–65 feet in height. The Proposed Action would also include up to 6 acres of new park spaces within the project site, up to 72,500 square feet of community facilities including a new community center, neighborhood-serving retail space, and a child care program.

Alternatives to the Proposed Action

There are three alternatives to the Proposed Action to be analyzed in the EIS. Alternative 1 is a variation of the project density. Alternative sites for the project were explored early in the process, and it was determined that no other more viable site was available.

Alternative 1 – Reduced Development Alternative

Number of Units: 1,372
Maximum Height: 65 feet
Acreage: 48.8 acres (no change)
Percent Reduction in Units Compared to Proposed Action: 19 percent

Alternative 2 – Replacement of Existing Public Housing Units

Number of Units: 785 units
Acreage: 48.8 acres
No new Community Center, no retail, no additional open space.
Percent Reduction in Units Compared to Proposed Action: 53 percent

Alternative 3 – No Project Alternative

The No Project Alternative would analyze the "no action" alternative, which would be the continuation of uses on the site; therefore, existing buildings and tenants would remain at the project site and no new buildings or uses would be constructed.

B. Need for the EIS

The proposed project may constitute an action significantly affecting the quality of the human environment and an EIS will be prepared on this project by the City and County of San Francisco's MOH in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*). Responses to this notice will be used to: (1) Determine significant environmental issues, (2) identify data that the EIS should address, and (3) identify agencies and other parties that will participate in the EIS process and the basis for their involvement.

C. Scoping

A public joint EIR/EIS scoping meeting will be held on a date within the comment period and after at least 15 days of publishing this Notice of Intent. Notices of the scoping meeting will be mailed when the date has been determined. The joint EIR/EIS scoping meeting will provide an opportunity for the public to learn more about the project and provide input to the environmental process. At the meeting, the public will be able to view graphics illustrating preliminary planning work and talk with MOH staff, and members of the consultant team providing technical analysis to the project. Translators will be available. Written comments and testimony concerning the scope of the joint EIR/EIS will be accepted at this meeting. In accordance with 40 CFR 1501.7 affected Federal, State, and local agencies, any affected Indian tribe, and other interested parties will be sent a scoping notice. Owners and occupants within a 300-foot radius will also be notified of the scoping process. In accordance with 24 CFR 58.59, the scoping hearing will be preceded by a notice of public hearing published in the local news media 15 days before the hearing date.

C. Probable Environmental Effects

The following subject areas will be analyzed in the combined EIR/EIS for probable environmental effects: Land Use and Planning (land use patterns, relationship to plans/policies and regulations; Visual Quality/Aesthetics (views/light and glare); Socioeconomics and Community (demographic character changes, displacement); Environmental Justice (disproportionately high and adverse effects on minority and low income populations); Cultural/Historic Resources; Transportation and Circulation; Noise (construction and operational); Air Quality (construction and operational); Greenhouse Gas Emissions; Wind and Shadow; Recreation; Utilities and Service Systems (water supply, stormwater, sewer, solid waste); Public Services (fire, police, schools, parks); Biological Resources; Geology/Soils; Hydrology/Water Quality (erosion control and drainage); Hazardous and Hazardous Materials; Mineral and Energy Resources; and Agriculture and Forest Resources.

Questions may be directed to the individual named in this notice under the heading FOR FURTHER INFORMATION CONTACT.

Dated: September 26, 2012.

CHANGE IN DATE OF CLOSE OF COMMENT PERIOD

Please be advised that close of the comment period specified in the Notice of Intent To Prepare an Environmental Impact Statement for the HOPE SF Development at Sunnydale and Velasco Public Housing Developments, San Francisco, CA published in the Federal Register on November 16, 2012 has been extended until January 18, 2013.

AGENCY: Mayor's Office of Housing, City and County of San Francisco.

ACTION: Extension of Comment Period for Notice of Intent To Prepare a Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the HOPE SF Development at Sunnydale and Velasco Public Housing Developments, San Francisco, CA.

SUMMARY: The City and County of San Francisco gives notice to the public that the Mayor's Office of Housing (MOH) as the Federal Responsible Entity acting under authority of section 104(g) of the Housing and Community Development Act of 1974 (42 U.S.C. 5304(g)), section 288 of the HOME Investment Partnerships Act (42 U.S.C. 12838), section 26 of the United States Housing Act of 1937 (42 U.S.C. 1437x) and HUD's regulations at 24 CFR part 58, intends to prepare a Draft Environmental Impact Report/Environmental Impact Statement for the HOPE SF Development at the Sunnydale and Velasco Public Housing Developments (Sunnydale-Velasco HOPE SF Master Plan Project). The EIR/EIS will be a joint National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document.

The Proposed Action is the approval by HUD of funding and development agreements associated with redevelopment of the Project Site with affordable housing. This notice is in accordance with regulations of the Council on Environmental Quality at 40 CFR parts 1500 – 1508.

All interested agencies, tribes, groups, and persons are invited to submit written comments on the scope of the EIR/EIS to the contact person shown below. Comments received will be considered in the preparation and distribution of the EIR/EIS. Particularly solicited is information on reports or other environmental studies planned or completed in the project area, major issues that the EIR/EIS should consider, recommended mitigation measures, and alternatives to the Proposed Action. Federal agencies having jurisdiction by law, special expertise or other special interest should report their interest and indicate their readiness to aid in the EIR/EIS effort as a ''Cooperating Agency.''

Dates: Comments relating to the scope of the EIR/EIS are requested and will be accepted by the contact person listed below until January 18, 2013.

Pursuant to the Council on Environmental Quality Regulations, public scoping meetings will be held to receive oral comments concerning the scope of the EIR/EIS.

- The first meeting will be held on Saturday, January 5, 2013, at 10:00 a.m. at the Visitacion Valley Library, 201 Leland Avenue, San Francisco, CA 94134.

- The second meeting will be held on Saturday, January 12, 2013, at 10:00 a.m. at the Sunnydale Community Room, 1652 Sunnydale Avenue, San Francisco, CA 94134.

Written comments will also be accepted at these meetings and until 5:00 p.m. on Friday, January 18, 2013.

For Further Information: Eugene T. Flannery, Environmental Compliance Manager, Mayor's Office of Housing, 1 South Van Ness Avenue, 5th Floor, San Francisco, CA 94103, 415-701-5598; fax 415-701-5501; Eugene.flannery@sfgov.org. The NOI and this Notice of Extension are available for viewing on the Mayor's Office of Housing website at: http://sf-moh.org/index.aspx?page=155.

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Date: December 19, 2012

The attached notice is provided under the Planning Code. It concerns property located at the Sunnydale and Velasco public housing complexes in the Visitacion Valley neighborhood**, Case No.** 2010.0305E**.** Public meetings will be held on January 5 and January 13, 2013, to discuss the environmental review of the project proposed at this site.

To obtain information about this notice in Spanish, please call (415) 558-6378, or in Chinese, please call (415) 558-6378. Please be advised that the Planning Department will require at least one business day to respond to any call.

附上的是三藩市城市規劃局的通告。
此通告是與位於Sunnydale和Velasco公共住房複合物在訪谷區附近, Case No. 2010.0305E 的建築計劃有關。1月5日和2013年1月13日將舉行公開會議, 討論環境審查的項目在.

如果你需要用華語獲得關於這通告的細節, 請電415-558-6378.
規劃部門將需要至少一個工作天回應。華語資料提供只是城市規劃局的一項服務,
此項服務不會提供額外的權利或延伸任何要求檢討的期限。

Este aviso incluido se trata de las propiedades ubicadas en el fraccionamiento de Sunnydale y Velasco dentro de la colonia de Visitation Valley, Caso número 2010.0305E. El documento de aviso es requerido por el código de Planeación de la ciudad de San Francisco. Reuniones/juntas públicas se llevarán a cabo el 5 de Enero y 13 de Enero, 2013, para discutir el documento que discute los impactos ambientales y proyecto propuesto en este sitio.
Para obtener información adicional acerca de este anuncio en español, por favor llame al (415) 558-6378. Por favor, tenga en cuenta que el departamento de planificación pueden requerir por lo menos un día para responder a cualquier llamada.

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
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Planning
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Notice of Preparation of an Environmental Impact Report / Environmental Impact Statement and Public Scoping Meetings

Date:	December 19, 2012
Case No.:	**2010.0305E**
Project Title:	**Sunnydale-Velasco HOPE SF Master Plan**
Zoning:	RM-1 (Low Density) 40-X Height and Bulk District
Block/Lot:	6310/1, 6311/1, 6312/1, 6313/1, 6314/1, 6315/1
Lot Size:	2,127,187 square feet (48.8 acres) of lots and 209,088 square feet(4.8 acres) of public streets
Project Sponsor	Ramie Dare, Sunnydale Development Co., LLC (415) 355-7118
Lead Agency:	San Francisco Planning Department
Staff Contact:	Nannie Turrell – (415) 575-9047 nannie.turrell@sfgov.org

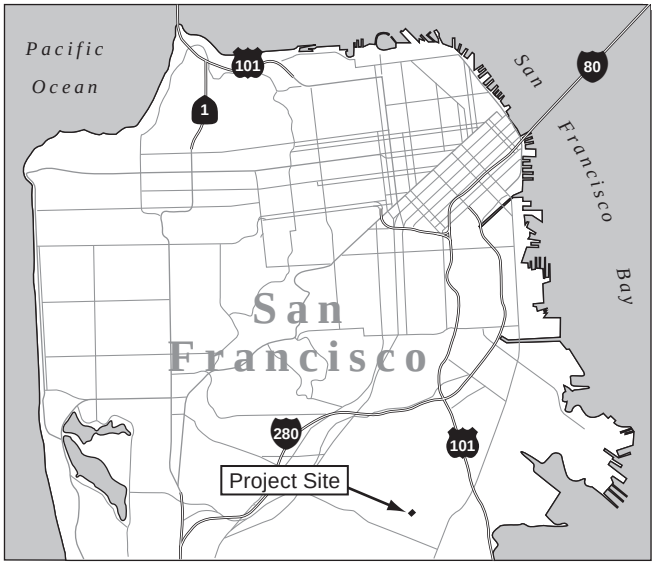
PROJECT DESCRIPTION

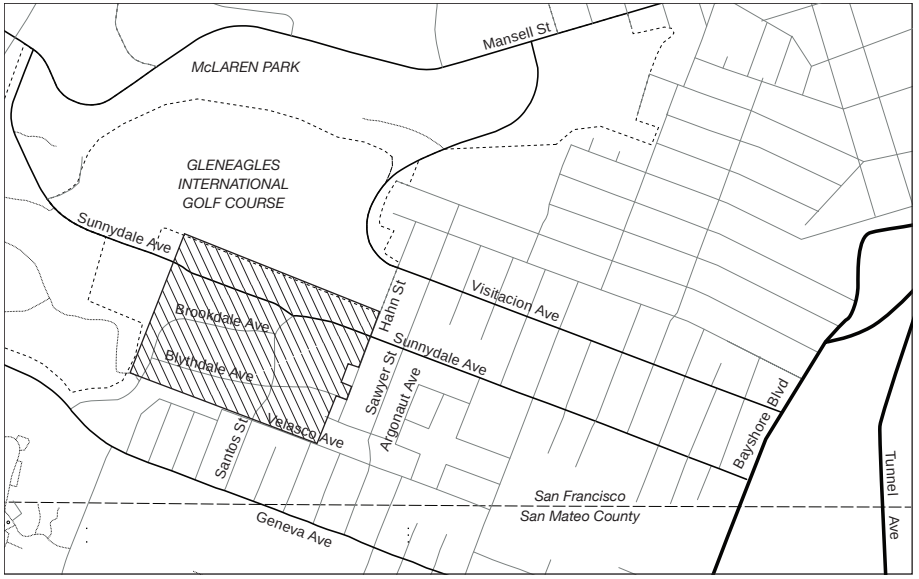
The San Francisco HOPE SF Program, a partnership between the Mayor's Office of Housing and the San Francisco Housing Authority (SFHA), proposes to redevelop the Sunnydale and Velasco Public Housing Developments as a part of its program to revitalize distressed public housing developments in San Francisco. The program—which also includes the Hunters View, Potrero Terrace and Potrero Annex, Westside Courts, and Alice Griffith public housing developments—proposes to rebuild every housing unit, provide homes for current residents, and add new housing at different income levels. HOPE SF plans to redesign these communities with new buildings, streets, parks, and landscaping. Sunnydale Development Co., LLC, comprising co-developers Mercy Housing California and The Related Companies of California, is the developer and project applicant.

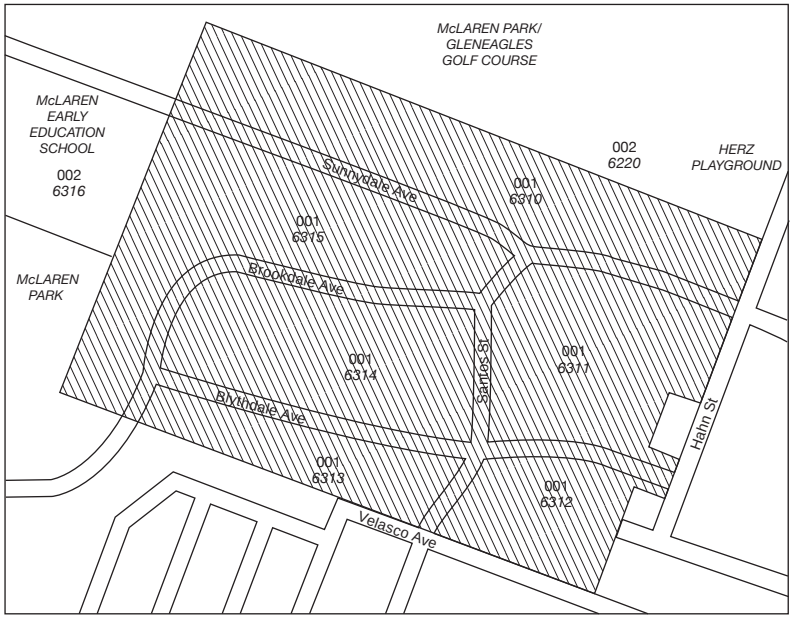
Constructed in 1941 and 1963, respectively, the Sunnydale and Velasco Public Housing Developments together comprise the largest public housing community in the City of San Francisco. The current housing at the project site consists of 785 dwelling units in 94 buildings. The 785 replacement units would remain affordable housing, subsidized by the San Francisco Housing Authority but under management by and the ownership of the project sponsor or related entities. An additional 915 units would comprise 24 percent affordable housing and 76 percent market-rate housing. The project would be built in three major phases.

Project Site

The project site is located in the Visitacion Valley area of San Francisco (see **Figure 1**). The project site, bounded by Hahn Street on the east, Velasco Avenue on the south, and McLaren Park to the north and







SOURCE: ESA

2010.0305E: Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 1
Project Location

west, includes Assessor's Blocks 6310-Lot 1, Block 6311-Lot 1, Block 6312-Lot 1, Block 6313-Lot 1, Block 6314-Lot 1, and Block 6315-Lot 1. The site is within the RM-1 Residential, Mixed District, Low Density (one unit per 800 square feet of lot area principally permitted), and 40-X height and bulk district (40-foot-high maximum height, no bulk limits). The 2,127,187-square-foot (approximately 50-acre) project site slopes down from west (Brookdale Avenue) to east (Hahn Street), at slopes ranging from 15.5 percent at its highest and steepest point to a 2-percent slope at the lower elevations. The average grade change is 9 percent. Elevations range from 250 feet at the western edge of the site to 75 feet at the southeastern corner. The topography allows for sweeping views to the south and to the east toward the San Francisco Bay.

Project Setting

The surrounding neighborhood to the south and east is primarily zoned RH-1 (Residential House, one dwelling unit per lot), with one block (6320) zoned RH-2 (Residential House, two dwellings per lot) and several parcels zoned NC-1 (Neighborhood Commercial) to the east on Hahn Street. McLaren Park, to the north and west of the project site, is zoned P (Public Use).

The project site is adjacent to Gleneagles International Golf Course on the north. The golf course is a part of John McLaren Park, which occupies 317 acres and includes Herz Playground, Coffman Pool, and an assortment of playgrounds, athletic fields, tennis and basketball courts, as well as an outdoor amphitheatre, trails, open meadows, a lake and a reservoir.[1] Another open space near the project site is Crocker Amazon Playground, which is to the west of the project site and includes play areas as well as athletic fields, tennis and basketball courts, a skateboard park, community garden and recreation center.[2] The project site is adjacent to residential neighborhoods to the south and east.

The Candlestick Point-Hunters Point Shipyard Phase II Development Plan Project, located about two miles to the east of the project site, is approved for a mix of residential and commercial uses.

The Visitacion Valley Redevelopment Program area includes 46 acres extending on both sides of Bayshore Boulevard roughly between Sunnydale Avenue and Blanken Avenue in the center of the Visitacion Valley neighborhood approximately one mile to the east of the project site. This project includes the reuse of the vacant Schlage Lock property along the east side of Bayshore Boulevard and revitalization of the Leland Avenue commercial corridor.[3] The Visitacion Valley Redevelopment Program envisions a mix of residential and commercial uses in the project area.

The Executive Park Special Use District (SUD) is planned for the approximately 70-acre area between Candlestick Point and Highway 101 to the east of the project site. This new SUD would accommodate a

1 Welcome to McLaren Park. *Features of McLaren Park,* http://www.jennalex.com/projects/fomp/homepage/index.html, accessed July 18, 2010.

2 San Francisco Neighborhood Parks Council. Crocker Amazon Park History, http://www.sfnpc.org/crockeramazonpghistory, accessed July 18, 2010.

3 San Francisco Planning Department. Visitacion Valley Redevelopment Program Draft Environmental Impact Report, June 3, 2008, available online at http://sf-planning.org/ftp/files/mea/2006.1308E_VisValley_DEIR_Pt1.pdf

transition from predominantly office use to mixed use/predominantly residential use with an overall goal to create a vibrant, urban, pedestrian oriented neighborhood characterized by publicly accessible streets.[4]

Project Characteristics

The project sponsor proposes to demolish the existing buildings, including 785 family and senior dwelling units, at the Sunnydale and Velasco public housing complexes in the Visitacion Valley neighborhood, and to build replacement and new housing, new infrastructure, open space and community amenities. Highlights of the plan include:

- Up to 1,700 units of housing, including one-for-one public housing replacement units, affordable rental units and market rate and affordable for-sale units;
- Up to 72,500 square feet of community service, recreational and educational facilities;
- 11.5 acres of new parks and open spaces, including a community garden, a farmer's market pavilion and secure outdoor courtyards within residential buildings;
- 12.2 acres of a new and reconfigured street network potentially including "green" features including bioswales and landscaping; and
- Up to 16,200 square feet of neighborhood-serving retail.

The project sponsor intends to construct the project to LEED® (Leadership in Energy Efficient Design) ND (Neighborhood Development) standards.

Figures 2 through 5 illustrate the proposed project plan. The project sponsor proposes to demolish and replace the existing 94 two-story residential buildings within the Sunnydale and Velasco public housing development with approximately 34 new two- to six-story buildings. The completed project would occupy approximately 2,184,560 square feet of floor area for a net increase of 1,419,668 square feet. The height of the new buildings would range from 40 to 60 feet above ground level with 18 buildings at 40 feet or less in height and 15 buildings at 50 feet in height, and one building at 60 feet in height. Thirty-three of the buildings would contain family dwelling units; the single building at 60 feet in height would contain senior housing and would have some retail and community services on the ground floor. The buildings would be a mix of the following:

- Townhouse/Rowhouse—Attached, multistory, single-family homes (15 to 30 units per acre);
- Stacked Flats—One-story apartments arranged one over the other (25 to 40 units per acre);
- Podium Building—A building with a parking garage below and residences or other uses above (40 to 50 units per acre);
- Corridor Building—An apartment building with units accessed from a central corridor (40 to 60 units per acre);
- Mixed Use—Retail or public use on ground floor with senior housing above (50 to 80 units per acre); and

[4] San Francisco Planning Department. Executive Park: General Plan, Planning Code Text, and Map Amendments and Adoption of Design Guidelines—Executive Summary, Case No. 2006.0422EMTUZ, April 21, 2011.



SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 2
Proposed Project - Building Type Plan



SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

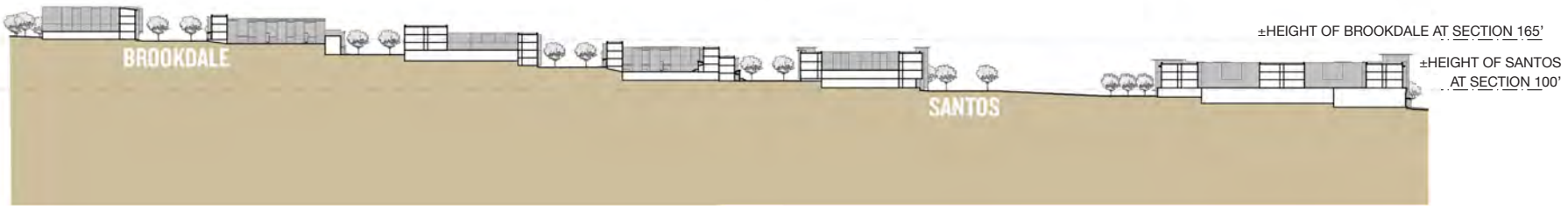
Figure 3
Proposed Project - Height Diagram



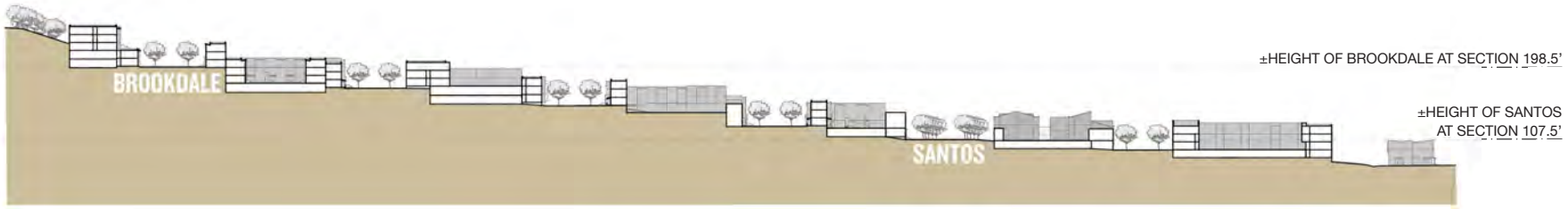
SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

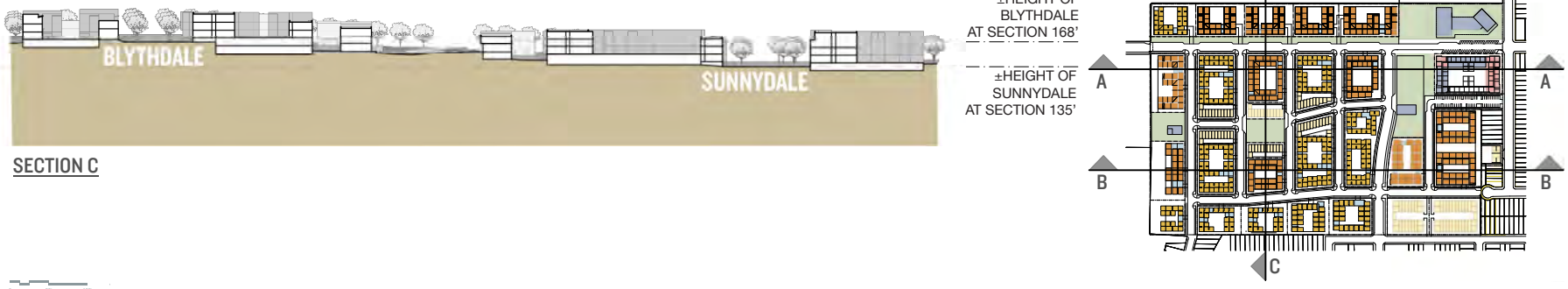
Figure 4
Proposed Project -
New and Reconfigured Streets and Preliminary Parcel Map



SECTION A



SECTION B



SECTION C

SOURCE: Van Meter Williams Pollack

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 5
Proposed Project -
Elevation Drawing

- Also proposed is up to 72,500 square feet of community-serving space in several locations, including a separate two-story community center, which would house recreational facilities for use by project residents and residents of the neighborhood, with youth and early childhood education programs.

The project sponsor proposes realigning Sunnydale, Brookdale and Blythedale Avenues and Santos Street and adding new cross streets to create a street grid that would improve connectivity and access within the development and to Hahn Street. Brookdale Avenue would be realigned to connect with Sunnydale Avenue; new cross streets would connect Blythedale Avenue to Sunnydale Avenue at three different locations; Blythedale Avenue would be realigned at Hahn Street to connect with Sunrise Way; and a pair of new streets would link Blythedale Avenue and Hahn Street one block north of Sunrise Way (see Figure 2).

The proposed project would increase the number of dwelling units on the site from 785 to approximately 1,700, an increase of some 915 units. Of the new units, 785 would be replacement public housing dwelling units, on a one-for-one basis, that would remain affordable housing, subsidized by the San Francisco Housing Authority but under management by and the ownership of the developers or related entities. Of the additional approximately 915 units, 24 percent (approximately 221 units including 150 senior housing units) would be affordable housing while 76 percent (approximately 694 units) would be market rate housing. In total, 60 percent of the proposed project would be affordable housing while the remaining 40 percent would be set aside as market-rate housing.

The project site currently contains 430 off-street surface parking spaces (0.55 spaces per dwelling unit) and 452 on-street parking spaces. The proposed project would provide approximately 1,437 off-street parking spaces (0.85 spaces per dwelling unit) in underground and at-grade parking garages in mixed-use and residential buildings, and 525 on-street parking spaces.

Table 1 is a summary of existing and proposed development.

The proposed project would include a stormwater management system that would meet the City's Stormwater Management Ordinance requirements for stormwater management. The proposed project would collect, detain and potentially retain some stormwater within the project site such that the rate and amount of stormwater run off from the site does not negatively impact the capacity of the City's treatment facilities. The following features could be included: seasonal waterways and rain gardens (planted depressions that allow rainwater runoff from walkways, parking lots, and roofs, to be absorbed into the ground); bioswales for stormwater retention in the public right of way where grades allow and on private lots; porous concrete pavements used in sidewalks and parking areas of the public right-of-way where grades allow; flexible space for community gatherings and performances; space for a farmer's market; community growing gardens; residential courtyards; playgrounds; and community parks. The project sponsor anticipates that the proposed project would be built to LEED® ND standards and would be designed to include energy saving and sustainability features.

TABLE 1
EXISTING AND PROPOSED DEVELOPMENT

	Existing Uses (to be demolished)	New Construction (Approximate)
Residential	764,892 square feet	2,185,000 square feet
Retail	0	16,000 square feet
Parking	Surface	570,000 structured
Other	29,276 square feet of daycare youth programs and maintenance	72,500 square feet of recreation building, pavilion, and community services
Total Gross Square Footage (GSF)	794,168 GSF	2,843,500 GSF
Dwelling units	785	1,700
Parking spaces	430 off street 452 on street	1,437 off street 525 on street
Number of buildings	94	37
Height of buildings	20-35 feet	40-60 feet
Number of stories	2	2-4

At project buildout, the project site would be configured as follows:

Use	No. of Acres
New and Configured Streets	12.2
Residential and Community Facilities Development Sites	30.0
New Parks	5.6
Sunnydale Avenue Linear Open Space	1.0
Total Site Area	48.8

The project would be built in three major phases. The current residents would be moved to available residences on the project site as each phase is constructed, or they would be given housing vouchers by the Housing Authority for relocation elsewhere during the construction period. The new dwellings would be populated as each phase is completed.

Approvals Required

The project sponsor proposes to apply for a rezoning that would create a Special Use District (SUD) to allow certain non-residential uses such as community services, retail, and recreational and educational facilities that would otherwise not be permitted or require conditional use authorization. The SUD could also memorialize the ability to distribute the allowed density unevenly across the project site (i.e., certain

blocks could develop at higher densities than would be otherwise allowed as long as the density of the entire site is not exceeded) and enable modifications from the strict quantitative requirements of the *Planning Code* to allow for more flexibility in placement of rear yards, setbacks, location and number of parking and loading spaces, among other standards. The rezoning would also include changes to the *Planning Code* height and bulk map for portions of the site to allow buildings up to 60 feet in height.

The project sponsor may also seek approval of a Development Agreement by the Board of Supervisors under Chapter 56 of the *Administrative Code*.

The proposed new street grid would be subject to approval by the San Francisco Fire Department, San Francisco Department of Public Works, and the Sustainable Streets and MUNI Planning Divisions of the San Francisco Municipal Transportation Agency (SFMTA).

The project would require a *General Plan* Referral (Section 2A.53 of the *Administrative Code*) from the Planning Department or Planning Commission.

The project would also require building and demolition permits, which would require review and approval by the Planning Department and Department of Building Inspection (DBI).

The proposed site stormwater management system would require approval from the San Francisco Public Utilities Commission to meet the Stormwater Design Guidelines.

FINDING

This project may have a significant effect on the environment and an Environmental Impact Report is required. This determination is based upon the criteria of the State CEQA Guidelines, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance).

The Environmental Impact Report (EIR) will be prepared as part of a combined Environmental Impact Report / Environmental Impact Statement (EIR / EIS). The federal Department of Housing and Urban Development (HUD) intends to prepare an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA) to satisfy the requirements of federal environmental statutes. HUD has provided for assumption of its NEPA authority and NEPA lead agency responsibility to the City and County of San Francisco. HUD has given notice that the City and County of San Francisco Mayor's Office of Housing (MOH), as the Responsible Entity, will prepare a joint EIR / EIS with the San Francisco Planning Department.

PUBLIC SCOPING PROCESS

Pursuant to the State of California Public Resources Code Section 21083.9 and California Environmental Quality Act Guidelines Section 15206, public scoping meetings will be held to receive oral comments concerning the scope of the EIR.

- The first meeting will be held on **Saturday, January 5, 2013, at 10:00 a.m. at the Visitacion Valley Library, 201 Leland Avenue, San Francisco, CA 94134.**

- The second meeting will be held on **Saturday, January 12, 2013, at 10:00 a.m. at the Sunnydale Community Room, 1652 Sunnydale Avenue, San Francisco, CA 94134.**

Written comments will also be accepted at these meetings and until 5:00 p.m. on **Friday, January 18, 2013.** Written comments should be sent to Bill Wycko, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

If you work for a responsible State agency, we need to know the views of your agency regarding the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency.

December 19, 2012
Date

Bill Wycko
Environmental Review Officer

Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Ken Alex
Director

Notice of Preparation

December 19, 2012

To: Reviewing Agencies

Re: Sunnydale-Velasco HOPE SF Master Plan
SCH# 2012122040

Attached for your review and comment is the Notice of Preparation (NOP) for the Sunnydale-Velasco HOPE SF Master Plan draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Nannie Turrell
City and County of San Francisco
1650 Mission Street, Suite 400
San Francisco, CA 94013

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2012122040
Project Title Sunnydale-Velasco HOPE SF Master Plan
Lead Agency San Francisco, City and County of

Type NOP Notice of Preparation

Description The project sponsor, Sunnydale Development Co., LLC (comprising co-developers Mercy Housing California and the Related Companies of California), proposes to demolish the existing buildings, including 785 family and senior dwelling units, at the Sunnydale and Velasco public housing complexes in the Visitacion Valley neighborhood, and to build replacement and new housing, new infrastructure, open space and community amenities.

Lead Agency Contact

Name Nannie Turrell
Agency City and County of San Francisco
Phone (415) 575-9047 **Fax**
email
Address 1650 Mission Street, Suite 400
City San Francisco **State** CA **Zip** 94013

Project Location

County San Francisco
City San Francisco
Region
Cross Streets Sunnydale Avenue and Hahn Street
Lat / Long 37° 42' 43" N / 122° 24' 57" W
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways Hwy 101
Airports
Railways Caltrain
Waterways San Francisco Bay
Schools Visitacion Valley ES
Land Use RM-1 (Low Density); 40-X Height and Bulk District/

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 3; Office of Emergency Management Agency, California; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; California Highway Patrol; Department of Housing and Community Development; Caltrans, District 4; Regional Water Quality Control Board, Region 2

Date Received 12/19/2012 **Start of Review** 12/19/2012 **End of Review** 01/17/2013

NOP Distribution List

County: San Francisco **SCH#** 2012122040

Resources Agency

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  Nicole Wong
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  Elizabeth A. Fuchs
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  Environmental Services Division
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- [ ] **Fish & Game Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Game Region 2**
  Jeff Drongesen
- [ ] **Fish & Game Region 3**
  Charles Armor
- [ ] **Fish & Game Region 4**
  Julie Vance
- [ ] **Fish & Game Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M**
  Brad Henderson
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- [ ] **Dept. of Public Health**
  Jeffery Worth
  Dept. of Health/Drinking Water
- [ ] **Delta Stewardship Council**
  Kevan Samsam

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  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
- [ ] **RWQCB 5F**
  Central Valley Region (5)
  Fresno Branch Office
- [ ] **RWQCB 5R**
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  Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
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  Lahontan Region (6)
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  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____
- [ ] _____
  Conservancy

Last Updated 8/14/2012

APPENDIX B

Meeting Materials and Transcript

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SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Agenda

Sunnydale-Velasco Hope SF Master Plan EIR/EIS Public Scoping Meeting
Visitacion Valley Library
201 Leland Avenue, San Francisco, CA
Saturday, January 5, 2013, 10:00 A.M.

I. Introduction
- Introduction of EIR/EIS Preparers and Project Sponsor
- Purpose of meeting
- Meeting format

II. Brief Overview of Proposed Project

III. Summary of National Environmental Policy Act (NEPA) Process

IV. Summary of California Environmental Quality Act (CEQA) Process
- Notice of Preparation/Scoping Meeting (30-day public review period)
- Draft EIR (45-day public review period, Planning Commission hearing)
- Comments and Responses Document (10-day review)
- Final EIR Certification (Planning Commission hearing)

V. Public Comment
- Comments on environmental review issues from speakers who fill out a speaker card

VI. Final Reminders

NOTE:
- Submit written comments to **Bill Wycko, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103**, by close of business, **Friday, January 18, 2013.**
- If you have questions or comments regarding the environmental process, please contact **Nannie Turrell** at **(415) 575-9047**.

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SUNNYDALE VELASCO HOPE SF MASTER PLAN EIR/EIS

PUBLIC SCOPING MEETING

Visitacion Valley Library

201 Leland Avenue

San Francisco, California

Saturday, January 5, 2013

REPORTED BY: DEBORAH FUQUA, CSR #12948

APPEARANCES:

NANNIE TURRELL, San Francisco Planning Department

RAMIE DARE, Sunnydale Development Co., LLC

JONATHAN CARY, Environmental Sciences Associates

DAN ADAMS, Mayor's Office of Housing

Also present: Cantonese Interpreter, Asaph Pai

- QUESTION PERIOD -

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- PUBLIC COMMENT -

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Clara Garduno	44
Maggie Winterstein	46
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Bridgette Torres	52
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Robert Cowan	58

---o0o---

Saturday, January 15, 2013 10:17 o'clock a.m.

---o0o---

P R O C E E D I N G S

RAMIE DARE: Hi everybody. So sorry we're starting late. Thank you for your patience.

So did everyone get the materials that are at the table here? Feel free to come up if you need more.

My name is Ramie, and I'm with Mercy Housing and Related Companies of California. I am working on the development team for Sunnydale. And I'm going to give you, like, a brief presentation of Sunnydale Master Plan in a minute. But I want to introduce you to Dan Adams, who is with the Mayor's Office of Housing. And I asked him to come give you a few words to start us off.

DAN ADAMS: Good morning, everyone. I'm Dan Adams. I'm from the Mayor's Office of Housing. And our office is the lead city agency working on HOPE SF.

So today we have a pretty focused goal. It's kind of a technical meeting, and you'll hear a little bit more about that from my colleague Nannie Turrell from the Planning Department.

But I did want to open with a little bit of update on HOPE SF. A number of you have participated in meetings about the Sunnydale-Velasco Revitalization

Project for many years and so probably have some questions about the status of where we are and what different people's roles are in the project.

So I'm going to give a brief introduction and answer a few questions. And then we're going to move on to the more technical aspects of today's meeting.

So our office works in collaboration with the San Francisco Housing Authority, which is the owner of Sunnydale and Velasco and maintains that property along with other Housing Authority properties across the city. And of course we work in collaboration with developers like Mercy Housing and Related Companies to look at the planning and revitalization of these communities. So HOPE SF really is looking at revitalizing a number of public housing communities that are in disrepair or dilapidated in some ways.

There are four active projects. We have two which are underway. Hunter's View is finishing its first phase of construction and starting in on its second phase this coming year. And Alice Griffith is moving towards starting construction this year. So those projects are moving forward.

Sunnydale and Potrero are completing its master planning and environmental review process. And that's part of what today's meeting is about. These

projects have been challenged to find sufficient funding to initiate construction. That's really been our challenge over the last few years. We've been impacted by the downturn in the economy, loss of resources at the city level in order to fund the project. We've had -- impacted by the loss of redevelopment. Redevelopment agencies were a prime source of funding for affordable housing across the city.

So while we are very pleased with the vision and the goals that have come out of the community for transformation of Sunnydale, we recognize that we sill have work to do finding financing to actually bring the project to fruition. We are very excited that the voters of San Francisco passed Proposition C. That's a housing trust fund that's set aside within the General Fund to be dedicated exclusively for the production and preservation of housing that's affordable to low income and moderate income households in San Francisco.

So that breathed life into our local efforts. We have an ongoing local source of funding to support projects like Sunnydale and other projects across the city. So we feel very optimistic about our local capacity to move this project forward.

But of course, we don't ever just pay for new

housing ourselves. It's too expensive for the City to be the sole funder of new development and new housing.

We want to make sure we do what we call leverage; we apply for and receive funds from other sources, state sources, federal sources, private investment. So while our outlook locally with the passage of Prop C is more favorable than it would have been otherwise.

Things are still up in the air in some ways at the state and federal level. We need to be aggressive in identifying funding at the state level and at the federal level, advocating for resources to flow to San Francisco in order to bring these projects about. So much of the work that we're going to be doing over the next year and two years is really going to be aggressively pursuing financing over and above our local source. And that would be at the state level and the federal level.

Ramie probably mentioned, we are also very pleased that Sunnydale was the recipient of the Choice Neighborhoods Initiative Planning Grant. That's a federal grant. That's going to help us do some additional planning work around the human capital development in Sunnydale. It also puts us in a favorable position to apply for implementation money

from the federal government, from HUD, in order to move the project forward. So another important step for us would be to complete that Choice Neighborhood Initiative Planning work and apply for implementation funds in the next year or two.

So that's kind of where we are right now. I'm happy to take a few questions if folks have any. Otherwise, I'll turn it over to Ramie for the broader introduction.

Again, thanks everyone for taking time out of your Saturday to come here this morning. We very much appreciate it.

RAMIE DARE: So some of you were involved in the Sunnydale master planning process a few years ago. Thank you.

So those of you who are new to this, just a brief explanation Mercy Housing and the Related Companies are two developers that are working together to develop the Sunnydale HOPE SF Master Plan. And I'll show you some pictures of what that looks like. And your packet has some information about it as well. It's the big thick packet.

So we've been working since 2008. And we worked for about a year and a half on a planning process where we had about 18 community meetings in

Visitacion Valley and Sunnydale and basically worked on what should the new Sunnydale look like. And that plan, that master plan, was submitted to the Planning Department and to the Mayor's Office of Housing for evaluation.

And it's taken a little bit longer than we thought, but we're at that point now where that evaluation, which is called the environmental review process, is kicking up. So this meeting -- and there's another one next Saturday which is basically the same meeting. This meeting is to really get your input on what should be considered as the City evaluates the environmental impact of the plan.

And Nannie, from the Planning Department, is here. And Jonathan, who is also working on the environmental evaluation -- they're going to talk to you a little bit later about what that process is and get your input.

There's a court reporter here to record your comments because this is an official process. So I'm going to let them explain that later. But I just wanted to give you a brief understanding of why we invited you to come.

Before we do that, I wanted to give you a brief slide show about the Master Plan because I know

that it has been a while for some. So I just wanted to show you some pictures and explain it to you. And, again, your packet, there's some information there about about the plan.

Are there any questions so far? No?

Okay. Why don't we go ahead.

So you guys know, this is just an aerial shot of Visitacion Valley, McLaren Park. And Sunnydale is really at the foot of McLaren Park, as you guys know. It's about 50 acres and 785 units.

When we started our master planning process, we asked a lot about what is it that you in the community really value about your community, and what do you think should be changed or revised through this master plan and through Sunnydale HOPE SF. So the things that we heard you guys tell us is that safety needed to be improved dramatically. That there were some improvements needed around community building or how the different segments of the community need to work together.

And that's what we call social cohesion -- that there's poor access to quality food. That you really wanted more resources for recreation and fitness in the community. Youth development has to be a priority. Jobs and training as well. There was also

comments about preserving what there is around the environment, particularly McLaren Park but also enhancing and improving after the master plan. And then transportation, public transportation in particular, that the quality of it was an issue.

So those are the things that we heard. And the themes, I guess, that we had, to put those together into a theme, one is that you want to strengthen the community that exists here now. You want to support youth and families. You want a sustainable and healthy community. And you wanted it to be a great place to live and visit.

So that's what we heard, and that's what we hope is reflected in the master plan.

This is just a slide to show you the existing Sunnydale. So it's kind of, you know, the square shape. And we just want to tell you, as you guys know, Sunnydale has a slope to it. It's surrounded on two sides by McLaren Park. And also there's some kind of natural barriers in that there's not a lot of ways to get in and out of Sunnydale.

This is just another picture of Sunnydale. It shows you where the public transportation is and some of the play spaces and the youth-oriented services.

So this is a diagram of the master plan.

So if you follow my red dot -- so here's Hahn Street. And this is Sunnydale. McLaren Park is here. The golf course is up here. The old McLaren School is here.

So what we are proposing is that Herz Playground remain. It's a Rec and Parks Department park. And what we want to do is actually improve Herz Playground so that we expand it and it comes all the way out to Sunnydale Avenue, and it becomes this fabulous park for the whole community and really becomes a center of activity.

This purple building is meant to be a new community center. That would include recreation and fitness facilities as well as services and, we think, probably youth-oriented activities.

This red and blue building represents a new building that will be housing for seniors. And on the ground floor, we have a mix of some neighborhood retail, like, maybe a little place for groceries and some places to eat, maybe a health clinic. So we have a lot of space here that we're planning. And then we also have childcare center as well that we're hoping to maybe relocate one of the current childcare facilities into this or -- you know, we'll figure out that program with you.

The rest of these yellow areas represent new buildings. And these buildings would be a mix of affordable housing that would be replacement housing for the current residents as well as for new residents, and then also market rate housing. And they look like square donuts because we designed them so that there would be maybe one way to get into the building and that it would be really a secure place for those residents.

And then in the middle, you would have an open space or courtyard where there might be play structures or outdoor space for those residents. And then parking would be in garages underneath these buildings. So each of these would be secure buildings.

We do have some that are kind of townhouse style that would just line the street. And all of these buildings, even the square donut ones, would have units facing the street so that we have people watching what's going on.

As you can see, this white space, these are the new streets, kind of a combination of taking the current streets of Sunnydale and then adding some new ones and kind of creating this grid here because, if you notice, the rest of Visitacion Valley has these straight streets, these grids. So this is a way of

making sure that the different parts of Sunnydale are more connected to each other. So we have this new street pattern that we're proposing.

And then the little green dots represent landscaping -- so new street trees and new landscaping. I'll show you some pictures in the back.

We have about six acres of new parks. So there's a park space here. So -- and these little round dots represent an orchard. That was one of the things we had hoped to incorporated as a way to address some of the food and nutrition issues. So this is a new park. This purple building is a pavilion where you can have a farmers' market or other activities. This green area is a community garden. We have another park up here, up the hill. And then we have a third park at this purple area that will be a the top of the hill has really nice views.

So that's the master plan in, like, two minutes.

I'll show you another diagram.

So this is just a chart to compare some statistics. So right now, Sunnydale has 785 affordable units. And we would increase that to 104 -- excuse me, 1,004 including the replacement units. Market rate, there aren't any market rate units right now in

Sunnydale. So we would develop up to 694 probably home ownership units. The community facilities on site, as you guys know, there's Headstart and there's after school programs. It serves about 200 kids total, and there's 29,000 square feet. We would propose to increase the community facilities up to 72,000 square feet. So it's a lot more space for youth activities and retail and health programs.

Then outdoor space right now, just the formal space for play area, there's less than half an acre at Sunnydale. And we would propose to increase that to six and a half acres of those three parks I was talking about, as well as those outdoor courtyards that are in each building. That totals about five acres. So just some statistics here for you.

This diagram you have in your packet, but it's really just a diagram to show you the buildings. And if you look at your packet, you'll see, like, it will say, like "50u." That means there's 50 units proposed in that particular building. So then we'll see "23sp." So that means 23 parking spaces for that particular building.

So this is going to help you get a sense of what we were thinking and this is what's being evaluated in the statement of environmental review.

And these are the types of buildings that we came up when when we were working with you on the master plan. Some of these buildings are townhouse -- these look like little blocks, like Lego blocks. But just to give you some -- these are, like, townhouses. There's some that are what we call stacked flats. So they're one-level apartments.

There's also what we call podium buildings. So remember I was telling that you the parking is going to be underneath? And then here's the outdoor courtyard. So you have that kind of situation that's called a podium building.

We also -- some of the buildings will have corridor buildings, meaning it is a building where the units can be accessed off of a corridor, whether it be outdoor, indoor. Most of ours are indoor corridors.

And then we also have the mixed-use building. Like, for example, the senior building I was telling you about that's going to have the ground floor with different retail and services, that's called a mixed-use building. So these are the different building types in the master plan.

This is just a diagram, again, looks like Lego blocks, but it just gives you a sense of when Sunnydale master plan is built, what it might look like just with

the different heights.

There is a diagram in your packet that shows the different heights proposed for each building. I'm sorry, I don't have it in slide shows. But just to orient you, this is Hahn right here. Here's the new community center, the playground, and then Sunnydale goes up like that.

These are just some quick sketches that we did to try to show you what this master plan might look like when it's built. The actual architecture will change, but we wanted to give you a feel of what this might look like.

So this is a view of what Hahn and Sunnydale might look like. So here's Sunnydale. If you go up this way, it goes up to McLaren Park. And then this is Hahn Street right here. So this is that senior building I was telling you about, where there will be activities on the ground floor in the neighborhood. And then this is the new community center, and Herz Playground is in the back.

So one thing that we spent a lot of time on with you is that you really wanted a green neighborhood. So -- and we also have to meet the City storm water requirements, meaning every time it rains, we have to figure out what to do with that water. It

can't just wash down the street.

So we designed a system where the sidewalks would have these planting areas, and that would absorb the rainwater in a natural way. It would not impact the City storm sewage system.

So these plantings would go on the streets. And we're getting that evaluated, too, by the City's storm water agency, which us the PUC.

This is just a picture of what Sunnydale Avenue might look like. So, again, here's Sunnydale. As you go up to McLaren Park, on this side, you would have a new linear park. You could ride or walk up this path up to McLaren Park.

And then these are new residential buildings. This is the pavilion I was telling you about. So this is -- right here is that pavilion. So you could have farmers market or outdoor events underneath this pavilion structure.

And the community garden is on this side, and then there's a park on this side.

This is just another picture of what the pavilion or farmer's market might look like. So you can see there's a lot of space for community activity. This is a picture of one of the parks, the one that's in the middle of the site where it gets really, really

steep. So we decided to create this really fun park that goes up the hill, and there's activities as you kind of come down. So there's different play structures. And then these would be new townhomes that would line the park.

This is just a picture of what a street might look like. So you can see, there's a lot of that planting I was telling you about. The new buildings that are kind of set back from sidewalk -- new sidewalks, new streets. And the buildings would be about three to four stories tall. And these are all residential.

I think that's it. Are there questions about the master plan?

Ruby?

RUBY SMITH: I noticed at the beginning it said you have a lot of youth services and everything. But what needs to be added on there is mental health services because, like, Sunnydale is like 80 percent of victims. And, like, I'm one of them. And so, that's what we found.

You know, we found out that Sunnydale has a bad need because there's a lot of people that cannot read. You know, I've talked to a lot of my neighbors, and they didn't know about this meeting. They all got

the flier, but they cannot read. And that's what -- I'm a full-time student at City College. And I've also been working with homelessness in the Tenderloin with the Episcopal Community Services. And they asked me to come to this meeting -- you know, because I'm -- City College, you know, I be on a scholarship program to help with my community.

And so I'm trying to find out who is the person that I can talk to that, you know, we can start a program, you know, because I'm majoring in child development for traumatized -- you know, in trauma. So to try to help my neighbors, my friends, my family, try to make this transition easy. And, you know, who can I talk to about trying to get a program started to help.

RAMIE DARE: That's actually a good point. I forgot to talk about this.

So Dan kind of mentioned that recently we found out that Mercy and Related and the City got this HUD grant to do more planning. So this, we did a lot of planning. Right? Like, a lot of physical planning.

But as I was telling people earlier, now we want to do more of the people part of the planning, so the stuff that you're talking about exactly.

So we're in the process of hiring somebody to lead that work and to engage with you on what are the

right services and programs that should go in these spaces. So that's the next step. And that's what the plan is for 2013.

RUBY SMITH: Because the Episcopal community, they got funding, too, to work in the area. And they wanted to offer their services, you know. So I needed to get a contact person that they can contact to see. Because they want to offer services because, by you guys tearing down Sunnydale, will cause a lot of homelessness because everybody's not, you know, on the lease or whatever or will not be able to get the opportunities to, you know, get the funding to transfer somewhere.

So by them tearing down Sunnydale is going to cause a lot of homelessness. So we want to try to prevent it. So we can do resource fairs to help try to get the people that aren't legally supposed to be in Sunnydale, to get relocated.

RAMIE DARE: So if you can stay the whole meeting, come talk to me after the meeting and we'll talk about it.

RUBY SMITH: Yeah. Okay.

RAMIE DARE: So the relocation plan is we're going to have to do this in phases because it's such a big place. It's 50 acres. So we're going to have to

figure out how do we divide it by phases and so that they demolish those units, and the folks that live in those units will get temporarily relocated to units elsewhere.

So once we have a better sense of our construction timeline, then the Housing Authority would probably stop leasing so that they can accumulate enough vacancies for those folks to temporarily live in. So it will be this kind of system that we create to make that happen.

I'll take one more question, and then I'm going to hand it over to Nannie.

UNIDENTIFIED SPEAKER: What's your kind of time line for the project to break ground?

RAMIE DARE: That's a good question. So this process of the environmental review that Nannie and Jonathan are going to talk about, it will probably take about a year. So we have to give you that first. So we have to get through that first.

In the meantime, we're going to work hard to identify the ways to finance the different pieces because there's, you know, the housing construction, there's the construction of all the parks and the streets and the community program.

So -- and of course that planning of the

services. So there's a lot that we're going to try to accomplish this next 12 to 18 months and hopefully, as Dan said, position ourselves to be competitive for federal funding.

There is a program at the federal level that is specifically for this kind of stuff. And it's big dollars. So went to be able to apply for those big dollars. And Alice Griffith in the Candlestick area got one of those grants. So we feel like we're in good shape. We have smart people here. And HUD seems to be really excited. So we'll see.

I don't know if that answers your question. I don't really have a specific, because it all depends on when we get funding.

UNIDENTIFIED SPEAKER: I meant the projection of three years, five years, ten years?

RAMIE DARE: Probably three years.

RUBY SMITH: When is the actual date that we're going to start any type of process?

RAMIE DARE: You mean construction, or --

RUBY SMITH: I mean to start moving people, shuffling people around.

RAMIE DARE: So when would we start moving people around? I don't imagine that happening before like --

RUBY SMITH: This year?

RAMIE DARE: -- three years or -- oh, no.

RUBY SMITH: Not this year?

RAMIE DARE: No, no. It will take us a couple years to get through this environmental review process and also to get the funding together, at least a couple years, yeah.

And we're going to come back to you. I know we've been gone for a little bit because we were trying to get things together. But we're going to come back and give you updates. Plus we'll also do a relocation planning process with the community. So that's where some of these issues that you were talking about will get fleshed out.

So I'm going to stop the questions for now. I'm going to stay around. I'll be happy to talk with you afterwards if you have more questions or comments about the master plan. I'm going to hand this over to Nannie and Jonathan.

NANNIE TURRELL: I'm Nannie Turrell with the San Francisco Planning Department. And I work in the environmental planning section. Jonathan is with ESA, a consulting firm. They'll be doing the environmental background studies, putting together the reports.

RUBY SMITH: Could you speak up a little bit?

NANNIE TURRELL: Yes. ESA will be doing the

reports under our direction, for the environmental.

JONATHAN CARY: Thanks everyone for coming today.

As Nannie mentioned, my name is Jonathan, and we're preparing the environmental review documents for the project. And that's the primary purpose of today's meeting, although we did have an update from Ramie on where we are in the process.

So there's two concurrent processes that are legally required before the master plan can even be approved. One is called CEQA, and one is called NEPA. Nannie are going to kind of tag team this presentation. I'll be mostly discussing NEPA, which is at the federal level. And Nannie will discuss CEQA, which is at the California or state level.

The purpose of today's meeting is to ultimately get your input on the environmental analysis of the project. And we'll explain what that means.

So NEPA is short for National Environmental Policy Acts. It became law in 1970. All federal agencies are required to analyze the environmental impacts of their actions when it's major federal action.

In this case, the Department of Housing and Urban Development, we call it HUD for short, is the federal agency. HUD could approve funding for this

project. But HUD doesn't do environmental review. Nationwide, HUD delegates that responsibility to a local agency. In San Francisco, that local agency is the Mayor's Office, represented here by Dan, who spoke earlier.

NANNIE TURRELL: The California Environmental Quality Act came about shortly after the National Environmental Policy Act. It is main purpose is to protect resources in California. It's a bit stricter than NEPA, and it's evolved over the years through court cases and changes at the state level.

The guidelines are prepared by the Governor's Office of Planning & Research and local agencies can develop their own guidelines. And San Francisco, based on the CEQA guidelines. And San Francisco's noticing requirements, primarily, are contained in article 31 of the San Francisco Administrative Code.

JONATHAN CARY: So both CEQA and NEPA have similar purposes, but we're required to tell you what those purposes are. So under HUD's regulations, NEPA's purposes are to ensure a safe and healthy environment, to assess how the project will affect the environment, and to assure the sustainability of the project.

NEPA also requires us to analyze whether the project will improve the quality of life of those

affected by the project.

NANNIE TURRELL: The purposes of CEQA are to give decision makers -- which will be the San Francisco Planning Commission and the Board of Supervisors -- and the public information about the impacts of projects, and identify ways to avoid or reduce environmental impacts that could occur.

It provides for public input. And this is the first meeting where public input is being received. There will be others in the process. And we'll go through that in a little bit. CEQA intends to identify environmental consequences early in the process. So that the project could change before it gets too far along. And so the studies are informing the project in a cohesive way.

Changes in the project are required if feasible, if they can avoid environmental impacts. And if the Planning Commission decides to approve a project that has significant environmental impacts, they are required to disclose what they think the greater public good is of approving that project despite its impacts.

JONATHAN CARY: So under NEPA, you have to do something very similar. You have to describe the federal action and how it will affect the environment and identify any adverse environmental impacts. And

all of this information for both the federal level and the local leval, it all has to be amassed and put into a document for decision makers before decisions are made.

NANNIE TURRELL: CEQA is intend to maintain the quality of the environment as it exists and into the future. Projects are defined as activities that could affect the environment.

And in San Francisco, a lot of things are projects. Covered by low-level environmental review up to the environmental impact report that is being done on this project.

The studies, the CEQA is initiated by a lead agency that is handled by the San Francisco Planning Department for the City, but the City is in fact the lead agency for all projects.

JONATHAN CARY: So the document that we'll be preparing will be called an EIR/EIS. That stands for environmental impact report and environmental impact statement. The second part, the latter part, that EIS, that's the NEPA part. It's the highest level of environmental review that's required by NEPA. And it's required when there's a finding of significant impact.

So based on preliminary studies that occurred

over the past year, year and a half, it was determined that the project will likely have a significant impact on traffic. So therefore, the Mayor's Office has to prepare an EIS.

NANNIE TURRELL: The EIR is also the highest level of environmental review under CEQA. And it must identify, avoid and mitigate significant environmental effects where feasible.

The intention is to prepare the document early enough in the process that these effects can be identified but at a point where the project is somewhat stable and you know where the buildings are going to go, you know how many buildings there are going to be, what height they'll be at, that sort of thing, so you can determine what's going to be affected by them.

The formal public comment for scoping is right now. You received a notice that the notice of preparation was available. And that's on the table. It describes the project for you and the process we're going through.

The next opportunity after the public scoping process will be after the Environmental Impact Report, Environmental Impact Statement has been prepared and you've had a chance to review it. Then there will be a public hearing to take public comment.

JONATHAN CARY: So I know this is dry. We're about halfway through. There's still no pictures. There won't. But be but bear with us.

Even though we've been talk about different processes -- NEPA at the federal level, CEQA at the state level -- for your purposes here today, this hearing covers both processes. We're not doing separate meetings for one process or another. The intent here is to try to make these two cumbersome processes as simplified as possible so that you can comment during one process instead of two.

So the purpose of today's meeting is to get your input on the environmental impacts of the project. It's to ensure that real problems are identified early and problems that aren't really applicable to Sunnydale can be summarily discussed and then moved on from.

NEPA is a national law, and CEQA is a statewide law. So both of these programs require analyses for things that aren't really applicable in a city setting where Sunnydale is.

So this is a flow chart of the NEPA process. We're at the green line right there. That's public scoping and public involvement. The line above it says "Notice of Intent to Prepare an Environmental Impact Statement."

The Mayor's Office sent this notice out to federal and state agencies at the end of last year, slightly before the notice of preparation was published. This was to give all the federal agencies notice that this was going on.

And then we will publish the Draft EIS. That's when you come back and you comment and you tell us whether or not we did a good job on this draft document. Then we incorporate those comments and prepare the Final EIS.

Finally, the Mayor's Office and HUD issue a record of decision on whether or not to move forward with the project based on that analysis.

NANNIE TURRELL: The CEQA process is similar. We've determined that this is the project. We've also determined that there could be significant environmental effects. And we're not sure if they can all be mitigated, so we issued the notice and sent a notice of preparation with the project description in it.

And we're now at the scoping period, which will last until January 18th. After this, we will be preparing the Draft EIR/EIS, issuing that to the public. There will be a public hearing for that at which you're invited to attend and make your comments

known. You can also write your comments and e-mail them, call me with them.

And those comments and our response to them will be incorporated into a document. Then the Planning Department will consider whether or not that document is adequate and should be certified.

And after that, the project will be considered for approval.

The content of the EIR is a thorough project description. It will contain alternatives that should reduce or eliminate impacts of the project. It will talk about the affected environment, what impacts there are caused by the project -- and that's going to be on the next slide -- the short-term consequences of energy use that has gone into the project versus the long-term benefits from the project.

It will contain mitigation measures for impacts, significant impacts. And it will talk about the coordination and consultation that was done at various agencies and with the public.

The document will cover land use, utilities, recreation, aesthetics, geology, hydrology, biological resources, noise effects that can come from the project, air quality impacts that could occur as a result of the project, hazardous materials impacts and

how that will be mitigated and is relevant to the project, historic resources and archeological resources of the site and if they might be affected, energies, transportation and traffic -- which will include existing traffic and transit use, and it will talk about what that will be like after the project is built and on into the future, around 2030.

Socioeconomic effects are not generally contained in EIRs, but they are going to be in this document, as is a discussion of the environmental justice issues. CEQA doesn't contain those things, but NEPA does, so it will be addressed. That will include relocation.

Ramie has pretty much gone over the purposes of this Sunnydale-Velasco project. It's intended to improve the quality of life and economic conditions in the area, maximize new affordable rental and ownership housing, and create an environmentally sustainable and accessible community and build a strong community.

Now it's time for you to finally get a chance to speak. I hope that you filled out speaker cards. Each speaker will get three minutes. Jonathan will time that. If you have any written comments, they should be sent to Bill Wycko -- he's the environmental review officer -- at this address. And I believe our

materials here contain that address. I know the NOP does.

The comments must be received by 5:00 p.m. on January 18th. You can call me at 415/575-9047. My contact information is on the agenda, or you can e-mail me at Nannie.Turrell@sfgov.org.

I guess now we're going to take comments. If you want to stand where you are, the court reporter can hear you speak. Speak clearly, and give your name and address. She will take down your comments, and we'll have a record of all the comments that were made today.

UNIDENTIFIED SPEAKER: What about questions?

NANNIE TURRELL: If you want to have a question, go ahead.

FRAN MARTIN: Is that separate from the comments? Are the questions separate from the comments?

NANNIE TURRELL: Yes. Can you wait until after all the comments are in?

UNIDENTIFIED SPEAKER: I might won't have a comment until I ask you the question.

NANNIE TURRELL: Okay. What is your question?

UNIDENTIFIED SPEAKER: Whether or not homelessness is being considered in the environmental impact.

JONATHAN CARY: Under NEPA, the relocation section -- let me scroll back here.

"Relocations," it's discussed in there because the project's impacts on moving people around have to be addressed, and that includes homeless people that are living at the site.

UNIDENTIFIED SPEAKER: Okay. Undocumented people?

JONATHAN CARY: Yes.

Yes, ma'am?

ROMONICA GRAYSON: I have a few questions. What percentage of residents participated in the whole plan before it even got started? And what percentage of the residents will be involved in further planning of this? Because the whole kaleidoscope that you're saying, as far as showing the picture proposal is only showing Sunnydale. The paper process goes as far as Glen Park and everything else. It's two different things.

NANNIE TURRELL: We sent notices to everyone --

ROMONICA GRAYSON: Every resident in Sunnydale did not receive this letter. So this is not pertaining to give a 50 percent Sunnydale resident participation in these meetings. One, they didn't get out at Sunnydale. Two, the residents are not getting advised of where these meetings are on behalf of th residents of Sunnydale.

So my question was how and when is the information going to be given to the residents that are

going to get impacted by this whole move, period? So the market rate and the base rate and everything, I understand that; that's moving it into the community.

But the residents that are being impacted by this whole plan, this whole design and everything, when is the initial contact going to be brung to them as well as to me, because I'm a resident of Sunnydale.

JONATHAN CARY: I cannot speak about the previous planning efforts. I think Ramie could speak to that.

But as far as the noticing, we received the notice of all the tenants -- a list of all the tenants from the Housing Authority. In addition, we contacted a separate agency called Radius Services. And they use tax of parcel records and tenant records to create a list not only of the project site but everybody within a 300-foot radius.

It is possible that these lists were not 100 percent up to date, but they are usually very reliable.

ROMONICA GRAYSON: I have two different residences at Sunnydale as well as I have a residence at -- I have my unit, and I have my office. I never received this letter. This resident has information, meanwhile we was going through them as well as through others. However that outreach part is like intertwined with this, that needs to better affect the residents of

Sunnydale because this letter never came out to us.

So as well as why -- you never answered the question why are the meetings being brung into the Visitacion instead of the Sunnydale first off? We are the ones that will be impacted by it.

NANNIE TURRELL: There's another meeting next Saturday at 10:00 a.m.

ROMONICA GRAYSON: That still doesn't answer the question why residents of Sunnydale aren't a part of the planning of this. So this secondary meeting that's going to be in Sunnydale, there's no advertising of that either. So I'm going to have to make sure that we get a flier out so we get more resident participation at these meetings because this is going to impact Sunnydale.

So the market based and the market rents people that you're sponsoring and that you're trying to put on, this is going to initiate all the residents out of Sunnydale out of there to be able to make Sunnydale look like a new Market Street -- this is why this is happening, because there's no resident participation.

And Sunnydale is not getting advised about what's happening around them, happening to them. So all of the sketches -- it shows Little Hollywood. It shows the new move that you did. It does not show or

reflect the safe neighborhood. And one-way-in buildings, how is that safe when we have all these shootings in our neighborhood? Same with the big parks; there's more robberies that you're opening up.

So the homelessness, this is where half the people that you're putting out of these units to make this look like a bigger and better Market Street are going to be living at, in these parks, in these dwellings, in these, like, parking structure garages.

So I heard no security, period, that you're going to give these residents that are not being informed that any of this is really going to impact us that's happening to us in the first place.

RAMIE DARE: I'm just going to speak to the question you raised earlier about why Sunnydale residents weren't involved.

We actually did involve Sunnydale residents in the planning. We would do mailings -- and this was back in 2008, 2009, 2010; so it has been a while. And there might be new residents who have moved into Sunnydale since who, you know, weren't part of that process. But we had most of our planning meetings at Sunnydale in the community room and used the input that we got to create the master plan.

The pictures that I showed you are of the

Sunnydale master plan. They're not of other areas of the City. And I would appreciate, if you would like to help us get the word out about next Saturday's meeting, that's going to be at the Sunnydale Community Room, that would really be great.

We were going to do more outreach this upcoming week to remind people about that Saturday meeting.

ROMONICA GRAYSON: One of the questions that I raised was that the pictures that you're showing and the proposals that you have are two different things. The pictures are only showing Sunnydale.

The proposals guidelines, the Bayshore -- yeah, the proposal that you gave out, so the written proposal, I didn't scan to whole thing, but there's paragraphs in here that detail this reconstruction and everything from the Schlage Lock building coming up into Sunnydale.

So if the grants are only allocated -- okay, everybody's looking dumb now.

NANNIE TURRELL: We're not sure -- let's see what you're looking at.

ROMONICA GRAYSON: This paragraph right here. "Redevelopment Program Area includes 46 acres extending on both sides of Bayshore Boulevard roughly between

Sunnydale Avenue and Blanken Avenue in the center of Visitacion Valley neighborhood, approximately one mile east of the project site. This project includes the reuse of the vacant Schlage Lock property."

So I can't, like, embellish what your paperwork says. So this --

JONATHAN CARY: We may have written this too confusing. The purpose here was to give a background of the entire neighborhood. It wasn't to say that the entire neighborhood will be affected. The only area that will be affected is the one that's in this outline.

ROMONICA GRAYSON: Well, throughout the proposal is the designed areas that really were redevelopment, is that Schlage Lock, that Schlage Lock lot down there.

So the proposal that's coming into Sunnydale, one of the things -- maybe it's just me, jumping ahead of the gun -- but the proposals are designed to get the buildings in the areas around Sunnydale redeveloped. So by the time you get to our area, you're going to say you don't have any money anyway.

So the proposal's not written wrong. It's written right. It was just not designed for anybody or any residents to read it like I just read it. I skipped through to the parts that I needed. Like I

said, I didn't scan the whole thing. But this picture proposal is showing Sunnydale. This paper proposal, unless you're telling me that everything is wrong inside except just that one sentence, this is not based on Sunnydale or Sunnydale residency or the units as one block around Sunnydale. This is based on the design that the Mayor's Office got to make a better part of Sunnydale not being housing.

So none of this design that you just say added residency to it. Neither one of you guys gave an example of what this new design is going to look like.

You didn't get the participation in the parks, the participation in the neighborhood, resident services. Which services are just going to be for Sunnydale residents? Sunnydale residents can't go to Visitacion and apply for Christmas program and everything.

You just opened up our neighborhood for City services. So this is all going to accomplish -- traffic? What traffic zoning does Sunnydale have besides opening up Visitacion to make it better for the Cow Palace as long as you keep trying to tear down Sunnydale to get more access to whiter community.

So this is not resident services. So any additional services that you guys contacted on behalf

of resident services, they didn't get this information to the residents who are impacted.

JONATHAN CARY: We've heard your comment that we didn't do enough outreach, and all of the other comments have been taken down by the court reporter.

If you'd like to do to additional comment, we have a three-minute period you can do that in. But we really needing to get everybody's else input at this time.

So are there any other questions? If you have a comment or if you want to say something we've done wrong, it's best to do that during the comment period.

If you have a question for us, we can answer that now.

UNIDENTIFIED SPEAKER: I got a question. I've been coming to the meeting, but I did not receive anything. I have not -- I've been to Sunnydale. I've been to the Little Village School. I've been to all that. But I have not received anything since.

And I told you I would be in my 80s when y'all finish. And I will be. And I need to know something else. I guess you want me to shut up, but I'm not.

How big is the bedrooms going to be? How many foot is it? Is it going to be able to hold a double bed?

JONATHAN CARY: I don't think we've designed the bedrooms at this point. Right now, it's just the master plan. The design of the individual buildings at the room-by-room level has not taken place.

UNIDENTIFIED SPEAKER: So that means I got to get rid of half of what I got. I'll wait and see. But I told you I'd be in my 80s, didn't I, when you all finished. I don't think I met you [indicating], but I met you [indicating]. I told you I'd be in my 80s.

JONATHAN CARY: Yes?

FRAN MARTIN: Is it possible to get a copy of the CEQA/NEPA --

JONATHAN CARY: The presentation?

FRAN MARTIN: Yes, I mean, just for myself.

JONATHAN CARY: Yes. Would you give me your information?

UNIDENTIFIED SPEAKER: I'll see y'all next Saturday. I'm going out to breakfast with my family

- PUBLIC COMMENT -

NANNIE TURRELL: Robert Cowan? Althia Smith? Romonica Grayson?

ROMONICA GRAYSON: That's me.

NANNIE TURRELL: Janet Garcia?

JANET GARCIA: No comment.

NANNIE TURRELL: Fran Martin?

FRAN MARTIN: I'm really concerned about this. Some of this is not really environmental impact, but I want to get the -- we've asked that there be an alternative where this be a greenway down in here.

We're concerned about this community garden. It's going to need to have tall fences around it like we have on the Greenway project. Therefore, you probably need to have some kind of entry, you know, pathway through here.

Up there, it's Sunnydale, right outside the Gleneagles, there's a proposal for the San Francisco Urban Riders to put in an extreme bike facility. There's been no planning process to speak of. I bet none of you even know about it. There's going to be an environmental impact on Sunnydale. They said they're going to have 300 to 500 cars coming in there when they have their events. It's an extreme bike thing where people to flip-flops on the bikes.

It's not serving our community, and there's been no transparent process. I would like to know if that can be included in the EIR. I'm not sure where it stands right now. We've asked for a master plan for all of McLaren Park.

And we would like to see a mixed use there with community garden, maybe some greenhouses to create

jobs for people in Sunnydale, a little bike area for kids, just space that's mixed use for people who actually live in Sunnydale Visitacion Valley. And I would hope that there would be a planning process that would include the people in Sunnydale.

And I just want to say one other thing. The lady who left, I think she kind of misunderstood what's been happening. The rest of the people in Visitacion Valley want Sunnydale to become part of the greater Visitacion Valley. We don't want it to be like a fortress. We want this to be able to -- people to go in and out and it become part of the whole neighborhood.

And so when they talk about setting, this isn't just about Sunnydale. It's about the whole valley and how we can all work together and make a better neighborhood. So I don't want people to feel like this meeting is only for people who don't live in Sunnydale. It's for everybody.

We come to your meetings in Sunnydale and hope that you'll come to ours. Anyway, that's it.

UNIDENTIFIED SPEAKER: I didn't get one of those card things. I came late.

RAMIE DARE: Anybody else need a speaker card who might want to speak?

CLARA GARDUNO: I just just wanted to, like, to tag on to Fran's comment.

JONATHAN CARY: I'm sorry. Could you state your name, please?

CLARA GARDUNO: I'm sorry. Clara Garduno, 526 Visitacion Avenue.

JONATHAN CARY: Thank you.

CLARA GARDUNO: I think a lot of what's happened in the perception has been that it's them and us. And it's really unfortunate because I was living in Little Hollywood when I was five years old. Then I lived in the Marina. Then I lived in Potrero Hill.

Now back in Visitacion Valley because my parents are elderly. So I'm sort of representing them as well as because they're elderly and can't come to meetings, can't hear, et cetera.

So I see the concern about children, seniors, environmental impact. And it's unfortunate that the two sides -- there shouldn't be two sides. It should be one community because we're all in this valley. And I think maybe -- just throw it out there on the table -- having an area in the projects have a dual purpose, where there's services for the Valley as a whole and, in particular, the particular needs of the residents there. In other words, trying to make it

more of a cohesive and eclectic -- of course it will be -- eclectic situation where, you know, the person next to you may be living in Sunnydale unit whatever, and the other person may be living in Little Hollywood or the person next to them may be on Desmond.

So maybe offerings of project uses, services to involve everyone, that everyone can participate in. I think that's one way of perhaps putting a foot in the right direction.

I understand that we don't all experience what the residents there are going through daily. But we do hear the shootings. We hear the sirens. The traffic is horrible. I live on Visitacion, so the buses are that are going through that area come onto Visitacion. And that -- the traffic is a big problem.

Just a suggestion.

NANNIE TURRELL: Maggie Winterstein.

MAGGIE WINTERSTEIN: I live at 424 Velasco. I don't live in Sunnydale, but I have family that live there. And I have teenage nieces and nephews that live in Sunnydale. And a lot of them, they don't speak English, and they don't understand. So they asked me to come and see what the meeting's about.

But I would like to have the Samoan community represented because there is a lot of Samoan people

that live there. And a lot of them, t4hey don't understand. They're like, "Oh, there's a piece of paper? What is this for?" And they don't understand. And you know, there's nobody here that's Samoan that can help, you know, relate to them.

So it would be nice to have somebody who is Samoan to represent the people that live the Sunnydale so they can explain to them what's going on.

That's my comment. And, you know, safety is important. And I don't live in Sunnydale, but I live a block from there. And I know how it is in there. I grew up in the ghetto, too. I grew up in Westpoint, Fillmore. So I know how it is.

And it's hard for everybody to change, but we need to. We don't want our kids to grow up like that. We didn't grow up like that. Times are tough now. But everybody wants to do what's good for the community and for the kids.

And I know everybody's mad because some people are saying they didn't get the forms or whatever. But if you didn't get it, ask. You know, you can't get anything done if you don't ask. Okay?

So that's my comment. Thank you.

NANNIE TURRELL: Thank you.

Okay. Do you want to say your name?

RUBY SMITH: Oh, my name is Ruby Smith. And I've been a resident on -- of Sunnydale, but I live on Blythdale, the upper Blythdale.

So like what she was saying, she lives on Visitacion. But what's really hard, really bad, is that I live two blocks from Sunnydale. And we don't go to the community center because of the border, you know. The kids -- my kids don't -- the kids don't go to the Boys & Girls Club.

I used to be the manager of the Boys & Girls Club in 1990. I had 353 members. When you go there now, you see no more than ten. See, the kids can't go to club. They tore down all the little parks on upper Blythdale.

So none of the mothers want their kids going down to the park that's on Sunnydale because of all the shooting. I mean, you know, you want your kids close.

And so that's what I'm saying. Like with her, I know how you feel because I just live two blocks away from Sunnydale, in Sunnydale. But I can't even go to the community center. We can't do anything because of all of that.

And because there's no funding for gang prevention programs -- that what -- I'm a violence prevention advocate for Sunnydale. I used to be a gang

prevention advocate 20 years ago.

But what I'm saying is, now that I'm older and I see all the abuse, the -- since John King opened up the center, took a lot of the seniors away, there's no more senior tenant association. So the seniors don't get together and -- you know, like they used to.

And it's just like they have no services for -- mental health services. I'm a victim myself. I -- there's no mental health services in Sunnydale. And I -- I have problems. And the only reason why I got mental health services is because I tried to kill myself. And that's the only way I got the proper help needed to straighten my head up.

Now I've been going to City College for three years. I got 4.0 grade point average. I'm doing just fine. But it wasn't until I was trying to kill myself I got to proper help needed.

So that's what I'm saying. We need those type of services because a lot of these people that are disabled, they pay their bills because why? Because they're on an automatic payment plan. So what's what I said.

These people, they don't mean to have bad credit or anything -- because that's what they're mostly scared of, that they're not going to be able to

come back because of their credit or, like, because they're on SSI, or you know, whatever. You know. That's what I said, we don't make that amount of money. You know, because I know I don't.

I make less than $13,000 a year. But I'm surviving. Off of what? Financial aid. But am I going to be able to come back? You know, that's what I said. I lived in Sunnydale for 46 years. I've been paying my rent, or else I would have been evicted. So that's what I'm saying. A lot of people are scared that they're not going to be able to come back.

You know, because that's really -- Sunnydale is all I know. Even though it's the most dangerous place, you know, I -- my cars don't get touched. We all look out for our kids and everything. We look out for each other in that little place. So I feel safe there.

But it's just like a block away, you don't. So, you know, that's what I said. It's a tight community. It's just, like, we don't -- they just don't know better. You know.

I'm sure you guys got AS and BA degrees, but a lot of these people don't.

So like you said, I was sent here because I helped the senior and disabled just like you were sent

here by your people. And I need to talk to you because the Episcopal Church asked me about the Samoan community.

JONATHAN CARY: Next card?

NANNIE TURRELL: There are no next cards.

Are there any other speakers?

MAGGIE WINTERSTEIN: So is this going to be the same meeting that we're going to have at Sunnydale? This is the same thing?

JONATHAN CARY: Yes, same exact meeting. It's just the idea is to have two different locations to get different people. Some people couldn't make today, or they couldn't make next week. So try to make it more available to people.

MAGGIE WINTERSTEIN: Can you guys have somebody who speaks Samoan there?

JONATHAN CARY: We will.

Yes, ma'am?

BRIDGETTE TORRES: My name is Bridgette. I live at 51 Blythdale.

My question is, is it for sure that the residents that live in the Sunnydale community, if this plan gets proposed and passes, for sure all the residents will have a place to come back and live at the same price?

JONATHAN CARY: At the same price?

I think we're done with public comment.

BRIDGETTE TORRES: Because it can be public housing and Mercy Housing, is SFHA still going to own it?

RAMIE DARE: Dan, you can jump in if I say something that's incomplete.

But the idea is that, for the replacement housing, there will be apartments. And you can still pay one third of your income for rent. So that's the same, what you're doing now.

The Housing Authority would not own that building. It would be Mercy Housing and Related Companies that would own that apartment building that you live in. And we would property manage it as well we're probably going to property manage the entire place, the entire community.

BRIDGETTE TORRES: I've applied to a lot of your other locations, and I think they're good. They have a lot of services. I've actually been in some of them. The community services are nice. They offer a lot of services. I haven't been there long, but I know a lot of people that live there. And I've done a lot of my teenage years there. My auntie lives there. My daughter lives there. I live there. I think it's

good.

But I think, if the community wants to be involved or they don't like it or whatever that lady said she didn't like, you need to participate. If you're not going to participate, then all you guys aren't going to help us.

You need to speak. If you're not going to speak -- like this lady said, mental health -- if you're not going to speak, then you guys don't know what we need.

So maybe that's another thing. But a lot of people are scared. They don't know what to say. Cultural competency, cultural differences, it's a big move. "Where do we go? How do we get our stuff back?" All these other questions arise.

NANNIE TURRELL: Simmie Jones? You don't have to stand up.

JONATHAN CARY: Oh, it would be easier for Debbie to hear if you stood up.

SIMMIE JONES: I've been in the community for a long time. It's since the Geneva Towers. The community will have to get together. I live on Wabash. And at this point, I am a senior.

I heard you mention something about the seniors and the Visitacion Valley. But one situation

impacts another one, from the Little Hollywood all the way up. Right now, we have a tremendous problem with traffic. And where can you put your car? On Wabash Terrace -- the good old housing department -- it's a very short street. And I imagine many of the streets are like this because I walk every morning with a group of walkers.

And by the way, we have nowhere to go. No senior facilities. Right down there at 50 Raymond Street is in turmoil. There is nothing for us to do other than to walk through the gardens. And we do that.

You can't go up to Mercy Housing because it's they say say that it's so small. And many of the activities have been put on second floor. And since you're not a part of Mercy Housing, you can't go there. You can't be a part of that. The traffic on these streets, when you take the buses and you put all of the meters and stuff, what they do -- there is no parking for that traffic down there where the T train.

This little short street, the housings on there are two-bedroom homes. Now they have four cars, and two vans. That's the average of this little place.

When the people get to coming down there to park from the T train to come in, on the Schlage Lock

Company you have a two-hour parking, on something street down there. So they can't stay down there. They impacts those streets. They don't mind parking in your driveway. They don't mind parking anywhere.

So most of the streets are like that are impacted. But I'm here to ask, where can the seniors go, the seniors that are not impacted by Mercy Housing? Can you have one -- a unit? Where can we go to ask?

RUBY SMITH: Isn't 50 Raymond still open?

SIMMIE JONES: No, it is not, ma'am, because something has happened. Something has happened to Raymond, and that building was donated. We can't get anything for us to do.

So seniors need to be held -- believe me by the time you look around, you'll be 55 and above and an active adult --

RUBY SMITH: That's why I'm almost there.

SIMMIE JONES: -- anything that -- you want to call it cute; any way you want to put it, you're just old. And that doesn't mean you're not vital because I saw some person that was 101 who was still looking good. She made it on TV and was really -- she exercises.

So I'm asking that -- to keep us healthy, to take some classes, to do something, even a part of City

College or whatever. So I'm asking if you would please look into that and the impact on streets.

There, again, the bikers, they will not stop for you.

So thank you very much for hearing me.

JONATHAN CARY: Thank you.

NANNIE TURRELL: Is there anyone else who would like to speak?

FRAN MARTIN: I just want people to feel optimistic about this. This is a long time coming. It's going to be really exciting. It's going to be mixed income. There's going to be a lot more opportunities for people.

And having worked on the the greenway project and the Schlage Lot for years, it isn't going to happen overnight. You have to be patient. But there is not going to be displacement. I don't want people to start thinking they're going to become homeless. That's something that our planning lines has fought for at the Redevelopment Center. I know that Mercy Housing is committed to that.

So, you know, this is really exciting times. And I hope that you ask your neighbors and family and friends to participate in this. There has been a really robust planning process at Sunnydale as well as

throughout the community. And some people may not have known it. I mean, it is hard to reach out and get everybody included.

So anyway, I just hope you are excited about this, as I am. And I hope you can move fast, and I hope we can get ahead of Potrero Hill.

Is that possible? Is this a race?

DAN ADAMS: It's not a race.

FRAN MARTIN: If it's a race, we want to be first.

BRIDGETTE TORRES: One other question. While they are rebuilding, where will the current Sunnydale residents be placed in between time?

JONATHAN CARY: There will be placed in other units on the site.

I believe --

Correct me if I'm wrong, Ramie.

Right now, there's a certain amount of attrition. People leave units regularly, and new people come in. So the idea here is that, when somebody leaves, instead of bringing somebody else in, that unit will reserved for when a part of the site has to be reconstructed. And those residents that are over here will move into those reserve units.

BRIDGETTE TORRES: So you're going to tear down building by building?

JONATHAN CARY: It will be in phases, yes.

BRIDGETTE TORRES: So my second question is about moving. Will you guys offer services to help people move their belongings?

JONATHAN CARY: Yes.

BRIDGETTE TORRES: Or how is that going to work?

RAMIE DARE: Yes, yes.

BRIDGETTE TORRES: At no cost or for a cost or --

RAMIE DARE: So there will be, like, a relocation assistant to each household to help you figure out what is involved in moving to your unit, the one that he was talking about, temporarily and then to your new construction permitted unit. So we'll have somebody assigned to each household to help you through, and that will include figuring out the costs of the -- like a truck or whatever.

BRIDGETTE TORRES: I mean -- well, I guess my question is more will you have people there helping us move for free?

RAMIE DARE: Yes.

BRIDGETTE TORRES: So if we needed a truck, and then there would be other services like that ot help us figure out what's low cost or cheapest?

RAMIE DARE: Yes.

BRIDGETTE TORRES: Okay. And then, another thing

is, there's a big roach problem. That's kind of like white on rice. It's almost impossible to get rid of.

How are they going to ensure that or help the residents not bring those into the new facilities? Because that would be such a shame. Because I do have a friend that a cockroach crawled in her ear, and now she's partially deaf. I'd die if that happened to my daughter. Do you have a plan to help ensure that?

RAMIE DARE: I'm not a relocation expert. But there are people who deal with that and bed bugs, everything.

BRIDGETTE TORRES: Bombing doesn't work. Boric acid doesn't work. Nothing works. If your neighbors have them and they're filthy, forget it. That's just plane point simple. I mean, that's it. So...

RAMIE DARE: There will be, like, an assessment probably of each household. And the people who do this all the time, not me, can figure it out pretty quickly.

BRIDGETTE TORRES: Little things like that mean a lot.

JONATHAN CARY: I'd like to suggest, if nobody has any more comments, if you have questions, we can close the public hearing portion so that it would give Debbie a break from typing.

And you can stay and we can have more question

and answer. But to just close out the public hearing portion. Is everybody okay with that?

ROBERT COWAN: I have one thing.

JONATHAN CARY: Yes, sir.

ROBERT COWAN: My name is Robert Cowan. And previously I'd heard that there was going to be a total of 1700 units, but today it was 1,004. So just a quick run of the numbers?

RAMIE DARE: I'm sorry. What confused you -- so the top two rows, if you add them together, it's 1700. So there will be 1,004 affordable units and then another 694 units that are market rate, hopefully home ownership. So if you add those together, it's 1700. So that 1700 number is the maximum.

ROBERT COWAN: So 694 is not included in 1004.

RAMIE DARE: No, it's an addition.

JONATHAN CARY: Thank you.

We are going to close the public hearing. Thank you all for coming. Feel free to hang around if you have additional questions. We'll be here packing up.

Have a good weekend.

(Whereupon, the proceedings concluded at 11:36 o'clock a.m.)

STATE OF CALIFORNIA)
) ss.
COUNTY OF MARIN)

I, DEBORAH FUQUA, a Certified Shorthand Reporter of the State of California, duly authorized to administer oaths pursuant to Section 8211 of the California Code of Civil Procedure, do hereby certify that the foregoing proceedings were reported by me, a disinterested person, and thereafter transcribed under my direction into typewriting and is a true and correct transcription of said proceedings.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing proceeding and caption named, nor in any way interested in the outcome of the cause named in said caption.

Dated the 24th day of January, 2013.

DEBORAH FUQUA

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Agenda

Sunnydale-Velasco Hope SF Master Plan EIR/EIS Public Scoping Meeting
Sunnydale Community Room
1652 Sunnydale Avenue, San Francisco, CA
Saturday, January 12, 2013, 10:00 A.M.

I. Introduction
- Introduction of EIR/EIS Preparers and Project Sponsor
- Purpose of meeting
- Meeting format

II. Brief Overview of Proposed Project

III. Summary of National Environmental Policy Act (NEPA) Process

IV. Summary of California Environmental Quality Act (CEQA) Process
- Notice of Preparation/Scoping Meeting (30-day public review period)
- Draft EIR (45-day public review period, Planning Commission hearing)
- Comments and Responses Document (10-day review)
- Final EIR Certification (Planning Commission hearing)

V. Public Comment
- Comments on environmental review issues from speakers who fill out a speaker card

VI. Final Reminders

NOTE:
- Submit written comments to **Bill Wycko, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103**, by close of business, **Friday, January 18, 2013.**
- If you have questions or comments regarding the environmental process, please contact **Nannie Turrell** at **(415) 575-9047**.

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SUNNYDALE VELASCO HOPE SF MASTER PLAN EIR/EIS

PUBLIC SCOPING MEETING

Sunnydale Community Room

1652 Sunnydale Avenue

San Francisco, California

Saturday, January 12, 2013

REPORTED BY: DEBORAH FUQUA, CSR #12948

APPEARANCES:

AMY THARPE, Mayor's Office of Housing, Director of Policy and Planning

ANNE ROMEO, Mayor's Office of Housing, Project Manager, Sunnydale Housing

EUGENE FLANNERY, Mayor's Office of Housing, Environmental Compliance Manager

DAN ADAMS, Mayor's Office of Housing, Construction Supervisor

HELEN HALE, HOPE SF, Director of Resident Services

RAMIE DARE, Mercy Housing and The Related Companies of California, Housing Developer

LARRY JONES, Mercy Housing and The Related Companies of California, Community Liaison

NANNIE TURRELL, San Francisco Planning Department

KARL HEISLER, Environmental Science Associates, Manager, Community Development

JONATHAN CARY, Environmental Science Associates, Senior Associate

Also present: Translation services in Spanish, Cantonese, Samoan

- PUBLIC COMMENT -

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Saturday, January 12, 2013 10:23 o'clock a.m.

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P R O C E E D I N G S

LARRY JONES: Good morning, everybody. It's a pleasure to be here with you all. Everyone's looking wonderful this morning. I'm glad you guys were able to make it out. To the residents that are in attendance, it's definitely a pleasure to be here with you.

Hopefully this is the start of a wonderful transition for Sunnydale and everyone that's involved in the project.

I'm Larry Jones. I'm a community liaison for Mercy Housing, and I'm in charge of the HOPE SF transition in regards to Sunnydale and its tenants and everything else that falls under that umbrella.

We have a lot of people in attendance today from various agencies. The City is in the building along with Mercy Housing representatives and other consultants and different developers that are here.

For the new residents that are here, I'm glad to see the new faces that are involved in this process going forward. We've already had past dealings in terms of getting together designs and engaging the residents in certain things that you see over there in terms of the future of what the new Sunnydale will look

like.

We are going to be more than worthy of getting further input and comment going forward. But the purpose of today's meeting is to let the Planning Department hear your concerns and, as well, address what the City plans on moving forward in terms of this project. We need to know your concerns of the environment and other things that's related to, you know, traffic concerns, whatever concerns you may have in regards to the construction and putting together this massive rebuilding.

I would like to introduce Amy Tharpe from the Mayor's Office of Housing. She's going to fill you in on the logistics of HOPE SF.

AMY THARPE: Good morning. My name is Amy Tharpe, and I'm with the San Francisco Mayor's Office of Housing. The Mayor's Office of Housing is the coordinating agency for what's called HOPE SF. And HOPE SF is a major initiative here in the city that started back in 2005.

At that point, Mayor Newsom decided that he no longer wanted to see the way that folks were living, basically, in the public housing developments. He no longer wanted to see the type of concentrated public housing that exists there, as well as he no longer

wanted to see the conditions that exist there.

So he set out on a course to say what can we do to try to change the environment on public housing sites here in the city to make sure that each of the families have safe, decent housing in a safe environment and, along the way, that they receive the services that they need to make sure that their families are thriving.

And that happened in 2005. And it was a great thing for us in here in the city because it was going to have a huge amount of impact. The initiative is actually, when it takes place, it's going to affect one third of the total public housing portfolio in San Francisco, one third.

And Sunnydale was a big part of that because you guys are 785 units of that 2,000 units or so. And we're excited to be here to start that. And we're excited that you guys are a part of HOPE SF.

Really what it's meant to do is it's meant to create mixed-income communities that actually are great for the residents but also have a larger impact on the larger neighborhood around. So at the end of the day, what we want to do is we want transform this environment -- and you'll see all the plans that you guys have worked on since 2008 -- transform the

environment to a place that everyone is proud to call home.

During the process, we're going to make sure that a couple of things happen. Number one, that every single public housing unit be replaced one for one. We won't lose any public housing. That's very important in a place like San Francisco where it's very expensive to live. We can't afford to lose public housing units. Folks need them. So we knew that from the beginning, that that was going to be really, really important. So each unit will be replaced one for one.

Another key principle of HOPE SF is that there will be no displacement. Okay? We purposely do the revitalization on the public housing sites in a way that allows us to do what we call phased construction. So a lot of times in HOPE 6 developments -- how many people know about or have been to Valencia Gardens or North Beach or Hayes Valley? You got to see those HOPE 6s.

We were happy in those developments to get 30 percent of the folks back. We were like, oh, that was a great goal, to get 30 percent of the folks back. And typically, we got somewhere between 18 and 25 percent of folks that return there.

Well, we took a look at what we did in those

redevelopments, and we said we want to make sure that HOPE SF is different in this way. We do reconstruction in a way that we can move people around the site, so you never have to leave if you don't want to. But if you want to not live in a construction site, which some people don't want to do, then you actually can leave as well. And we'll help you out, but you will have the right to return once the environment is changed.

So again, let me reiterate, the key principles are one-for-one replacement of each public housing unit; phased reconstruction to prevent displacement of existing residents; and the third thing I want to share with you -- and you already see examples of this throughout the site -- is all throughout the transformation process, we're committed to the residents at the sites.

When we say we're committed, what we mean by "committed" is we're committed to providing each of the families with the services that they need to prepare themselves to be productive and thrive in the new environment.

So you see the family resource center that's here now. Mercy has been here since 2008 with their community building staff. You see the Y is here now. All throughout this process -- and it only gets better.

We're going to be adding additional services here to this site. So it only is going to increase. We'll be working with each of the families to prepare to be here. And I hope that folks that are here, please take advantage of those services while they're here because they're very important to us.

We want to make sure that everybody that's here is here when we revitalize as well as they're thriving and able to maintain their existence here throughout the life of the project.

So I won't go on much further, but we're very excited about HOPE SF. If you guys want to see an example of HOPE SF in action -- how many folks know about the Hunters View development?

Okay. So we're excited that this week, we actually had a celebration with the Mayor where our first HOPE SF residents received units. So 25 families over at Hunters View, as a part of the HOPE SF initiative, now have new homes. And we're in the first phase of the redevelopment of Hunters View.

So if you want to see what the future of Sunnydale will look like, please take some time, go over to Hunters View, see the redeveloped units. Between now and the next four years, we'll be doing their redevelopment process. Please go over, take a

look at it, and you can see.

We're proud that, in that first phase of development, according to those principles, we have existing residents that have moved back, and then we have new residents that are in the affordable piece because the goal of HOPE SF is to mix the incomes throughout the process.

Before I conclude, I'd like to introduce two people who you will see a lot of as we start the community process here.

There's Anne Romero. Anne is with the Mayor's Office of Housing. And she is the project manager for Sunnydale, so you'll see a lot of her at your community meetings.

And then also I want to introduce Helen Hale. She's HOPE SF's director of resident services. So she'll be working a lot with the families and the community-based organizations to do what I was speaking of earlier, develop the services that are going to help the families here.

So I look forward to a wonderful meeting and your comments on the project, and look forward to this journey together to transform the community.

RAMIE DARE: Good morning everybody. My name is Ramie, and I'm with Mercy Housing and The Related

Companies of California.

Some of you were at last week's meeting. Thank you for coming again.

Those of you who were involved or read some materials know that Mercy Housing and the Related Companies have been working on the Sunnydale HOPE SF since 2008. And what I'm going to do now is I'm going to give you a slide show just to refresh your memory on the plan that was developed actually a few years ago.

We call it the Master Plan. And this was really developed through a process of community meetings. We had about 18 community meetings -- actually more community meetings and tours where we look at other different developments in the city and park spaces and came up with the plan that you're going to see in the slide show. And the boards that are over there on that side of the room are pictures of the different places within the plan.

So as Amy mentioned, we're part of the HOPE SF effort in the City to transform communities throughout the City, including Sunnydale, which is the largest in San Francisco.

And so this is -- as you guys know, is just a picture of the Sunnydale, McLaren Park, and Vis Valley area.

When we did our community meetings with you here and also down at the library and at the school, we asked you a lot of questions about what do you want to change? what needs to stay? what's good? but also, what needs to change?

And this is what we heard when you guys told us all the things that you wanted to address in the Master Plan.

You want to make sure that this is a much, much safer place. You want to make sure that there's a strong community, that -- what we call social cohesion, but that there's people who look out for each other; that your neighbors know what's going on and take care of each other; that there's better food and nutrition here in the neighborhood; that you have a place to go exercise, outside as well inside, for all ages; that there be more programs and resources for youth development; and that there be more focus on jobs and training for young people and adults; that we look at the environment. There's the park around us, but also how can Sunnydale itself be a beautiful place and a green place, and that transportation be improved, the service as well as other ways of getting around besides Muni, like riding your bike or walking.

So those -- it's a really big list. So we

kind of organized it into the themes that we want to use to drive what we do with Sunnydale. So we want to make sure we strengthen the community, support youth and families, that it be a sustainable and healthy community, and that it be a really great place to live and visit. You guys said that a lot.

So those are kind of what we've been keeping in our minds as we've been working on the plans and come back and ask you for input and look at different options.

So what I'm going to show you now is the Master Plan and some pictures of it. Let's get this one.

This is, as you know, is Sunnydale. The lines show kind of where buses are now. There's different places where there's childcare services, places to play. As you know, you guys are kind of locked in right now because you've got the park on two sides and then, also, as you're heading toward the Cow Palace, there's not a whole lot of streets that you can use to get around into the neighborhood.

So this is just kind of us mapping, like, what does Sunnydale look like now.

So this is a picture of the Master Plan. And the way to read this is, this is Hahn right here.

Sorry. I'm a little -- and then this is Sunnydale right here, going up to the park.

And you guys know there's Herz Playground. So what we are doing is bringing out Herz playground all the way out to Sunnydale Avenue so that it's a little easier for people to get to and enjoy and play. And then we're going to build a new community center here, where this purple building is. And that hopefully will be a YMCA. So there will be a place to exercise. There will be youth programs and programs for all ages, actually.

Across the street where the blue and red is, that's going to be affordable senior housing. And on the bottom floor of that, we'll have ground floor retail. So we'll have places for people to go eat, places for you to go buy some stuff, like a small grocery store, maybe a health clinic. So there's a lot of activity right here in this area.

There's going to be a new park right here, this rectangle green area. These brown dots represent orchards. So a lot of things that you talked about. There's not a whole lot of places to buy groceries in the area. So we thought about putting places to grow food right in Sunnydale. So that's an orchard.

This purple building is a pavilion where a

farmer's market could be or other community activities. This is a community garden.

So there's a lot of activity that we put right here in the Master Plan. And the reason why we did that is because, one, it's right next to Herz Playground; two, it's in kind of this junction where there's Sunnydale but also the rest of Vis Valley. And one of the things we heard you say was that you really wanted people from the whole area to be able to enjoy things together and meet each other. So that's why we put this hub of activity here.

The rest of these here, what we did, this white area, this represents streets. So you can see the street pattern is going to be really different. It's going to be more like a grid. And that's going to help people get around better within Sunnydale -- and also the buses and bicyclists.

And then there's trees lining the street. And then the yellow areas represent buildings. So it's -- they're either going to be an apartment building where you would live, or they're going to be a building where we might have some market rate or market affordable home ownership. So each block or each building is different.

And within each building, you've got these

little square donuts. That's where you would have your courtyard for your building. So if you live in this building, for example, you would -- if you had a car, you would bring your car in and park underneath in a secure garage, go up to your unit.

If you want to go outside, you can use this outdoor space. And that's your secure outdoor space for that building residence. So we did that design, repeated that, because one of the things that you told us is you really wanted to make the community safer. And that was one of the things that we all thought of to do.

We have more park spaces throughout Sunnydale. We've got this new one here, and we have another one here.

So I'm going to show you some more pictures.

Oh, this is just a chart to compare what you have today here at Sunnydale and then, with the Master Plan, what the changes would be.

So right now, Sunnydale, there's 785 units, public housing. And we would increase the units of affordable housing to over 1,000.

Right now, there's no market rate units, as you guys know, at Sunnydale. So with the Master Plan, we would build up to 694 home ownership units.

Then with the community facilities, you've got the stuff here, the Willie Brown Center and Wu Yee. So it's about 29,000 square feet. And we estimate it serves about 200 children. With the Master Plan, we would actually increase the community space to 72,000 square feet. And that's just indoor space.

And then outdoor space, right now there's less than half an acre of play space at Sunnydale, not counting all the green areas between the buildings but the actual playgrounds and the basketball court. And we would increase that to six and a half acres of new park space, including all the orchards and community garden. And then within the buildings, we're counting the outdoor spaces too. And that's another five acres. So all together, about 11 acres of outdoor space.

This is just a picture of the building. So we worked a lot -- when we were doing the community, we worked a lot on what the buildings might look like. I think this is in your packet, this particular diagram.

And this is just trying to show you the types of buildings on each block. And so we looked at, well, let's make sure we have some townhouses or what we call row houses. In some areas, we're going to have some what we call stacked flats, meaning they're apartments that are single-level, but they're built on top of each

other.

We're -- the buildings with the outdoor courtyards, they're probably going to be what we call podium buildings. So it's a little hard to see from far away, but this is kind of a picture -- like, you see, the parking is on the first two levels underneath. And then there's this little space that's the outdoor space right there. That's what we call the podium because it sits on top of the garage. And then these are the apartments.

So we'll have podium buildings; we'll have corridor buildings, meaning that the way that you get into your unit is through a corridor, indoor corridor. Then we'll have mixed use, for example, that senior building I was telling you about with the ground floor retail. Mixed use means that the ground floor is different. It doesn't have apartments, but it has, like, retail and other activities. And then on top, you have the apartments. So that's what's called mixed use.

So we're going to have all these variety of buildings in the Master Plan.

And then this is just a picture that we drew -- it kind of reminds me of Lego blocks. But we wanted to show you what the new Sunnydale would look

like, like, how tall -- like, right now, all the buildings are just two stories. With the new plan, we're going to have buildings that are -- some are three stories, and some are four stories.

So, again, this is Herz Playground. Here's Hahn. And that's Sunnydale. So this just kind of gives you a sense of how different it's going to look. It won't look so blocky when it's actually built. It's just a Lego kind of thing to show you kind of how tall things are.

This is a picture of the hub activity area I was telling you about. So here's Hahn right here. And this is Sunnydale, as if you're going up to McLaren Park. So here's that senior building. And on the ground floor, we've got a little market. And then there will be -- so there will be activity on the Hahn side. And then there will be places to eat and activity on the Sunnydale side too of this building. So this is the senior building.

Then across the street, we've got the community center, which I hope will be the YMCA. And then Herz Playground is in the back.

This is a picture of what we wanted to do with the street. So when you guys told us you really wanted to make sure that Sunnydale is going to be green, we

also looked at what the City was requiring. And they want to make sure that, when it rains really, really hard, that there's a place for the water to go and not just running down the street.

So we designed this system where there would be plantings in the sidewalks. And that's where the rainwater would get captured, and it just naturally goes into the ground. That helps the City so that the sewage plant doesn't have to work so hard. And it also creates a beautiful place for Sunnydale.

So these orange areas show you where these plantings -- the plantings will be all over -- but where these plantings will be particularly designed to absorb that rainwater.

And this is like -- it's going to be amazing. And the Public Utilities Commission part of San Francisco is really interested in this. So we hope that works out.

And this is the picture of Sunnydale Avenue and -- as if you're going up to McLaren Park this way. So this is just a picture of what we call a linear park. So we're going to push back the buildings on Sunnydale Avenue on this particular side and have a nice park space that people can kind of use to kind of walk up to McLaren Park.

This is just a picture of the farmers market pavilion I was telling you about and some seating and kind of an open area that we hope to create for people to gather, another picture of that.

This is a picture of the new park that's in the middle of the site. It's part of the site that's really steep. So we decided to create this great park where you kind of walk up the hill or through these set of stairs. And there will be cool things to do as you come down the hill, like slides, concrete slides.

And then this is a picture of a street. So you see the buildings; they're three or four stories tall. There will be sidewalks on every street, nice new paving, bike paths. And they'll all be generally about this height.

That's it. So there's some information in your packet that you have. It's a description, really, really long description of Sunnydale HOPE SF. And there's some pictures in there. And there's also -- feel free to look at pictures there.

But we wanted to make sure that you had a good grasp of the Master Plan.

And now the Planning Department is going to ask you to comment on what -- how the City should evaluate the Master Plan. So Nannie from the Planning

Department is going to tell you what she wants to know from you and how she wants to ask you to speak.

NANNIE TURRELL: Hi. I'm Nannie Turrell with the San Francisco Planning Department. The purpose of our meeting today is do get comments for the Environmental Impact Report and Environmental Impact Statement that we are preparing.

I'm from the Planning Department, and we are going to handle the California Environmental Quality Act regulations. Eugene Flannery, who is at the back of the room, is with the Mayor's Office. And he is in charge of the National Environmental Policy Act guidelines.

After we're finish with our introductions -- I hope you have all signed in. If you want to speak, there are speaker cards. And they look like this. They're green. There's a comment form, if you would like to leave your comments here today. If not, please have them to the Planning Department -- and we'll give you that information -- by, I think it's it this coming Friday at 5:00 p.m.

We're looking for comments concerning the scope of the environmental document. And if you have questions you could use your time to ask those questions, and we'll try to address them through the

process.

This is not about the merits of the project. It's not about the approval process for the project. And we're not here to discuss and debate different points of view about the project. It's really not a question-and-answer session. We're trying to collect information that will help us prepare the environmental documents.

After the presentation, you'll be given three minutes to speak. There's a court reporter here, and she will record what you say. We want your name, your address, and then your remarks. And if there's time afterwards, then we can talk to you one on one about concerns you might have.

So Jonathan Cary is from Environmental Science Associates. He will describe the federal regulations and why we're preparing the report. And I'll talk about the California regulations.

Jonathan is a consultant, with Karl Heisler, who is standing at the end of the chairs, who will being helping us prepare the environmental document. They're our experts, and they'll be preparing the background reports and the reports that eventually will be published.

JONATHAN CARY: Can everybody hear me okay if I

just talk like this? Can you hear me in the back? It's easier than having two mics because there was feedback when I tried to plug that one in.

So thank you all for coming today. We have one more presentation to get through, and then we can get to your comments.

But this presentation's about the meat of why we're here. We're going to describe two parallel processes. One is called "NEPA" for short; and one is called "CEQA" for short. NEPA stands for National Environmental Policy Act. CEQA is California Environmental Quality Act.

These are two processes going on at the same time. And as part of these processes, we analyze the projects and get your input on it.

So the National Environmental Policy Act became law in 1970. And agencies are required to assess the environmental impacts of their projects on the environment. The federal agency for the Sunnydale-Velasco project is the Department of Housing and Urban Development. We call it HUD for short, H-U-D.

Nationwide, HUD has delegated authority for environmental review to local agencies. In San Francisco, the local agency is the Mayor's Office of

Housing.

NANNIE TURRELL: The California Environmental Quality Act was put in place, enacted, shortly after the National Environmental Policy Act. And it's modeled on the National Act.

The guidelines -- the State guidelines are prepared by the Governor's Office of Planning and Research. And they do change occasionally and are refined by lawsuits and case law as well.

And local agencies can have their own guidelines. We have Chapter 31 of the Administrative Code. And it really mainly regulates our noticing process and how we have to notice and when we have to notice to get -- solicit public input.

JONATHAN CARY: So HUD's purposes for environmental review are to ensure a healthy and safe environment, to assess how the project will affect the environment, and to ensure the sustainability of the projects.

Additionally, HUD analyzed whether the project will improve the quality of life of the people it affects.

NANNIE TURRELL: CEQA as two main purposes. One is to get public input and make the public aware of any impacts, physical impacts, from a project.

The other is to make sure that decision makers, like the Planning Commission and the Board of Supervisors, have all the information they need to make a decision on a project.

If it has significant impacts, they need to be aware of those, whether or not they approve the project. It also helps with the study to find out if there's anything that's going to be significant in the beginning so that maybe we can change the project along the way.

And the purpose is to mitigate or avoid any impacts that may occur. If this cannot happen, the Planning Commission has to at least declare why the project is important even with its significant impacts.

JONATHAN CARY: So NEPA requires that an analysis be undertaken for major federal actions. In this case, the Sunnydale-Velasco project qualifies as a major federal action. HUD will be providing funding for this project.

Information on the project must be available before decisions are made. This is the same in both processes. No decisions have been made on the project. This is just a plan that's coming up for approval. So under both NEPA and CEQA, all this analysis has to take place before it can be approved.

NANNIE TURRELL: I don't think this slide has much importance. The purpose of CEQA is to maintain a quality environment now and in the future. It applies to physical projects, and it's implemented by a lead agency. The lead agency in this case is the City of San Francisco through its Planning Department.

JONATHAN CARY: So the two documents that will be prepared are in one document. There's an EIR, which stands for Environmental Impact Report. That's at the CEQA level that Nannie's describing.

And there's the EIS, which stands for Environmental Impact Statement. That's the federal equivalent document that's prepared at the national level. Both of these analyses will be in one document.

An EIS is required by federal law when there's a finding of significant environmental impacts. Based on preliminary analysis, it's been determined that the project could have significant impacts on traffic.

NANNIE TURRELL: As I said before, we're trying to identify, avoid or reduce any significant impacts that we find during this process. And it's important that we do that early so that, if the project has changed -- in the process that happens -- there's formal public comment at this stage, after we publish the notice of preparation.

And there will be a chance for comment after we publish the draft environmental document. There will be a Planning Commission hearing. And anyone is welcomed to send in your comments or come to that hearing or say them orally.

Then at the end of the process, after we've responded to your comments in a written document, you'll also have a chance to comment on the environmental document.

JONATHAN CARY: So one of the takeaways here is that there's two processes going on. There's a federal process, NEPA, and a state process, CEQA.

But for today's purpose, your comments address both processes. Anything you say is reviewed at the federal level through the Mayor's Office and at the local level through the San Francisco Planning Department.

NANNIE TURRELL: So we're really here today to find out if there are things that we've missed, concerns that you have that can you give us either today or orally or in writing so that we cover the important details of the -- of what this project might do, and also to help define the alternatives that will be reviewed at the same level as the project. And the alternatives are intended under CEQA to reduce some of

the impacts from the project.

JONATHAN CARY: So this is where we are in the NEPA process. This is an outline of how it goes. We've gone through the first three stages.

The third stage there, "Notice of intent to prepare an environmental impact statement," the Mayor's Office, through HUD, sent out a notice at the end of last year that the EIS would be prepared. So now we're at that green row, which is soliciting public input on the environmental process. After that, the Draft EIR/EIS will be published for review and comment.

NANNIE TURRELL: Again, for CEQA purposes, we're at the scoping period, and we're collecting comments before we actually prepare this document.

We will prepare a Draft EIR/EIS, and it will be issued for public review. It will be available online. It will be available in hard copy for anyone who wants it.

You will have a chance to comment on that. And then there will also be a public hearing as part of that. And then we will respond to those comments, both oral and in writing in another document. And then we'll go to the Planning Commission, and they will determine whether or not we have adequately addressed all of the environmental and, in this case, social

concerns.

JONATHAN CARY: So there's a lot of content that goes into these documents. They tend to be pretty thick. But the next two slide describe in summary detail what they are.

So you describe the project. As Nannie said, you describe the alternatives. The meat of the document is this yellow row here. It's the affected environment. Nannie will describe that more in the next slide, but it's all the different environmental topics that we're required to analyze.

NANNIE TURRELL: And the topics for this document are going to be land use, utilities, recreation, the aesthetics of the project, geology, hydrology, flooding, any rare plants or animal species, noise that can come from the construction and the operation of the project when it's finished, air quality concerns -- and I know that that is a concern of many of you -- both during construction and afterwards with increased transportation, hazardous materials, historic and archeological resources, energy expended, transportation -- which will be a major part of this study, socioeconomics, which CEQA generally does not address -- or it does not address.

But because this is a combined document, we

will be discussing displacement and other socioeconomic issues -- environmental justice will be addressed. Relocation will be part of the socioeconomics, and then shadow and wind, which is a San Francisco topic that is part of Chapter 31.

I think that we've -- Ramie actually addressed what the objectives are of doing this project. So I'll skip this.

We're now at the comment phase, when you will be asked for your comments on what you think the important issues and concerns are. You'll be allowed three minutes.

JONATHAN CARY: We'll measure those three minutes. I just have the timer here. I'll hold it with me, and I'll sit in the back. I'll be the guy in the green shirt. I'll raise my arm when you have about 30 seconds left. Then, when you're done, I'll yell out "time," so that you know your time is up.

We really have to stick to the three-minute rule given the number of people here.

NANNIE TURRELL: Speak loudly and clearly so that the court reporter can get your name and your address and, if you are part of an organization, that organization. And then you can state your comments.

We're not here to have people interrupt. When

you have your three minutes, you will have your three minutes.

Any written comments can be sent to Bill Wycko -- I think that is on the NOP. It may even be on the agenda -- at the San Francisco Planning Department. If you have any e-mails or want to call me, my e-mail address is up there. My phone number is 415/575-9047. And I will give that to anyone afterwards. I believe that is also on the handout.

So we're ready to have you speak.

EUGENE FLANNERY: Does anybody else need a speaker card?

NANNIE TURRELL: Unrelated to this project, there is a meeting regarding the Schlage Lock property. And there will be shuttle busses outside here at noon.

UNIDENTIFIED SPEAKER: Go ahead and look for the red cones outside. We'll have a passenger van, a small van. But we want to make sure -- because there's a game day down at the next meeting, our ecology center -- that, if you don't want to drive your own car, that you can reach that meeting. And the meeting is from 12:00 noon to 2:00 o'clock.

NANNIE TURRELL: Again, that is a separate project.

I'm going to not be able to pronounce this

name, but Huizhen Huang?

HUANG HUIZHEN: (Through Cantonese Translator)

My name is Huang Huizhen. I live at 616 Velasco, Apartment A. I noticed that we have a big population of Chinese resident here, and I'm just wondering, the service will provide bilingual service to our community, for example, like, policing, et cetera?

I'm also concerned about security as well as the air quality of the project. Oh. So that's all I want to know, if we are going to be treated the same as everybody else.

Thank you.

NANNIE TURRELL: Anthony Hodges.

ANTHONY HODGES: Good morning, everybody. Thing is, I kind of came in a little bit late, so I'm thrown in the loop a little bit, so I'm like a deer in the headlights. So please forgive me for some of my ignorance about this meeting.

I've been living in this community for close to 33 years, since I was an eight-year-old boy. And I've seen things come and go in this community, on and on and on and on. And it's really just seeming like, "Okay. We have plans to do this. We have plans to do that." That was 20 years ago.

25 years ago, "We have plans to do this, plans to do that," but nothing is being done.

And we're talking about a new plan site and things -- the ball is rolling. I mean, that's fine. I'm loving it. But the question is, what's going to take place? Because they sent my mother a letter offering her a place up in Hunters Point, get a new place in there through Section 8 and all this type of stuff -- then she can come back? I mean, what's going to happen in the later on, after this? I'm really just wanting to know, where do we go from here?

NANNIE TURRELL: Again, Sean Moors, or -- Esau Moors.

ESAU MOORS: (Through Samoan Translator)

My name is Esau Moors. I live in Sunnydale. Thank you for the opportunity. This is a great meeting.

I love the Master Plan. The concern that I have is, when the work starts, where are we moving to? That's all I have to say. Thank you.

NANNIE TURRELL: Ruby Smith.

RUBY SMITH: Hi. I'm Ruby Smith. I'm a resident, been here for like 46 years.

I want to say I do love this part right here, where you put the seniors at. As a gang prevention

advocate, that will cut down on the up-the-hill-down-the hill feud. So I really love that part.

And this year I've had the opportunity to do volunteer services in the Tenderloin.

I just -- during this whole time, I've had -- I have a learning disability. So I didn't understand anything that you guys said up there.

So -- but what I would like to know so that I can let all my neighbors know, is there somebody I can talk to that can explain to me about, you know, like you say, you have podium, stacked -- you know, buildings and townhouses; can somebody point out to me which ones are for the buying -- you know, buying, and which ones are for -- the low income are going to be and which buildings are the market rate so I can just say, "Well, this is where we're going to live, and this is where they're going to live"?

You know what I'm saying, so I can explain to my friends? Because there's a lot of people that are not here because they're afraid of this, that they will not understand. So they feel like their time is wasted if they come here because they won't understand a single word that you guys are talking about.

So I just want somebody to point to me, like,

I'm low income, which building, and which street that I will be -- should be able to come back to. That's all.

NANNIE TURRELL: Romonica Grayson.

ROMONICA GRAYSON: My name is Romonica Grayson, and I'm the president of Sunnydale Tenants Association as well as a resident of Sunnydale since I was six.

NANNIE TURRELL: Will you speak louder, please?

ROMONICA GRAYSON: Good morning everybody. I'm a resident of Sunnydale as well as the president of the tenants association.

I don't have a problem with the remodel of Sunnydale. I just have a problem with the floor prints that wasn't designed by the residents. I wanted to know what was the participation with the residents that had anything to do with this planning and development.

The way that they described these buildings with the one-way in, one-way out, I have a problem with the safety.

The opening of the park to release Herz Playground from Visitacion all the way to Sunnydale Street is only opening up the golf course that they've been trying to get opened up for years to eliminate Sunnydale. Sunnydale has never had traffic issues other than them releasing it to come through here from Bayshore so that they can relinquish more access to the

Cow Palace.

And the plans have nothing to do with resident services or for and about the residents.

The senior building and the kaleidoscope that they got built around the profile and the logistics, they make sense. The proposal does not go with the profile because it starts out at the Schlage Lock building.

So none of the proposals in the plans make sense to me, myself. And I would like somebody to at least sum it up a little bit to where why, reflectively, the pictures that you guys are showing all designate around Sunnydale; the proposal starts at Schlage Lock.

So if the money that they're using for this move for Sunnydale is going to redevelop the sites that are coming into Sunnydale -- because I'm confused on why, if you're going to finally tear Sunnydale down, why did you just replace my stove, my refrigerator, my sink, my toilet, the fixtures, the lights and everything on the inside of my building if you are pertaining to tear it down now?

So is my question is, is the moneys for Sunnydale going to start building up the developed sites that need to be fixed, and when you get to

Sunnydale grounds anyway, there's not going to be any money for us Sunnydale residents or the Housing to do anything with the Public Housing Authority?

And the plans does not designate a residential area. This is they're giving up Little Hollywood, Little Chinatown or something specificated by the seniors, the residents and public services that have nothing to do related to the residents.

NANNIE TURRELL: This project is within the bounds of Sunnydale. It has nothing to do with development of any other sites.

Ken McGary?

KEN McGARY: Hi. I'm Ken McGary from Save McLaren Park. So we're interested in the natural areas of McLaren Park and also encouraging people to use the park.

So I have just two brief points. One is that we're very lucky after many -- after decades of trying to get some more resources, it's got some $12 million through Prop B to improve things in the park.

So I would encourage the people involved in this planning and in pulling the CEQA and all that stuff together to coordinate with what's going on there so that we can try to improve access from this part of the city.

And another point is that -- I know I don't live here. I live over in the Excelsior. So I'm not as familiar with these issues as you are.

I heard you brought up about the golf course. And I would hope that the CEQA process and this other environmental review would look strongly at opening up that golf course to this side of the city because I think there's a good argument that it's not serving the population as well as it could, that parkland. And I'd like to see it opened up to this community.

So that's my comment.

NANNIE TURRELL: Tom Borden?

TOM BORDEN: Hi. I'm Tom Borden. I'm with the group SF Urban Riders, and we're working with the City to try to building a bike park just above the Girls After School Academy, between that and the golf course.

And in terms of CEQA, what my comment would be is, you know, I'm concerned that we're trying to improve the park in that area, and the -- like, I don't know with how many new cars will be added in this plan over how many cars are here now. But it would be nice if there weren't a lot more traffic on Sunnydale Boulevard going up and connecting to Persia.

And if there were some other way to route traffic to encourage people to use Geneva if they're

going that way into town. Thank you.

NANNIE TURRELL: Jenny Deng?

JENNY DENG: Actually, I just want to say I'm appreciate to all your guys' work. I'm glad I will see the future of this area will be more better.

And I'm the resident of 493 Sunrise Avenue. Actually, we're at the end of the street right now. But after you guys -- after they rebuild the area, my street will be -- will become an avenue right now. However, this is a small issue.

You guys cut part of my front yard regarding to my land. So I don't know who should I talk to or anyone can follow up for me.

NANNIE TURRELL: Chris Barnett.

CHRIS BARNETT: Good morning, everybody. My name's Chris. I know a bunch of you guys, some of you I don't know.

I'm a Vis Valley resident, and I participated in the, like, 2008-2009 planning portion of this project. And I've been involved with the Schlage project and the Vis Valley Planning Alliance.

And a couple of things. You know, what I hear from residents, I really want to encourage -- I think that the heart's in the right place of the team behind this project, but I really want to speak up for the

people who live here and make sure that there's good -- good communication about how people are going to be affected because it sounds like there's still a lot of question about, "What's going to happen to me when this starts happening?"

And I think that maybe those efforts need to be ramped up a bit. But I also want to speak towards the open space component. I really appreciate all the efforts and the features that are integrated into the plan for environmental issues -- open space for people to share, the places where water will kind of run down into bio swales and filter naturally into the table -- water table instead of going into our sewer system.

But one of the things that I think I've seen from my going to community meetings over the years in this neighborhood, historically, this has been the dump; it's been industry; it's been rail yards; it's been where the largest public housing in the City has been and where poor people have been relegated to.

And I think that there's a vision amongst a lot of the community members that the way to lift our social capital in this neighborhood is through our open space and our natural resources.

You know, where we might not be a "north of Cesar Chavez, east of Twin Peaks neighborhood," we have

this incredible resource of San Bruno Mountain in our backyard, McLaren Park in our backyard. And in the last decade or so, we've had the Vis Valley Greenway developed, which is an amazing series of parks.

We have Leland Avenue rebuilt. We have a lot of these green features. We have a view of Schlage site with open parks, you know, and ultimately the idea of opening up maybe a slough again in the baylands and housing.

I really want to see the proposals for green space here in this particular project really look outward, really look at part of what makes it sustainable, makes it a great place for people to be -- its proximity to the natural resources that are here, McLaren Park, San Bruno Mountain and the green spaces that we hope, in time, to open up every connection where streets connect with McLaren Park and other empty lots around the neighborhood.

NANNIE TURRELL: I'd like to remind people, if you would say your name and your address so we have that for the record.

Jeanette Hill?

JEANETTE HILL: Hi, I'm Jeanette Hill. And I actually grew up in the neighborhood. And I'm a landscape architect, a local landscape architect.

We -- my family still owns the property at 273 Teddy Avenue, and I stay very involved in the neighborhood. I'm a volunteer at the Greenway and also I've got a lot of -- several -- well, several relatives that still live in the neighborhood. So I still try to keep them up to date as to what's going on with new developments.

But I think the project is great. And I think it's very encouraging that it's moving forward.

I do want to mention that there's a lot of residents that have lived in Vis Valley for many years. And my concern is, how will this impact them? And also there's a really huge traffic -- well, parking is a big issue in Vis Valley. And you find many residents owning, you know, two or three cars and using the sidewalks as parking.

So how will that impact the neighborhood, having -- adding new parking, more people into the neighborhood? And are we addressing that, and the environmental impact?

And you know, what would really be great is -- you know, I see the plans have a lot more green spaces. And how will -- how is the connectivity to the existing neighborhood?

Sometimes you see developments happen, and the

existing neighborhood doesn't feel so connected to the new. So architecturally, how is that going to work?

And I think, as far as the wind issue in the neighborhood, in some areas it gets so bad that open areas are not usable. So I think we should really study that and see, like, where are the areas that are ideal for these open spaces so more people can use it.

Thank you.

NANNIE TURRELL: Fran Martin?

FRAN MARTIN: I'm Fran Martin. I live at 186 Arleta Avenue. I spoke last week, so I'm going to reiterate some of what I did last week too.

But I'm concerned about the Blythdale site, the roadway, that it should become a greenway all the way through, from the top to the bottom, one green space to the other. The orchard, is it really an orchard?

It's -- from what I learned before is that it's really going to be loquat trees solely. And I don't know if that's true or not still, but it needs to become a real orchard.

The courtyards -- I'm concerned. Working on the Greenway project, we deal with shade issues a lot. And I'm concerned also that they're kind of like mini fortresses. And we wanted to get away from that in the

whole project. But it's going to be really shady in those. And having seen some of the projects up at the Pearl District in Portland, they have the open space to the street rather than encircling a building.

The community garden, I said this last week, having it right in the center there -- community garden of a greenway has to be surrounded by fencing, high fencing, otherwise we've had trees stolen when we didn't have fencing, entire trees taken away. We need to be able to protect people's gardens. So there needs to be pathways through there.

Then -- I don't know. I brought this up a long time ago, and I don't know where it is, even if it's an issue. But sunnydale Creek, I believe, starts up here somewhere. And it would be nice to daylight that. But I'm not even sure where it is or even if it's possible -- but if that could be looked into.

That's it.

NANNIE TURRELL: Larry Jones?

LARRY JONES: I'm Larry Jones, and I live at 1724 Sunnydale. And I come before you now as a resident who's been here all his life. And I've seen all the plights. I've seen all the gimmicks and games that have been played with the community in terms of what we're going to do, and, "We're going to do this," and,

"We promise to do that," and, "We have funding to do this. And we have funding to do that."

So with that being said, I'm just telling everyone at this meeting that I'm very approachable. If you have any questions or any concerns that you feel aren't being heard, I'm very approachable. And I'm here for you. And I am at the table. And I'm very blessed to be at that table.

And I share all my information with you wholeheartedly and truthfully because I sleep here every night as well as my children. So I pay rent just like everybody else here as a resident. Regardless of what I do during the daytime, I go to sleep and wake up, just like everybody else, here.

And I care about everybody else here. And I really give a damn about what this neighborhood goes through because -- not being happy about it -- but being a part of what tore down the community between the late '80s and the '90s, I'm very happy to be a part of rebuilding it back up to and getting it back to where it was when my grandfather and my grandmother lived here in the '70s, when we had picket fences and go-kart races, and the community was getting together every weekend to have celebratory things and not just meeting for funerals.

So I want to let you know that I'm at 1657 Sunnydale. That's where my office is located. Feel free to drop in. If I'm not in, you leave a message. I will return it.

And if you have any concerns -- my only thing right now, I'm speaking on Sunnydale. I'm speaking on Sunnydale because everything else is going to play itself out. Sunnydale always and -- you might hear some people say some things that might seem a little negative tone, but that's what we've been dealing with the last 20, 30 years, a bunch of negative-impacted things.

And we've been the impacted ones. So I'm not mad, and I'm not angry when I see people get up here that are pessimists because that's what we've been bred to be. So you have to understand where we come from when we speak that way.

But I am going to tell you, there's some good people involved in this project with our best interests at heart. And we can't be held accountable for what goes on in Sacramento. There's a lot of things that go on outside of our knowledge that don't get reported on the news. And we're the last ones to know. And we only find out by what we feel when they remove the fences, stop the construction, take all the people away

that were here working. So we only get it at the end.

But now that I'm here, I guarantee you, you will get the knowledge firsthand if you seek it. If you don't seek it and you don't come to these meetings, you won't know.

And I challenge everybody to go back and tell their neighbors. Tell the people behind them when you're hanging out your clothes or however you congregate. Tell them to come because if you don't come, then you can't be upset when things happen.

You are allowed a pathway to be a part of this. I can't be the only voice all the time. So you got to go tell your neighbors, tell your cousins, tell your aunts they need the come out to these meetings because they count. Thank you.

NANNIE TURRELL: That's closes the meeting. We'll be around if anyone wants to speak to any of us or has any questions. Thank you for coming.

(Whereupon, the proceedings concluded at 11:27 o'clock a.m.)

STATE OF CALIFORNIA)
) ss.
COUNTY OF MARIN)

I, DEBORAH FUQUA, a Certified Shorthand Reporter of the State of California, duly authorized to administer oaths pursuant to Section 8211 of the California Code of Civil Procedure, do hereby certify that the foregoing proceedings were reported by me, a disinterested person, and thereafter transcribed under my direction into typewriting and is a true and correct transcription of said proceedings.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing proceeding and caption named, nor in any way interested in the outcome of the cause named in said caption.

Dated the 24th day of January, 2013.

DEBORAH FUQUA

CSR NO. 12948

Sunnydale-Velasco Hope SF Master Plan
EIR/EIS Public Scoping Meeting

Welcome.
Please sign in here.

Sunnydale-Velasco Hope SF Master Plan EIR/EIS Public Scoping Meeting

For your information/use:

- Meeting agenda
- Speaker cards
- Written comment form
- Initial study checklist
- Notice of preparation

HOPE SF Development at Sunnydale-Velasco

Public Scoping Meeting

Purpose of the Public Scoping Meeting

- Provide an overview of the CEQA & NEPA process and schedule
- Provide information about the Project
- Solicit public input on the scope of the Project
- Meet Project team

What is NEPA

- National Environmental Policy Act, became law in 1970;
- Federal Agencies are required to assess the effects of major federal actions on the human environment;
- Federal Agency for rebuilding Sunnydale-Velasco is the Department of Housing and Urban Development
- HUD has delegated its responsibilities under NEPA for Sunnydale-Velasco to the Mayor's Office of Housing.

What is CEQA

- California Environmental Quality Act, also became law in 1970
- Modeled on NEPA
- Statewide CEQA Guidelines prepared by Governor's Office of Planning & Research
- Local Agencies may develop their own guidance–Art. 31 of S.F. Administrative Code

Purposes of a HUD Environmental Review

- To ensure a safe and healthy environment
- To assess how a project will affect the environment and
- To ensure the sustainability of the project
- To improve the quality of life for persons affected by the proposed project

Purposes of S.F. CEQA Review

- Give decision makers and public meaningful information on environmental consequences of projects.
- Identify ways to avoid or reduce environmental damage.
- Provide for public input.
- Consider environmental considerations early in planning; avoid unnecessary delays or undue complexity of review.
- Require changes in projects if feasible to avoid environmental damage.
- Disclose the reasons why projects are approved despite significant environmental effects.

Article 31, San Francisco Administrative Code

NEPA

- Proposals for major federal actions affecting the quality of the human environment shall include a detailed statement of environmental impact, adverse environmental effects and a description of appropriate alternatives
- Information on a proposed project must be made available before decisions are made and before actions are taken

CEQA

- To maintain a quality environment now and in the future
- Applies to “Projects” – Activities that have the potential to have a physical impact on the environment
- Implemented by “Lead Agency” – the Agency that must grant approvals (San Francisco, typically through Planning Commission & Board of Supervisors)

EIS – Environmental Impact Statement (NEPA)

- Highest level of review and only one mandated in the statute
- Required when there is a Finding of Significant Impacts
- Sunnydale-Velasco Project is expected to have significant impacts on traffic

EIR – Environmental Impact Report (CEQA)

- Must identify, avoid, and/or mitigate significant environmental effects
- Prepared early enough to consider environment impacts, yet late enough to provide meaningful information
- Formal public comment in Scoping (now) and in Comments on Draft EIR

NEPA is different from CEQA

- NEPA review is a federal requirement and must be completed before the federal agency providing the funding can approve the use of funds for the proposed project

...But today's hearing covers both processes

Purpose of the Scoping Process

- To frame the analysis of an environmental impact statement/report (EIS/EIR)
  - Determine what will be covered and in what detail
- To ensure that real problems are identified early and properly studied
- To define the issues and alternatives that will be examined in detail in the EIS/EIR while devoting less attention to issues which cause no concern

The NEPA Process

Agency identifies a need for action and develops a proposal.

Significant environmental effects are likely.

Notice of intent to prepare an environmental impact statement (EIS).

Public scoping and public involvement.

Draft EIS.

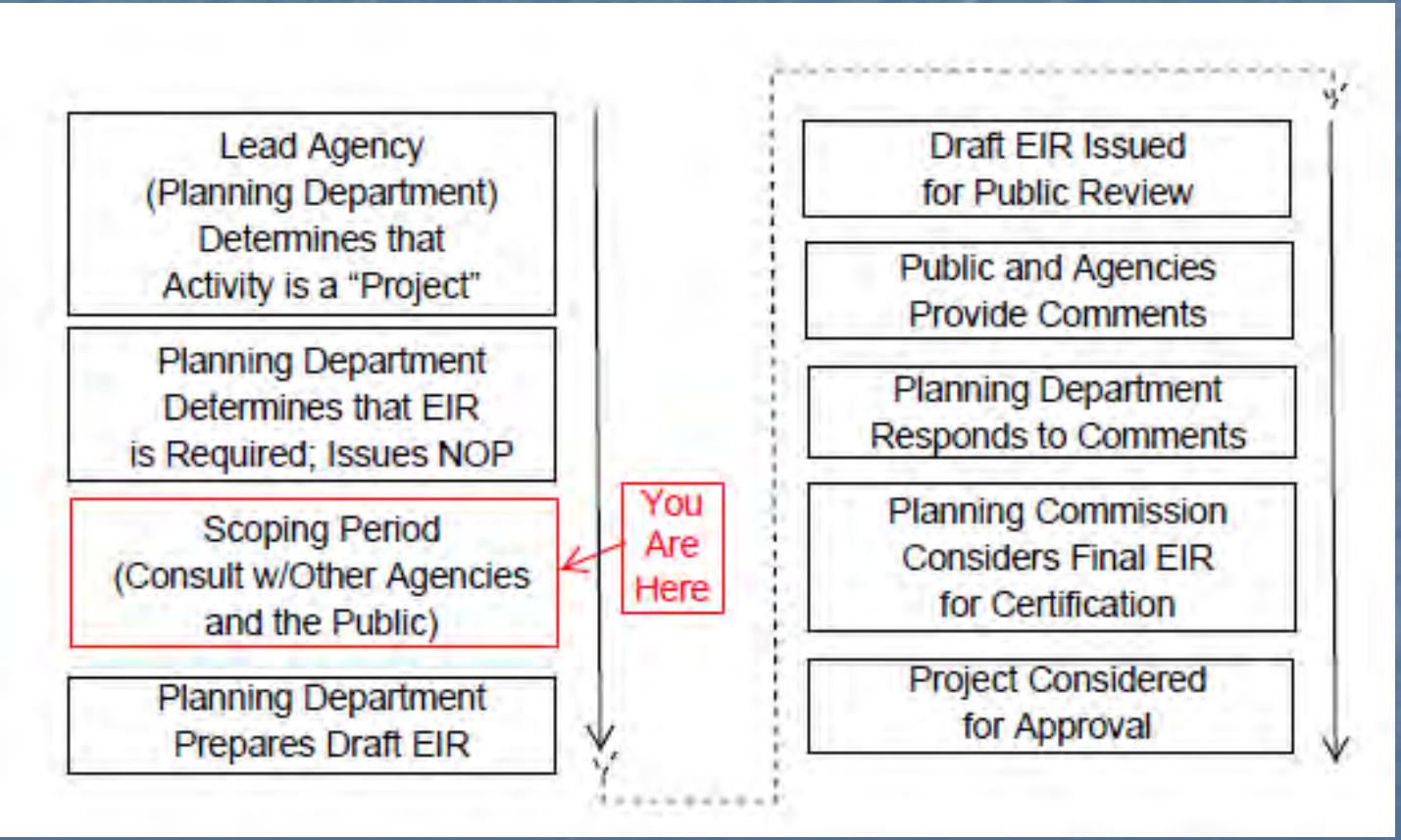
Public review and comment and involvement.

Final EIS.

Public availability of the final EIS.

Record of Decision.

CEQA Flow Chart



EIS/EIR Content

- Description of proposed action; purpose and need *(EIR Project Description)*
- Alternatives
- Affected environment, environmental impacts, and mitigation (next slide)
- Short-term uses versus long-term productivity
- Irreversible and irretrievable commitment of resources
- Mitigation measures
- Coordination and consultation

Affected environment, environmental impacts, and mitigation topics

- Land Use and Plan/Policies
- Utilities/Services; Recreation
- Visual Character/Aesthetics
- Geology/Soils; Water Resources; Floodplains and Hydraulics
- Biological Resources
- Noise
- Air Quality/Greenhouse Gases
- Hazardous Materials
- Cultural (historic and archeological) Resources
- Energy
- Transportation
- Socioeconomic (NEPA) / Population & Housing (CEQA)
- Environmental Justice (NEPA only)
- Relocations (NEPA only)
- Shadow and Wind (CEQA only)

Purpose and Need of Proposed Action (Sponsor's Objectives)

- Improve the quality of life of the residents of Sunnydale-Velasco
- Enhance the economic conditions of the project area
- Maximize the creation of new affordable rental and ownership housing
- Create environmentally sustainable and accessible community
- Build a strong sense of community

Oral Comment Session

- Speakers fill out speaker cards
- Each speaker will be allowed 3 minutes
- Written comments should be either submitted during this meeting or sent to:

  Bill Wycko
  Environmental Review Officer
  San Francisco Planning Department
  1650 Mission Street, Suite 400
  San Francisco, CA 94103
  Bill.Wycko@sfgov.org

- Comments must be received by January 18, 2013
- Planning Department Contact:

  Nannie Turrell
  Nannie.Turrell@sfgov.org

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

EIR/EIS Public Scoping Meeting
Sunnydale-Velasco Hope SF Master Plan EIR/EIS
Saturday, January 5, 2013 – 10:00 AM

NAME	ADDRESS	TELEPHONE
Althea Smith	149 Blythdale	504-0947
Wanda Wycoff	622 #A Velasco Ave	240-8371
Anne Romero	MOH	701-5525
Romonica Grayson	36 Blythdale Ave	415 724-4892
Jim Growden	186 Arleta Ave.	415 468-0639
Deadtom Zand	6069 Vanon apt A	415 606-4395
Happy Lonely		415 298-8868
Robert Cowan	1430 Sunnydale	415 235-5600
Amalunga Leapaga	1736 Sunnydale	415 595-7695
Wei San Deng	493 Sunrise Way	(415) 728-3188
xiomara galvan	67 brookdale ave	(415) 722-4899
Bridgette Torres	51 Blythdale Ave	415 678 8712
Simnic Jones	54 Wabash Terrace	415-468-1036
Clara Garduno	526 Visitacion Ave	415 586. 1107

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EIR/EIS Public Scoping Meeting
Sunnydale-Velasco Hope SF Master Plan EIR/EIS
Saturday, January 5, 2013 – 10:00 AM

NAME	ADDRESS	TELEPHONE
Janice Garcia	65 Santos	415 368 4089
Fran Martin	186 Arleta	216-8560
Emile Kishek	1145 Paloman Dr Redwood City CA 94062	(415) 716-3487
Elena Maggin	100 Parque Dr, SF, CA. 94134	

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City and County of San Francisco • 1650 Mission Street, Suite 400 • San Francisco, California • 94103

S P E A K E R C A R D

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Simmie Jones

Organization (if any): _____

Address: Wabash Terrace

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S P E A K E R C A R D

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: MAGGIE WINTERSTEIN

Organization (if any): _____

Address: 424 VELASCO AVE

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Please **PRINT** then give to meeting moderator

Name: Robert Cocran

Organization (if any): Community Unity

Address: 1430 Sunnydale

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S P E A K E R C A R D

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Althia (Ruby) Smith

Organization (if any): CCSF / Episcopal Comm. Serv. / Resident

Address: 149 Blythdale Ave.

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S P E A K E R C A R D

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Romonica Grayson

Organization (if any): President Sunnydale Tenants Assoc.

Address: 1 Santos

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S P E A K E R C A R D

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Please **PRINT** then give to meeting moderator

Name: Janice Garcia

Organization (if any):

Address: 65 Santos Ave

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S P E A K E R C A R D

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Please **PRINT** then give to meeting moderator

Name: Fran Marten

Organization (if any): VUPA

Address: 186 Arleta 94134

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EIR/EIS Public Scoping Meeting
Sunnydale-Velasco Hope SF Master Plan EIR/EIS
Saturday, January 12, 2013 – 10:00 AM

NAME	ADDRESS	TELEPHONE
Michelle Bradley	45 Brookdale AVE	415 5736327
Dorothom Ford	606 Vlala ct A	415-6064395
Toni Autry	1815 Egbert Ave	(415)715-3215
Bridgette Torres	51 Blythdale	415 678 8712
Tom Borden	24 Santa Ana Ave	415 2976044
Jeanette Hill	(273 Teddy Av.)	415. 407.7099
Romonica	36 Blythdale	415 724.4892
71 Brookdale	Marie Grayson	415 587 7644
Anitra Addison	12 Brookdale	415 859.5094
Chris Barnett	1360 Goettingen St	415.990.4203
Tamieka Alford	1727 Sunnydale Ave	415 349-1994

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EIR/EIS Public Scoping Meeting
Sunnydale-Velasco Hope SF Master Plan EIR/EIS
Saturday, January 12, 2013 – 10:00 AM

NAME	ADDRESS	TELEPHONE
Avej San Diego	493 Sunrise way	(415) 728-5188
Marlene Tran	34 Leland	377-5821
Ken McGary	975 Cayuga Ave	
AUTHOLY HODGES	1729 Sunnydale ave	692-2688
Linda Eng	1756 Sunnydale	(415) 678-0140
Betty Parshall	386 WILDE	(415) 467-7423
Jibraa Lee	200 Brookdale Ave	415-385-8764

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EIR/EIS Public Scoping Meeting
Sunnydale-Velasco Hope SF Master Plan EIR/EIS
Saturday, January 12, 2013 – 10:00 AM

NAME	ADDRESS	TELEPHONE
Carlyce Ingram	32 Blythdale	415-967-8746
Tina Cobb	58 blythdale	415-685-1746
Amy Tharpe	Mayor Ofc of Housing	415-701-5508
Esau Woods	1603 Sunnydale	415-368-9499
Althia (Ruby) Smith	149 Blythdale	415-504-0947
Setu Petaia	2055 Sunnydale	" 841-1066
Beatriz Quiroz	25 Blythdale	706 27-04
Steven Huang		415-468-6676 X117
Huizhen Huang	616 Velasco	415-786-8413
Jenny Deng	493 Sunrise Way	415-728-5788

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Fran Martin

Organization (if any): Vis Valley Planning Alliance

Address: 186 Arleta 94134

www.sfplanning.org

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Jeanette Hil

Organization (if any): _____

Address: [illegible]

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Chris Barnett

Organization (if any): VV Resident; Planning Alliance; Sellers Advisory

Address: 1360 Goettingen St. 94134

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Jenny Deng

Organization (if any): _____

Address: 493 Sunrise Way San Francisco CA 94134

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Tom Borden

Organization (if any): SF Urban Riders / McLaren Collaborative

Address: 24 Santa Ana Ave.

www.sfplanning.org

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Ken McGary

Organization (if any): Save McLaren Park

Address: 975 Cayuga Ave

www.sfplanning.org

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Romonica Grayson

Organization (if any): Sunnydale resident

Address: 36 Blythdale

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Ruby Smith

Organization (if any): Resident - ADRC

Address: 149 Blythdale Ave.

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: ~~Esau Moors~~ (ESAU MOORS)

Organization (if any): Unemployed

Address: 1603 SUNNYDALE AVE

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Anthony Hodges

Organization (if any): N/A

Address: 1729 Sunnydale ave SF CA 94134

San Francisco Planning Department
Speaker Card

To aid in the preparation of minutes or a transcript, you are requested, but not required, to provide this information:

Please **PRINT** then give to meeting moderator

Name: Huizhen Huang

Organization (if any): _____

Address: 416 Velasco

www.sfplanning.org

APPENDIX C
Written Scoping Comments

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EIR/EIS Public Scoping Meeting
Sunnydale-Velasco Hope SF Master Plan EIR/EIS
Saturday, January 12, 2013 – 10:00 AM

COMMENTS on the Scope of the EIR/EIS:

The plan sounds great but my concern is when is it gonna happen and when this is being rebuild where will we be placed. Also if doing this will it really be a safe environment, afterwards

45 Brookdale AVE
Michelle Bradley

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-6053
FAX (510) 286-5559
TTY 711

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January 8, 2013

SF101190
SF-101-0.77
SCH#2012122040

Ms. Nannie Turrell
City and County of San Francisco
Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

Dear Ms. Turrell:

Sunnydale-Velasco HOPE SF Master Plan - Notice of Preparation

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Sunnydale-Velasco HOPE SF Master Plan. The following comments are based on the Notice of Preparation. As lead agency, the City and County of San Francisco is responsible for all project mitigation, including any needed improvements to State highways. The project's fair share contribution, financing, scheduling, and implementation responsibilities as well as lead agency monitoring should be fully discussed for all proposed mitigation measures and the project's traffic mitigation fees should be specifically identified in the environmental document. Any required roadway improvements should be completed prior to issuance of project occupancy permits.

Traffic Impact Study
The environmental document should include an analysis of the impacts of the proposed project on State highway facilities in the vicinity of the project site, specifically, impacts to on and off ramps at Third Street/US 101 and US101 mainline. Please ensure that a Traffic Impact Study (TIS) is prepared providing the information detailed below:

1. Information on the plan's traffic impacts in terms of trip generation, distribution, and assignment. The assumptions and methodologies used in compiling this information should be addressed. The study should clearly show the percentage of project trips assigned to State facilities.

2. Current Average Daily Traffic (ADT) and AM and PM peak hour volumes on all significantly affected streets, highway segments and intersections.

3. Schematic illustration and level of service (LOS) analysis for the following scenarios: 1) existing, 2) existing plus project, 3) cumulative and 4) cumulative plus project for the roadways and intersections in the project area.

4. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect the State highway facilities being evaluated. Include the percentage of trips generated by the proposed plan towards total cumulative volumes.

5. The procedures contained in the 2000 update of the Highway Capacity Manual should be used as a guide for the analysis. We also recommend using the Department's *Guide for the Preparation of Traffic Impact Studies;* it is available on the following web site:
www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

6. Transportation Demand Management strategies including coordination between various public transit agencies that may serve the proposed project.

7. Secondary impacts on pedestrians and bicyclists resulting from any traffic impact mitigation measures should be analyzed. The analysis should describe any pedestrian and bicycle mitigation measures and safety countermeasures that would in turn be needed as a means of maintaining and improving access to transit facilities and reducing vehicle trips and traffic impacts on State highways.

8. Mitigation measures should be identified where plan implementation is expected to have a significant impact. If no mitigation measures are found infeasible, include a discussion of fair share mitigation fees to fund future improvements on the State Highway System.

We encourage the City and County of San Francisco to coordinate preparation of the study with our office, and we would appreciate the opportunity to review the scope of work.

We look forward to reviewing the TIS, including Technical Appendices, and environmental document for this project. Please send two copies to the address at the top of this letterhead, marked ATTN: Yatman Kwan, Mail Stop #10D.

Should you have any questions regarding this letter, please call Yatman Kwan, AICP of my staff at (510) 622-1670.

Sincerely,

ERIK ALM, AICP
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

From:	Turrell, Nannie
To:	Jonathan Carey; ramie dare (rdare@mercyhousing.org)
Subject:	FW: Sunnydale Concerns Regarding both air quality and vermin
Date:	Friday, January 11, 2013 9:56:38 AM

From: copelia2 [mailto:copelia2@gmail.com]
Sent: Thursday, January 10, 2013 6:46 PM
To: Turrell, Nannie
Subject:

I live at 100 Parque Dr., San Francisco CA 94134 block /lot number 6332 013. The right side of my backyard is laying in the corner of Velasco/Carrizal St. and the back part of the backyard is against the Sunnydale Projects. One of my concerns are Hazardous Materials, Noise and The Air Quality while demolishing and rebuilding the Sunnydale Projects. I would like to know what is going to be done and what are the measures to prevent any respiratory diseases while all of this demolishing and construction are happening?.

I was at the meeting on January 5 and one of the comments was the the Sunnydale Projects has an infestation of roaches and rodents and I am greatly concerned that these infestations could spread to our vicinity with all the noise and demolition. what measurements is the city and these private organizations going to take to prevent this from happening? I could think of building an eight foot or higher cement wall plus monitoring with some pesticide services before, during and after finishing with this project.
I like to add that I am all pro for this Sunnydale Reconstruction Project.

Elena Maggin.

From:	Fran Martin
To:	bill.wycko@sfgov.org
Cc:	nannie.turrell@sfgov.org; dan.adams@sfgov.org; helen.hale@sfgov.org; Jonathan Carey
Subject:	Comments on Sunnydale-Velasco HOPE SF Master Plan
Date:	Friday, January 18, 2013 4:24:23 PM

Dan Wycko,

Below are my comments regarding the Sunnydale-Velasco HOPE SF Master Plan, which I have already expressed at the 2 public scoping meetings held in Visitacion Valley. Overall, I am looking forward to this exciting project being completed for the benefit of the current residents and the entire Visitacion Valley community.

Comments:

1) I am not sure, if it is an issue, but I have heard over the years that the Sunnydale Creek runs beneath the surface along or near Sunnydale Avenue. If this is so, it would be good to daylight it, if it is in the landscaped public areas. If it is in an area where buildings will be situated, special measures must be taken to insure that it will not cause a dangerous situation in the future.

2) The McLaren Park site on Sunnydale Avenue just west of the Sunnydale development may have a bicycle skills facility built there. If this is correct, there needs to be an EIR for the bike center, as well as a study of its impact on the Sunnydale site. There are social, aesthetic, traffic, parking, social justice, and erosion issues. There has not been a proper planning process for this site that included the Sunnydale and greater Visitacion Valley communities. A transparent public planning process needs to be done, particularly given the needs of families in this high density, historically neglected area and the issue of social justice. This important open space area needs to be integrated into the Sunnydale community. Already there is a single use facility at the golf course and another one next door to Sunnydale is poor planning. A mixed use park would better serve the entire community.

3) Wind studies should be done to determine the optimum placement of gardens and buildings to limit the force of the wind (if possible). Visitacion Valley is known for its strong winds blowing from the west.

4) As an alternate plan:

- It would be beneficial to extend the greenway along Blythedale Avenue to the central public open space park and community garden. The 2 blocks that are not now included on Blythedale Avenue would become a pedestrian walkway along an expanded landscaped area with access for emergency vehicles.
- Is the placement of the community garden in the most optimum place? It will need to be fenced and gated and will become a barrier, physically and visually in the center of the entire development. Might it be better to place it on the edge of the open space area, rather than in the center?
- The “orchard” is not what was envisioned by the community. We were informed that it would consist solely of Loquat trees flanking a walkway. To be of the most benefit, it should have various kinds of fruit trees and they should be small in stature. It is common practice that orchard trees are either dwarf varieties or pruned to be short, so that the fruit can be easily harvested. The entire orchard concept needs to be revisited and possibly relocated.
- As proposed, the courtyard planned for each apartment complex will be in shadows due to being placed with the building surrounding it as a tall fortress. Attention needs to be paid to the sun’s passage to provide the maximum amount of sunlight. Terracing and stepping back the inner walls would help to allow more sunlight. Creating a gated and fenced entry to each complex

will provide a sense of more open space for the entire development and safety for the residents.

Thank you.

Fran Martin
Visitacion Valley Planning Alliance
186 Arleta Avenue
San Francisco, CA 94134
415-216-8560

APPENDIX CP

Section 106 Consultation

CAREY & CO. INC.
ARCHITECTURE

Velasco Housing Project
San Francisco, California

Historic Resource Evaluation

April 26, 2010

INTRODUCTION & SUMMARY

Sunnydale Development Co., LLC has requested Carey & Co.'s assistance in preparing a *Historic Resource Evaluation Report* (HRER) for an environmental review of proposed development at the Velasco housing complex. This report will provide a description of the property, its historic context, photographic documentation of the property, and an evaluation of its eligibility for listing in the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP).

In Carey & Co.'s opinion the Velasco housing project does not appear to be eligible for the CRHR or the NRHP. It stands as one of several housing projects constructed in San Francisco between 1940 and 1965 but cannot be linked to any specific or significant development within the context of the history of public housing. Although designed by master architect William Mooser, III, the buildings do not appear to be significant examples of his work; they are otherwise ordinary buildings that do not illustrate any significant principles about public architecture design in the early 1960s and do not represent a particular style or method of construction. No persons of significance are known to be associated with Velasco, and the property is unlikely to yield information that is significant to history or prehistory.

METHODOLOGY

Carey & Co. first reviewed existing documentation on Velasco, specifically, and public housing projects in San Francisco more generally. These reports included a multi-property survey of San

Francisco public housing completed by CIRCA in 2009 as well as reports completed by Carey & Co. on Hunter's View and Sunnydale. Carey & Co. conducted a site visit of Velasco on April 22, 2010, at which time digital photographs were taken of the buildings, site, and context. The site visit and these photographs assist us in developing a building description and in evaluating the integrity of the building. Primary documents included historic photographs, maps, and reports related to the San Francisco Housing Authority and specific housing projects. Secondary sources focused on the history of public housing in the United States and San Francisco as well as the biography of William Mooser, III.

This report includes two appendices:
Appendix A Site Visit Photographs, April 22, 2010
Appendix B DPR 523 A & B forms

BUILDING DESCRIPTION

The Velasco Housing Project consists of two, two-story, reinforced concrete, rectangular-in-plan, single-gable buildings situated parallel to each other on a west-to-east axis. They are set back on the northern side of Velasco Avenue, a residential street in the Visitacion Valley neighborhood of San Francisco, and stand among trees, grass, and concrete patios. The buildings have asphalt shingle-clad roofs and one-over-one metal sash windows with wood surrounds and operational awning upper lites. Some windows are one-over-one double hung metal sash. Doors are wood. The northerly building features two exterior chimneys, while the southerly, shorter building features one.

Exterior concrete stairways with metal rails and metal mesh balusters are located at the ends of the buildings. They lead from the ground floor to the second-story exterior hallways. A metal balustrade runs the length of the second-story hallway, which is supported by square metal posts. Metal posts also support a wide eave overhang that shelters the second-story hallway.

Major design elements are limited to the siting of the buildings and window type. The buildings are significantly set back from the sidewalk and partially overlap one another, creating an enclosed hallway on three sides. The buildings also face one another; thus the south elevation constitutes the rear of the southerly building and the front of the northerly building. Double-hung windows adorn the front elevations of the buildings, and one-over-one with operable upper awnings adorn the rear elevations. Concrete patios contribute to landscaped exterior space to the west of the buildings and to the south of the northerly building/east of the southerly building.

HISTORIC CONTEXT

History and Background of Public Housing in the United States

During the Great Depression the federal government began a focused initiative to alleviate unsafe and unsanitary living conditions in the growing slums of America's cities. Focusing on would-be middle-class families who found themselves on hard times during this era of unprecedented high unemployment, the Public Works Authority (PWA) funded the construction and labor to build cheap, modern homes. Spurred on by critics of the nascent housing program, however, a 1935 federal court ruling established that the federal government could not appropriate private land for public housing. The federal court ruling was handed down before any PWA projects were carried out on the West Coast.

The national mood had changed by the mid-1930s, when the number of poor in the United States had grown dramatically and, significantly, included former members of the middle class, or the

—submerged middle class." Historian Lawrence Friedman defined this group as —formerly members of the middle class, who had enjoyed prosperity in the twenties. They retained their middle-class culture and their outlook, their articulateness, their habit of expressing their desires at the polls."[1] With so many so-called respectable people falling on hard times and finding themselves homeless or living in the slums, the appeal for public housing grew.

Congress passed the Wagner-Steagall Act, or United States Housing Act (USHA), in 1937. This legislation decentralized the structure for public housing through the creation of local housing authorities, and limited federal expenditure through a system of local bonds, federal subsidies (the USHA allowed local housing authorities to borrow up to 90 percent of the development or acquisition costs and granted annual subsidies to low-income projects), and tenant rents. It pleased many parties: Longtime slum clearance activists and advocates applauded the requirement that public housing be constructed on former slum sites, while business leaders liked that the slum clearance policy meant that housing would be replaced in-kind, rather than inflate the vacancy rate and therefore deflate housing prices. In theory, income limits guaranteed that the neediest people benefited from the program, but mandatory rental fees meant that the poorest of the poor could not afford public housing in reality. This meant that public housing could resist association with the —problem poor;" instead, it served as a —stepping stone to a fee simple cottage—the American dream." In keeping with this idea, the earliest public housing projects were low-rise developments that blended into their surroundings and were suburban in feeling if space allowed. From its founding in 1937 until the summer of 1941, the USHA funded over 150,000 new low-income dwelling units in partnership with approximately 620 authorized local housing authorities. [2]

Necessity and economy drove decisions about public housing location and design. Nathan Straus, the first USHA secretary, believed that new construction had the potential to benefit the poor more quickly that slum clearance, which also required costly and lengthy site preparations. This policy had an immediate influence on which sites were chosen; some of the first projects tended to be located on empty lots at the edges of cities, like San Francisco's huge Sunnydale development in Visitacion Valley. One of the strongest criticisms of the PWA projects had been that designers included unnecessary luxuries in an effort to highlight the potential of —modern housing" to help eradicate slum conditions. These early housing guidelines called for variation of materials types, roof designs, and placement to avoid repetition and to maintain consistency of architectural embellishments; avoidance of large apartment blocks or row houses; and the use of landscaped walkways, recessed entry courts and open space.[3] In contrast, the USHA mandated cost limits of $1000 per room or $4000 per family unit. Standardized unit plans and shoestring budgets —conspired to significantly inhibit creativity in housing design."[4] Since the cost of land was included in the per-room and per-family unit calculations, the high cost of land in San Francisco made meeting the limitations particularly difficult. Indeed, in many cases the City and County of San Francisco had to contribute additional funds to cover expenditures that exceeded the federally-allocated budget.

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[1] Lawrence M. Friedman, —Public Housing and the Poor: An Overview," *California Law Review*, Vol. 54, no. 2 (May 1966), 645-646.

[2] Friedman, —Public Housing," 646-649; Ruth G. Weintraub, and Rosalind Tough, *Federal Housing and World War II* (Madison, 1942), p.155-157.

[3] Linda Flint McClelland and Sarah Dillard Pope, *Historic Residential Suburbs in the United States, 1830-1960*, Washington D.C, 2002, Section E-32.

[4] Robinson & Associates, Inc., and Jeffrey Shrimpton, *Draft Historic Context: Public Housing in the United States, 1933-1949* (August 14, 1997), 68.



Left: Sunnydale Housing Project under construction, 1940. Right: Aerial view of Sunnydale housing project, 1941, with Cow Palace in the background. Courtesy of San Francisco Public Library.

Early public housing projects followed some basic principles. As Straus wrote in 1939, "In low-rent housing, it is in the plan of the project as a whole–in the relation of the buildings to each other and to the land–that we may provide both insurance against deterioration of the neighborhood and the opportunities for the growth of a better community life.[5] Thus, proper site planning served as an inexpensive means to create livable projects. For the most up-to-date ideas on public housing site planning, American designers looked to the European planning and design philosophies advanced by Catherine Bauer in her seminal book of 1934, *Modern Housing*.[6] According to Bauer, the English "super-block" was a large contiguous block of land, defined by multi-use roads along its edges but featuring small vehicle- or pedestrian-only pathways "indented into the periphery of the block."[7] This concept allowed "very large economies in paving...and at the same time whole neighborhoods were rendered immune from traffic noise and dirt and dangers."[8] Orientation toward sun and air flow was part of the German version of the super-block, *Zeilenbau*, in which parallel rows of buildings led to "[n]o closed courtyards, no traffic, no wasted pavement, and an open vista in two directions for every window and balcony."[9] Despite topographical influences, Potrero Terrace and Sunnydale are the two examples of super-block-type site planning among San Francisco's five permanent pre-WWII housing projects.

Another way to arrange buildings on a site was referred to as a "court plan."[10] Designers using this technique placed inward-facing buildings at the perimeter of the site, creating "spaciousness of effect and esthetically satisfying enclosed areas" between the buildings.[11] Protected inner courtyards were considered safer for children and easier to maintain than lawns or gardens along the street, and the court plan tended to be chosen when sun, wind, and views were not programmatic considerations, such as on small sites in dense urban neighborhoods. Three of San Francisco's first five housing projects – Holly Courts, Westside Courts, and Valencia Gardens – used the court plan.

Landscape design was an important component of early housing project design; however, cost limitations and maintenance requirements prohibited the use of many types of plantings. Only the varieties that were "thoroughly hardy and free from horticultural handicaps" were considered

[5] Nathan Straus, Foreword to U.S. Department of the Interior, U.S. Housing Authority, *Design of Low-Rent Housing Projects: Planning the Site* (Bulletin no. 11 on Policy and Procedure, 1939), 3.
[6] Oakland Cultural Heritage Survey, *State of California Historic Resources Inventory Form for Peralta Villa* (August 1990), 8.
[7] Catherine Bauer, *Modern Housing* (Boston, 1934), 178.
[8] Bauer, *Modern Housing,* 178.
[9] Bauer, *Modern Housing,* 180-181.
[10] U.S. Department of the Interior, U.S. Housing Authority, 22.
[11] U.S. Department of the Interior, U.S. Housing Authority, 22.

appropriate for the purposes of low-rent housing. Trees were not generally recommended due to the desire for maximum sun and wind, and shrubs, flowers, and grass were discouraged because caring for these items was very expensive. Vines, on the other hand, added "the charm of green foliage" and helped reduce the harshness of unarticulated concrete facades.[12] The federal government also looked favorably on landscape designs that included tenant-maintained areas, believing that this would reduce costs and promote civic pride. Pioneer modernist landscape architect Thomas Church applied some of these principles to such housing projects as Valencia Gardens, in the Mission District. He incorporated his signature curvilinear pathways between raised planter beds, which were supposed to be easy to maintain and provide plenty of outdoor seating. [13]



Two views of the courtyards at Valencia Gardens. Courtesy of San Francisco Public Library and the Environmental Design Archives, University of California, Berkeley.

While design and construction of housing projects was the responsibility of local housing authorities, the federal government provided advice and guidance through "education" books or pamphlets. One such book, entitled *Design of Low-Rent Housing Projects: Planning the Site* (1939), described how designers could work with different types of topographic situations. In one example, the preferred schemed for 320 families "on a very steep site in a large western city" lays the buildings along the site contours but cuts the roads across them. The sketch in the book is practically identical to the site plan for Potrero Terrace.[14]

The need for WWII defense housing quickly developed into a housing crisis and the USHA was the first agency to fund defense housing projects. The USHA, according to Ruth G. Weintraub and Rosalind Tough, felt that its experience in building low-income housing and its vast network with local agencies made it the best suited and equipped agency to manage the development of WWII housing.[15] In June of 1940, the USHA transferred $33 million to local housing authorities and the Army and Navy for defense housing projects.[16] Historian Margaret Crawford writes, "In 1940 the defense amendment to the U.S. Housing Act of 1937 channeled Federal slum clearance funds into housing programs for defense areas, converting more than half of the three hundred existing public housing projects into war housing."[17]

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[12] U.S. Department of the Interior, U.S. Housing Authority, 71.
[13] Marc Treib, *An Everyday Modernism: the Houses of William Wurster* (San Francisco, 1995), 53.
[14] U.S. Department of the Interior, U.S. Housing Authority, 46-7.
[15] Ibid.,157
[16] Ibid.
[17] Margaret Crawford, "Daily Life on the Home Front: Women, Blacks, and the Struggle for Public Housing," in *World War II and the American Dream: How Wartime Building Changed a Nation,* edited by Donald Albrecht (Cambridge, 1995), 92.

By 1942, however, the role of the USHA in the WWII housing program had diminished. Congress did not agree with the USHA's view that it was ideally suited to manage the enormous task of defense housing. The national housing program was entangled in a congressional political struggle over the roles of the federal government and private construction industry in building wartime and post-war housing, with Congress expressing reluctance to compete against private enterprise.[18] Instead of permanent low-income housing that the USHA advocated, Congress supported temporary defense housing that required post-war relocation or demolition, which could make way for large-scale private enterprise. In 1941 the House accepted a proposal that all defense housing projects must be sold to private interests after the war.[19] By 1942, the USHA had received little funding and was involved in only a quarter of the publicly funded defense housing projects. However, the projects overseen by the USHA were generally agreed to be well built. The other three-fourths were managed by agencies that had little or no experience in housing construction.[20]

A series of historical trends and policy decision like the one outlined above resulted in the overall decline of public housing, both in real conditions for the people who lived in such accommodations as well as in the public perception of and consequent support for public housing. For instance, an anticipated overwhelming postwar housing shortage of nearly 12 million units led to a presidential executive order in 1945 to suspend demolition of temporary defense housing. [21] All of these issues resulted in a significant portion of the nation's poorest citizens living in government-subsidized squalor.[22] The need to build a lot of housing quickly, combined with a postwar decline in federal funding for public housing also led to the construction of apartment towers, which emphasized density, economy, and standardized design. Public housing expert, Catherine Bauer, explained the complexity of the debate in 1952:

> A big issue today in connection with slum clearance, public housing, and redevelopment policy in large cities is the decision between elevator apartments and low flats or one-family houses, particularly with respect to the needs of low- or moderate-income families with children. Although in the USA Federal aid makes low density theoretically possible, the trend is toward high buildings due to the combined pressure of central property and political interests, the housing shortage, and the frequent difficulty of finding suitable vacant sites within the city. Also, a great many designers like the concept of architectural urbanity and technological refinement expressed in tall buildings when properly spaced, and among the sophisticated there are those who feel that collective apartment living is more convenient, more efficient, and culturally more desirable than our old small house pattern.[23]

Whatever the debate, apartment towers were generally impersonal in style and experience. Segregation policies and their underlying racism created further problems. While the Housing Act of 1949 provided detailed guidance on how to identify low-income families, it did not address the problem's demographic aspect. Local housing authorities thus commonly created separate housing projects for different racial and ethnic groups, which almost invariably affected African American families in the most adverse way; they faced longer waiting lists and were more likely to find

[18] Weintraub and Tough, *Federal Housing*, 161.
[19] "Straus Says Foes Seek to Kill USHA" *New York Times*, February 18, 1942, p. 20.
[20] Weintraub and Tough, *Federal Housing*, 158.
[21] Robinson & Associates, "Public Housing," 84-5.
[22] "Annual Report of the Housing Association of the City of San Francisco
[23] Catherine Bauer, *Social Questions in Housing and Town Planning* (London, 1952), 20-1.

accommodations in crowded, substandard projects like the decommissioned temporary war housing mentioned above. When the Supreme Court ruled in 1954 that San Francisco must end its segregation policies, which set a precedent that the rest of the nation had to follow, the moral imperative to treat public housing as a stepping stone for middle-class home ownership and to foster good citizenship was, for all intents and purposes, abandoned.[24]

All of these issues, not to mention common corruption in local housing authorities, led to a precipitous decline in support for public housing. A perception existed that public housing was failing to achieve the expectations of the programs' creators. According to Gwendolyn Wright, by the mid-1950s, "the general public's growing unhappiness...with the high incidence of crime, the generally sterile appearance, [and] the rising costs of construction and maintenance"[25] was evidenced in a considerable change in contemporary writing on the subject of public housing. Fewer articles were written about new public housing projects, with the notable exception being those projects that differed in some way from the standardized norm. For example, public housing for the elderly, which was a novelty, tended to receive more favorable press coverage.[26]

Public housing's most ardent early supporters criticized some aspects of how the flawed implementation of the program had affected the result. Focusing on design, Catherine Bauer wrote, "[T]here is a strong prejudice against the row house in most sections of America. What we need to know is whether its unpopularity is due to inherent factors (such as closeness to neighbors, relatively small yards, and lack of 'individuality') or to the fact that few people have seen or occupied a really well-designed up-to-date version as yet."[27] Similarly, respected trade journals printed editorials written by private industry which at times featured emotionally-charged rhetoric such as this, published in the January 1950 issue of *Architect and Engineer*: "If the government would stay off the market, 1950 would almost automatically be another all-time high year for home building. All conditions except that of the socialized housing threat are good."[28]

In reaction to critiques like these, officials began looking for other solutions to the country's affordable housing problems. One infamous strategy was "urban renewal," in which the existing federal public housing and slum clearance programs were combined with new efforts to develop commercial and transportation features of a given neighborhood. The process began with the Housing Acts of 1949 and 1954, which created federal subsidies for private industry projects on land that had been cleared of slums. Another, somewhat lesser-known, later program was referred to as the "scatter plan," in which local housing authorities purchased and renovated existing homes in various neighborhoods throughout their city in hopes of lessening the isolation and stigma attached to low-income public housing. Finally, throughout the post-war period the federal government passed legislation making private homes more accessible through new mortgage financing and subsidies.

Public Housing in San Francisco

The history of public housing in San Francisco closely follows national trends. It begins with passage of the United States Housing Act of 1937. Empowered by this act, the California Legislature

[24] Howard, "More than Shelter," 26-29.
[25] Gwendolyn Wright, "The Evolution of Public Housing Policy and Design in the San Francisco-Bay Area," (Ph.D. diss. University of California, Berkeley, 1976), 42-3.
[26] Norman D. Peel, Garth E. Pickett, Stephen T. Buehl, "Racial Discrimination in Public Housing Selection," *Stanford Law Review*, 23 (November 1970), 92
[27] Bauer, *Social Questions,* 21.
[28] Rodney M. Lockwood, "Increased Home Construction Costs May Result from Federal Housing Program," *Architect and Engineer* 153, no. 1 (January 1950), 11.

passed a series of laws 1938 that allowed local communities to create independent housing authorities with tax-exempt status, the power of eminent domain, and the authority to seek federal funding. The San Francisco Housing Authority (SFHA) was formed in 1938 and was among the first California cities to request USHA funding.[29]

The SFHA initially directed efforts toward determining how great the need for public housing was. After its first survey indicated that 46,000 homes in San Francisco were "substandard," the agency planned eleven public housing projects with a total of 2,855 units.[30] Five of these were undertaken before WWII (Holly Courts, Potrero Terrace, Sunnydale, Valencia Gardens, and Westside Courts), and three were completed or partially occupied before December 1941 (Holly Courts, Potrero Terrace, Sunnydale). Of these, two projects deserve particular attention: According to architectural historian Jeffrey Tilman, Holly Courts in Bernal Heights was "the first federally subsidized housing development west of the Rocky Mountains, and a model project to this day." Completed in May 1940, it was also was designed by Arthur Brown, Jr., architect of San Francisco City Hall, among many other prominent buildings in San Francisco, California, and elsewhere. The SFHA's selection of Brown, like its later selections of Timothy Pflueger, Clarence Tantau, and William Wurster, served a strategic purpose to elevate the prestige of public housing and to convey the Authority's commitment to quality housing for low-income residents. The series of ten, reinforced concrete, International Style buildings were designed to "cascade down the hillside, giving the effect of an Italian hill town or a Greek fishing village," and organized to create private courtyards for community interaction, play space, or simple relaxation. They remain the most popular and viable of San Francisco's public housing projects.[31] Westside Courts was the only public housing project in San Francisco programmed specifically for African-American families.

Like many other housing authorities, the SFHA organized a public information campaign. This included brochures and pamphlets emphasizing modern conveniences, improved sanitary conditions, careful planning, and assurances that respectable citizens would populate the projects. One of these brochures, entitled *Holly Courts*, describes the highlighted project with typical language: "The things to notice in the architecture of Holly are the service and simplicity, service to fulfill the basic needs of the tenants in little as well as big factors, in a floor that can be swept easily as well as in walls that won't fall down: simplicity primarily to keep construction costs low. The two together are important to good architecture. . .In spite of their rectangular simplicity and concrete construction, the buildings avoid austerity by the informality, their close relation to the play spaces, and their warm friendly color and texture.[32]

War-related changes in public housing policies made the SFHA the largest landlord in the city, managing the five permanent projects as well as 10,000 new temporary housing units. Many of these units were concentrated in Hunter's Point, where land was easily secured and close to defense jobs, as well as in areas that private industry considered less desirable, such as steep terrain on Potrero Hill and along Alemany Boulevard. These locations eventually became the sites for permanent postwar housing projects.

The first projects on the SFHA's list after World War II were the remaining six of the original eleven planned before the war. Designs for Ping Yuen in Chinatown and North Beach Place in North Beach were finished when the program was suspended, so these two provided the most logical and most

[29] Jeffrey Tilman, *Arthur Brown, Jr.: Progressive Classicist* (New York, 2006), 199.
[30] "History of the Authority," *San Francisco Housing Authority 1942-1943 Annual Report*, no. 5 (April 15, 1943).
[31] Tilman, *Arthur Brown*, 200-201.
[32] *Holly Courts* (San Francisco: San Francisco Housing Association, 1940), 1.

easily achievable starting point for the revived effort. Construction was completed for both projects in 1952, providing the first new permanent public housing in San Francisco in over a decade. Ping Yuen received many accolades. Other projects that followed in the early 1950s tended to relate to the ongoing process of phasing out and disposing of temporary defense housing units (though as late as 1966, the SFHA was still housing people in substandard temporary units). This usually meant providing new permanent housing near occupied temporary units or reusing land that recently had been cleared. Building new units adjacent to older ones was also an option, as in the case of Potrero Annex and Velasco.[33]

While the SFHA was starting to construct new, voter-approved permanent public housing, the agency was fending off negative national attention on its segregation policy. The "neighborhood pattern" policy officially began in 1942 when officials decided to base the racial mix of a project on that of the surrounding neighborhood. Out of the original 11 projects, for example, Westside Courts was set aside for African-Americans because there was a high concentration of African-Americans living in that area, Ping Yuen in Chinatown was reserved solely for the Chinese, and the remaining housing developments were meant for Caucasians. SFHA officials used the federal requirement of neighborhood "harmony" as justification, but within a decade the policy came under attack. In 1950, the San Francisco Board of Supervisors forced the agency into a partial compromise; the SFHA agreed to stop using the policy for tenants in newly designed and constructed projects but was able to continue enforcing it in "all war-deferred projects and existing low-rental housing."[34] The issue was finally settled by the United States Supreme Court in 1954, one week after its landmark ruling against the "separate but equal" policy in *Brown vs. the Board of Education*. In the public housing case, the Supreme Court refused to hear an appeal from a federal district judge's ruling that San Francisco's "neighborhood pattern" policy was unconstitutional under the 14th Amendment.

Like public housing programs in the United States in general, the SFHA was established in 1938 with optimistic idealism that it was providing a valuable public service to upstanding citizens who had fallen on hard times and that public housing could help the needy find their way back to the middle class. By 1966, however, the SFHA presented a bleak outlook on the status of public housing in San Francisco. That year's annual report enumerated a laundry list of obstacles to providing adequate public housing, including scarcity of affordable land; greater reliance on private partnerships due to a decrease in federal subsidies as well as the absence of federal recognition that San Francisco's property values were higher than those in many other cities; a decline in revenue because of the phasing out of temporary units – meaning fewer rents or subsidies – and prohibitive costs to maintain the remaining temporary units; a lack of 3-5 bedroom units for families; vandalism, especially at Hunters Point; and a growing sense of isolation among tenants. To help remedy these problems, the SFHA completely revamped its personnel, purchasing practices, mail distribution and printing services, vehicle maintenance, management, rent collection procedures, human relations department, and police activities. In more recent years, the SFHA has undertaken an ambitious program to renovate or demolish and build new public housing units through the Hope VI program.[35]

Velasco

The Velasco Housing Project originated in 1960 as part of the Hayes Valley Apartments. The latter consisted of 328 units in twenty buildings on two blocks. "The third unit of this project, consisting of 18 apartments (in two buildings), is situated adjacent to the Sunnydale project." The Velasco Units

[33] See *Annual Report* of the SFHA.
[34] "Cooperation Agreement Bans Racial Segregation," *The Journal of Housing* 7, no. 3 (March 1950), 82.
[35] Annual Report of the San Francisco Housing Authority, 1966.

were completed in 1963.[36] After including the above statement in its 1963-1964 Annual Report, the SFHA all but ignored Velasco. The housing project was never listed among all of San Francisco's other housing projects on the back page of annual reports. And the figures for Sunnydale remained constant rather than reflecting the additional 18 units that Velasco introduced to the immediate area.

William Mooser, III, designed the Velasco housing project. He was born in San Francisco in 1893 to an architectural dynasty. Mooser's grandfather, William Mooser, Sr., a native of Geneva, Switzerland, arrived in San Francisco in 1853. One of his oldest extant buildings in San Francisco is the 1864 Pioneer Woolen Mill at Ghirardelli Square, and his son, William Mooser, II or Jr., designed the remaining buildings that comprised the Ghirardelli Chocolate Factory. William Mooser III trained at the Ecole des Beaux-Arts and apprenticed with MacDonald and Couchot in Los Angeles before joining the family practice. The youngest Mooser was given to popular styles. He designed the 1929 Santa Barbara County Courthouse in the Spanish Colonial style, as was particularly popular in southern California and Santa Barbara at that time. Ten years later, working for the Works Progress Administration, Mooser and his father designed San Francisco's Aquatic Park, a celebrate Art Deco masterpiece.[37] For Velasco, completed in 1963 on a parcel of land located adjacent to the massive Sunnydale housing project, Mooser chose the International Style. It was economical, but also in keeping with architectural taste of the postwar era.

REGULATORY FRAMEWORK

The regulatory background outlined below offers an overview of federal, state, and local criteria used to assess the historic significance and eligibility of a building, structure, object, site or district for listing in the National Register of Historical Places (NRHP), in the California Register of Historical Resources (CRHR), and as a San Francisco City Landmark.

Federal Government Criteria

National Register Bulletin Number 15, *How to Apply the National Register Criteria for Evaluation*, describes the Criteria for Evaluation as being composed of two factors. First, the property must be "associated with an important historic context."[38] The National Register identifies four possible context types, of which at least one must be applicable at the national, state, or local level. As listed under Section 8, "Statement of Significance," of the National Register of Historic Places Registration Form, these are:

A. Property is associated with events that have made a significant contribution to the broad patterns of our history.

B. Property is associated with the lives of persons significant in our past.

C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

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[36] Annual Report of the San Francisco Housing Authority, 1960 and 1963-64.

[37] David Parry, "Mooser, William," *Encyclopedia of San Francisco*, http://www.sfhistoryencyclopedia.com (accessed April 15, 2010); National Park Service, "Architecture in the Parks: Aquatic Park Historic District," http://www.hps.gov (accessed April 15, 2010); "Art: Sea Murals," *Time*, February 6, 1939, http://www.time.com (accessed April 15, 2010).

[38] U. S. Department of the Interior, National Park Service, *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*, National Register Bulletin 15 (Washington, D.C., 1997), 3.

D. Property has yielded, or is likely to yield, information important to prehistory or history.[39]

Criteria Consideration G: Properties that Have Achieved Significance within the Past Fifty Years.

> The National Register Criteria for Evaluation exclude properties that achieved significance within the last fifty years unless they are of exceptional importance. Fifty years is a general estimate of the time needed to develop historic perspective and to evaluate significance. This consideration guards against the listing of properties of passing contemporary interest and ensures that the National Register is a list of truly historic places…A building constructed early in the twentieth century (and having no architectural importance), but that was associated with an important period during the 1950s, must be evaluated under Criteria Consideration G because the Period of Significance is within the past fifty years. Such a property would qualify if the person was of exceptional importance. [40]

Integrity

Second, for a property to qualify under the National Register's Criteria for Evaluation, it must also retain "historic integrity of those features necessary to convey its significance."[41] While a property's significance relates to its role within a specific historic context, its integrity refers to "a property's physical features and how they relate to its significance."[42] To determine if a property retains the physical characteristics corresponding to its historic context, the National Register has identified seven aspects of integrity:

> Location is the place where the historic property was constructed or the place where the historic event occurred.
>
> Design is the combination of elements that create the form, plan, space, structure, and style of a property.
>
> Setting is the physical environment of a historic property.
>
> Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
>
> Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
>
> Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

[39]U.S Department of the Interior 1997, 41-43.
[40]U.S. Department of the Interior 1997, 75.
[41] Ibid, 15 & 3.
[42] Ibid, 44.

> Association is the direct link between an important historic event or person and a historic property.[43]

Since integrity is based on a property's significance within a specific historic context, an evaluation of a property's integrity can only occur after historic significance has been established.[44]

State of California Criteria

The California Office of Historic Preservation's Technical Assistance Series #6, *California Register and National Register: A Comparison*, outlines the differences between the federal and state processes. The context types to be used when establishing the significance of a property for listing on the California Register of Historical Resources are very similar, with emphasis on local and state significance. They are:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or

2. It is associated with the lives of persons important to local, California, or national history; or

3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or

4. It has yielded, or is likely to yield, information important to prehistory or history of the local area, California, or the nation.[45]

Like the NRHP, evaluation for eligibility to the CRHR requires an establishment of historic significance before integrity is considered. California's integrity threshold is slightly lower than the federal level. As a result, some resources that are historically significant but do not meet NRHP integrity standards may be eligible for listing on the CRHR.[46]

California's list of special considerations is shorter and more lenient than the NRHP. It includes some allowances for moved buildings, structures, or objects, as well as lower requirements for proving the significance of resources that are less than 50 years old and a more elaborate discussion of the eligibility of reconstructed buildings.[47]

In addition to separate evaluations for eligibility for the CRHR, the state automatically lists on the CRHR resources that are listed or determined eligible for the NRHP through a complete evaluation process.[48]

California Historical Resource Status Codes

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[43] Ibid, 44-45.
[44] Ibid, 45.
[45] California Office of Historic Preservation, *California Register and National Register: A Comparison*, Technical Assistance Series 6, (Sacramento, 2001), 1.
[46] Ibid, 1.
[47] Ibid, 2.
[48] All State Historical Landmarks from number 770 onward are also automatically listed on the California Register. [California Office of Historic Preservation, *California Register of Historical Resources: The Listing Process*, Technical Assistance Series 5, (Sacramento, n.d.), 1.

The California Historic Resource Status Codes (status codes) are a series of ratings created by the California Office of Historic Preservation to quickly and easily identify the historic status of resources listed in the state's historic properties database. These codes were revised in August 2003 to better reflect the historic status options available to evaluators. The following are the seven major status code headings:

1. Properties listed in the National Register or the California Register.
2. Properties determined eligible for listing in the National Register or the California Register.
3. Appears eligible for National Register or California Register through Survey Evaluation.
4. Appears eligible for National Register or California Register through other evaluation.
5. Properties recognized as historically significant by local government.
6. Not eligible for listing or designation.
7. Not evaluated for National Register or California Register or needs revaluation.

EVALUATION

A/1: Event or Historic Trend
Completed in 1963, the Velasco Housing Project is one of many housing projects constructed in San Francisco between 1940 and 1965. While it is associated with postwar developments in the city's public housing, including additions to pre-existing housing projects and increasingly simplified designs, it does not have a specific association with this trend to make it stand out as significant. The project is not known to be associated with any other events in the history of public housing or San Francisco. Thus, the Velasco Housing Project does not appear to be eligible for the NRHP/ CRHR under Criterion A/1.

B/2: Persons of Significant
The Velasco Housing Project is not known to be associated with persons significant to history and, therefore, does not appear to be eligible for the NRHP/ CRHR/ under Criterion B/2.

C/3: Architecture
While William Mooser, III, a recognized master architect, designed Velasco, this commission does not gain significance through its association with him. Commissions like the Santa Barbara County Court House and San Francisco's Aquatic Park better captures the scale of Mooser's oeuvre and his range of design styles. Velasco is a plain, small-scale project of little architectural interest. While possessing characteristic public housing project attributes like an absence of ornamentation and simple, economic style, better examples exist in the city. The building is not a good example of an architectural type or style or a particular method of construction. It does not appear to be eligible for the NRHP/CRHR under Criterion C/3.

D/4: Prehistory or History
The property is unlikely to yield information that is significant to history or prehistory and, therefore, does not appear to be eligible for the NRHP/CRHR under Criterion D/4.

Integrity
The Velasco Housing Project appears to retain excellent integrity. It has not been moved and, therefore, retains its integrity of location. It still stands adjacent to the massive Sunnydale complex and on a residential street filled with pre-World War II buildings. Thus, it retains its integrity of setting too. The building has undergone virtually no alterations; therefore, it retains its integrity of design, materials, workmanship, feeling, and association as well.

CONCLUSION

While the Velasco Housing Project retains excellent integrity, it appears to represent little more than a footnote in the history of San Francisco's public housing. It does not appear to be eligible for the NRHP or CRHR.

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Appendix A

Site Visit Photographs
April 22, 2010

Velasco Housing Project
San Francisco, California

Historic Resources Evaluation

Prepared by
Carey & Co., Inc.



West and south elevations, from southwest.



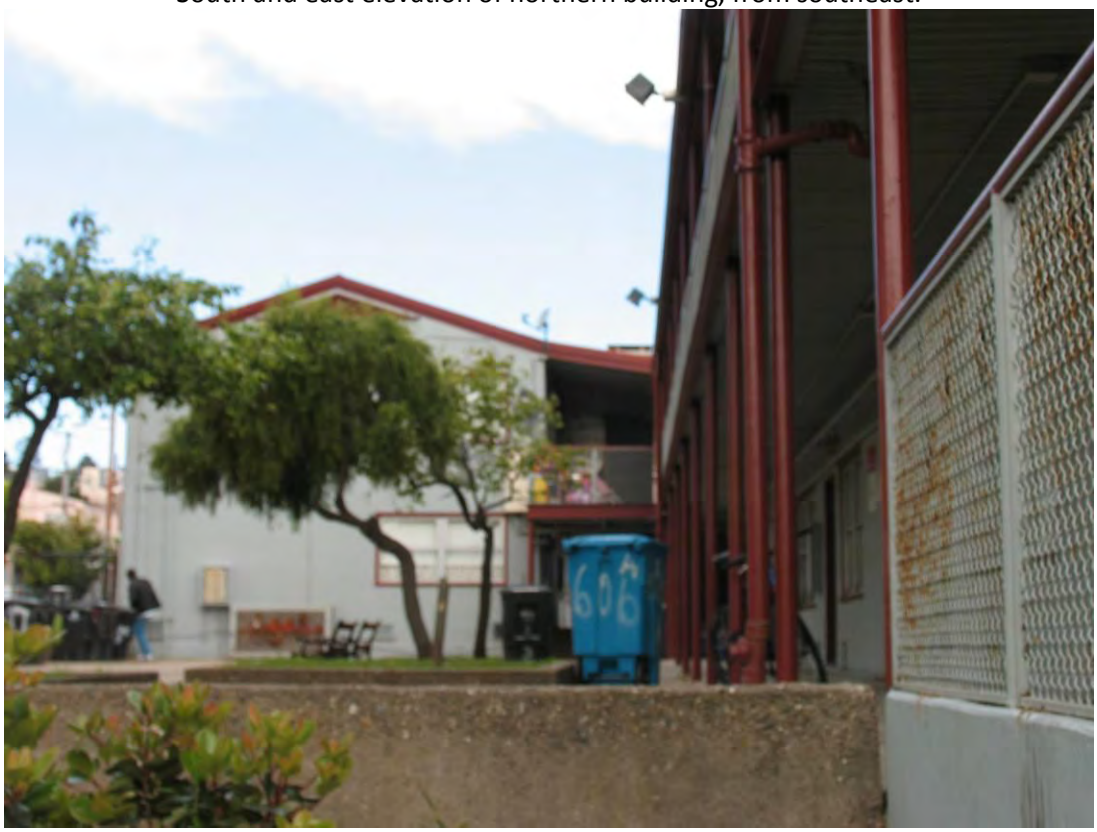
South elevation of southern building, from south.



South elevation of northern building, from south.



South and east elevation of northern building, from southeast.



East elevation of southern building and first-floor exterior hallway of northern building.



North elevation of northern building, from northeast.



North and west elevations of northern building, from northwest.



North elevations of both buildings, from north.



North and west elevations, from northwest.



North side of Velasco Avenue from west to east.



South side of Velasco Avenue, from east to west.

Appendix B

DPR 523 A & B Forms

Velasco Housing Project
San Francisco, California

Historic Resources Evaluation

Prepared by
Carey & Co., Inc.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code | Reviewer | Date

 *__Resource Name or #:__ Velasco Housing Project

P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted** ***a. County:** San Francisco
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad:** **Date:** **T** ; **R** ; **¼ of** **¼ of Sec** ; M.D. **B.M.**
c. Address: Velasco Avenue at Castillo Street City: San Francisco Zip: 94134
d. UTM: Zone: 10 ; mE/ mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The Velasco Housing Project consists of two, two-story, reinforced concrete, rectangular-in-plan, single-gable buildings situated parallel to each other on a west-to-east axis. They are set back on the northern side of Velasco Avenue, a residential street in the Visitacion Valley neighborhood of San Francisco, and stand among trees, grass, and concrete patios. The buildings have asphalt shingle-clad roofs and one-over-one metal sash windows with wood surrounds and operational awning upper lites. Some windows are one-over-one double hung metal sash. Doors are wood. The northerly building features two exterior chimneys, while the southerly, shorter building features one.

Exterior concrete stairways with metal rails and metal mesh balusters are located at the ends of the buildings. They lead from the ground floor to the second-story exterior hallways. A metal balustrade runs the length of the second-story hallway, which is supported by square metal posts. Metal posts also support a wide eave overhang that shelters the second-story hallway.

Major design elements are limited to the siting of the buildings and window type. The buildings are significantly set back from the sidewalk and partially overlap one another, creating an enclosed hallway on three sides. The buildings also face one another; thus the south elevation constitutes the rear of the southerly building and the front of the northerly building. Double-hung windows adorn the front elevations of the buildings, and one-over-one with operable upper awnings adorn the rear elevations. Concrete patios contribute to landscaped exterior space to the west of the buildings and to the south of the northerly building/east of the southerly building.

***P3b. Resource Attributes:** (List attributes and codes)
***P4. Resources Present:** ☑Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
South elevations, from southwest. April 22, 2010

***P6. Date Constructed/Age and Sources:** ☑Historic
☐Prehistoric ☐Both
1963, Annual Report of the SFHA

***P7. Owner and Address:**
San Francisco Housing Authority
440 Turk Street
San Francisco, CA 94102

***P8. Recorded by:** (Name, affiliation, and address)
Carey & Co., Inc.
460 Bush Street
San Francisco, CA 94108

***P9. Date Recorded:**
April 26, 2010

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** Carey & Co., Inc. "Velasco Housing Project: Historic Resource Evaluation." April 26, 2010.

***Attachments:** ☐NONE ☐Location Map ☐Sketch Map ☑Continuation Sheet ☑Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

*Resource Name or # : Velasco Housing Project

B1. Historic Name: Velasco Housing Project
B2. Common Name:
B3. Original Use: public housing
B4. Present Use: public housing
***B5. Architectural Style:** International Style
***B6. Construction History:** Constructed in 1963.

***B7. Moved?** ☑No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:** None

B9a. Architect: William Mooser, III
b. Builder: unknown
***B10. Significance: Theme:** public housing
Area: Visitacion Valley, San Francisco, CA
Period of Significance: N/A
Property Type: residential
Applicable Criteria: N/A

History and Background of Public Housing in the United States

During the Great Depression the federal government began a focused initiative to alleviate unsafe and unsanitary living conditions in the growing slums of America's cities. Focusing on would-be middle-class families who found themselves on hard times during this era of unprecedented high unemployment, the Public Works Authority (PWA) funded the construction and labor to build cheap, modern homes. Spurred on by critics of the nascent housing program, however, a 1935 federal court ruling established that the federal government could not appropriate private land for public housing. The federal court ruling was handed down before any PWA projects were carried out on the West Coast.

See Continuation Sheet

B11. Additional Resource Attributes:

***B12. References:**

See continuation sheet.

B13. Remarks:

***B14. Evaluator:** Carey & Co., Inc.

***Date of Evaluation:** April 26, 2010



*Recorded by: Carey & Co., Inc. *Date: April 26, 2010 ☑ Continuation ☐ Update

Continuation of B10. Significance:

The national mood had changed by the mid-1930s, when the number of poor in the United States had grown dramatically and, significantly, included former members of the middle class, or the "submerged middle class." Historian Lawrence Friedman defined this group as "formerly members of the middle class, who had enjoyed prosperity in the twenties. They retained their middle-class culture and their outlook, their articulateness, their habit of expressing their desires at the polls."[1] With so many so-called respectable people falling on hard times and finding themselves homeless or living in the slums, the appeal for public housing grew.

Congress passed the Wagner-Steagall Act, or United States Housing Act (USHA), in 1937. This legislation decentralized the structure for public housing through the creation of local housing authorities, and limited federal expenditure through a system of local bonds, federal subsidies (the USHA allowed local housing authorities to borrow up to 90 percent of the development or acquisition costs and granted annual subsidies to low-income projects), and tenant rents. It pleased many parties: Longtime slum clearance activists and advocates applauded the requirement that public housing be constructed on former slum sites, while business leaders liked that the slum clearance policy meant that housing would be replaced in-kind, rather than inflate the vacancy rate and therefore deflate housing prices. In theory, income limits guaranteed that the neediest people benefited from the program, but mandatory rental fees meant that the poorest of the poor could not afford public housing in reality. This meant that public housing could resist association with the "problem poor;" instead, it served as a "stepping stone to a fee simple cottage—the American dream." In keeping with this idea, the earliest public housing projects were low-rise developments that blended into their surroundings and were suburban in feeling if space allowed. From its founding in 1937 until the summer of 1941, the USHA funded over 150,000 new low-income dwelling units in partnership with approximately 620 authorized local housing authorities.[2]

Necessity and economy drove decisions about public housing location and design. Nathan Straus, the first USHA secretary, believed that new construction had the potential to benefit the poor more quickly that slum clearance, which also required costly and lengthy site preparations. This policy had an immediate influence on which sites were chosen; some of the first projects tended to be located on empty lots at the edges of cities, like San Francisco's huge Sunnydale development in Visitacion Valley. One of the strongest criticisms of the PWA projects had been that designers included unnecessary luxuries in an effort to highlight the potential of "modern housing" to help eradicate slum conditions. These early housing guidelines called for variation of materials types, roof designs, and placement to avoid repetition and to maintain consistency of architectural embellishments; avoidance of large apartment blocks or row houses; and the use of landscaped walkways, recessed entry courts and open space.[3] In contrast, the USHA mandated cost limits of $1000 per room or $4000 per family unit. Standardized unit plans and shoestring budgets "conspired to significantly inhibit creativity in housing design."[4] Since the cost of land was included in the per-room and per-family unit calculations, the high cost of land in San Francisco made meeting the limitations particularly difficult. Indeed, in many cases the City and County of San Francisco had to contribute additional funds to cover expenditures that exceeded the federally-allocated budget.

Early public housing projects followed some basic principles. As Straus wrote in 1939, "In low-rent housing, it is in the plan of the project as a whole–in the relation of the buildings to each other and to the land–that we may provide both insurance against deterioration of the neighborhood and the opportunities for the growth of a better community life.[5] Thus, proper site planning served as an inexpensive means to create livable projects. For the most up-to-date ideas on public housing site planning, American

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[1] Lawrence M. Friedman, "Public Housing and the Poor: An Overview," *California Law Review*, Vol. 54, no. 2 (May 1966), 645-646.
[2] Friedman, "Public Housing," 646-649; Ruth G. Weintraub, and Rosalind Tough, *Federal Housing and World War II* (Madison, 1942), p.155-157.
[3] Linda Flint McClelland and Sarah Dillard Pope, *Historic Residential Suburbs in the United States, 1830-1960*, Washington D.C, 2002, Section E-32.
[4] Robinson & Associates, Inc., and Jeffrey Shrimpton, *Draft Historic Context: Public Housing in the United States, 1933-1949* (August 14, 1997), 68.
[5] Nathan Straus, Foreword to U.S. Department of the Interior, U.S. Housing Authority, *Design of Low-Rent Housing Projects: Planning the Site* (Bulletin no. 11 on Policy and Procedure, 1939), 3.

Continuation of B10. Significance:

designers looked to the European planning and design philosophies advanced by Catherine Bauer in her seminal book of 1934, *Modern Housing*.[6] According to Bauer, the English "super-block" was a large contiguous block of land, defined by multi-use roads along its edges but featuring small vehicle- or pedestrian-only pathways "indented into the periphery of the block."[7] This concept allowed "very large economies in paving...and at the same time whole neighborhoods were rendered immune from traffic noise and dirt and dangers."[8] Orientation toward sun and air flow was part of the German version of the super-block, *Zeilenbau*, in which parallel rows of buildings led to "[n]o closed courtyards, no traffic, no wasted pavement, and an open vista in two directions for every window and balcony."[9] Despite topographical influences, Potrero Terrace and Sunnydale are the two examples of super-block-type site planning among San Francisco's five permanent pre-WWII housing projects.

Another way to arrange buildings on a site was referred to as a "court plan."[10] Designers using this technique placed inward-facing buildings at the perimeter of the site, creating "spaciousness of effect and esthetically satisfying enclosed areas" between the buildings.[11] Protected inner courtyards were considered safer for children and easier to maintain than lawns or gardens along the street, and the court plan tended to be chosen when sun, wind, and views were not programmatic considerations, such as on small sites in dense urban neighborhoods. Three of San Francisco's first five housing projects – Holly Courts, Westside Courts, and Valencia Gardens – used the court plan.

Landscape design was an important component of early housing project design; however, cost limitations and maintenance requirements prohibited the use of many types of plantings. Only the varieties that were "thoroughly hardy and free from horticultural handicaps" were considered appropriate for the purposes of low-rent housing. Trees were not generally recommended due to the desire for maximum sun and wind, and shrubs, flowers, and grass were discouraged because caring for these items was very expensive. Vines, on the other hand, added "the charm of green foliage" and helped reduce the harshness of unarticulated concrete facades.[12] The federal government also looked favorably on landscape designs that included tenant-maintained areas, believing that this would reduce costs and promote civic pride. Pioneer modernist landscape architect Thomas Church applied some of these principles to such housing projects as Valencia Gardens, in the Mission District. He incorporated his signature curvilinear pathways between raised planter beds, which were supposed to be easy to maintain and provide plenty of outdoor seating. [13]

While design and construction of housing projects was the responsibility of local housing authorities, the federal government provided advice and guidance through "education" books or pamphlets. One such book, entitled *Design of Low-Rent Housing Projects: Planning the Site* (1939), described how designers could work with different types of topographic situations. In one example, the preferred schemed for 320 families "on a very steep site in a large western city" lays the buildings along the site contours but cuts the roads across them. The sketch in the book is practically identical to the site plan for Potrero Terrace.[14]

The need for WWII defense housing quickly developed into a housing crisis and the USHA was the first agency to fund defense housing projects. The USHA, according to Ruth G. Weintraub and Rosalind Tough, felt that its experience in building low-income housing and its vast network with local agencies made it the best suited and equipped agency to manage the development of WWII housing.[15] In June of 1940, the USHA transferred $33 million to local housing authorities and the Army and Navy for

[6] Oakland Cultural Heritage Survey, *State of California Historic Resources Inventory Form for Peralta Villa* (August 1990), 8.
[7] Catherine Bauer, *Modern Housing* (Boston, 1934), 178.
[8] Bauer, *Modern Housing*, 178.
[9] Bauer, *Modern Housing*, 180-181.
[10] U.S. Department of the Interior, U.S. Housing Authority, 22.
[11] U.S. Department of the Interior, U.S. Housing Authority, 22.
[12] U.S. Department of the Interior, U.S. Housing Authority, 71.
[13] Marc Treib, *An Everyday Modernism: the Houses of William Wurster* (San Francisco, 1995), 53.
[14] U.S. Department of the Interior, U.S. Housing Authority, 46-7.
[15] Ibid.,157

Continuation of B10. Significance:

defense housing projects.[16] Historian Margaret Crawford writes, "In 1940 the defense amendment to the U.S. Housing Act of 1937 channeled Federal slum clearance funds into housing programs for defense areas, converting more than half of the three hundred existing public housing projects into war housing."[17]

By 1942, however, the role of the USHA in the WWII housing program had diminished. Congress did not agree with the USHA's view that it was ideally suited to manage the enormous task of defense housing. The national housing program was entangled in a congressional political struggle over the roles of the federal government and private construction industry in building wartime and post-war housing, with Congress expressing reluctance to compete against private enterprise.[18] Instead of permanent low-income housing that the USHA advocated, Congress supported temporary defense housing that required post-war relocation or demolition, which could make way for large-scale private enterprise. In 1941 the House accepted a proposal that all defense housing projects must be sold to private interests after the war.[19] By 1942, the USHA had received little funding and was involved in only a quarter of the publicly funded defense housing projects. However, the projects overseen by the USHA were generally agreed to be well built. The other three-fourths were managed by agencies that had little or no experience in housing construction.[20]

A series of historical trends and policy decision like the one outlined above resulted in the overall decline of public housing, both in real conditions for the people who lived in such accommodations as well as in the public perception of and consequent support for public housing. For instance, an anticipated overwhelming postwar housing shortage of nearly 12 million units led to a presidential executive order in 1945 to suspend demolition of temporary defense housing. [21] All of these issues resulted in a significant portion of the nation's poorest citizens living in government-subsidized squalor.[22] The need to build a lot of housing quickly, combined with a postwar decline in federal funding for public housing also led to the construction of apartment towers, which emphasized density, economy, and standardized design. Public housing expert, Catherine Bauer, explained the complexity of the debate in 1952:

> A big issue today in connection with slum clearance, public housing, and redevelopment policy in large cities is the decision between elevator apartments and low flats or one-family houses, particularly with respect to the needs of low- or moderate-income families with children. Although in the USA Federal aid makes low density theoretically possible, the trend is toward high buildings due to the combined pressure of central property and political interests, the housing shortage, and the frequent difficulty of finding suitable vacant sites within the city. Also, a great many designers like the concept of architectural urbanity and technological refinement expressed in tall buildings when properly spaced, and among the sophisticated there are those who feel that collective apartment living is more convenient, more efficient, and culturally more desirable than our old small house pattern.[23]

Whatever the debate, apartment towers were generally impersonal in style and experience. Segregation policies and their underlying racism created further problems. While the Housing Act of 1949 provided detailed guidance on how to identify low-income families, it did not address the problem's demographic aspect. Local housing authorities thus commonly created separate housing projects for different racial and ethnic groups, which almost invariably affected African American families in the most

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[16] Ibid.
[17] Margaret Crawford, "Daily Life on the Home Front: Women, Blacks, and the Struggle for Public Housing," in *World War II and the American Dream: How Wartime Building Changed a Nation,* edited by Donald Albrecht (Cambridge, 1995), 92.
[18] Weintraub and Tough, *Federal Housing*, 161.
[19] "Straus Says Foes Seek to Kill USHA" *New York Times*, February 18, 1942, p. 20.
[20] Weintraub and Tough, *Federal Housing*, 158.
[21] Robinson & Associates, "Public Housing," 84-5.
[22] "Annual Report of the Housing Association of the City of San Francisco
[23] Catherine Bauer, *Social Questions in Housing and Town Planning* (London, 1952), 20-1.

Continuation of B10. Significance:

adverse way; they faced longer waiting lists and were more likely to find accommodations in crowded, substandard projects like the decommissioned temporary war housing mentioned above. When the Supreme Court ruled in 1954 that San Francisco must end its segregation policies, which set a precedent that the rest of the nation had to follow, the moral imperative to treat public housing as a stepping stone for middle-class home ownership and to foster good citizenship was, for all intents and purposes, abandoned.[24]

All of these issues, not to mention common corruption in local housing authorities, led to a precipitous decline in support for public housing. A perception existed that public housing was failing to achieve the expectations of the programs' creators. According to Gwendolyn Wright, by the mid-1950s, "the general public's growing unhappiness...with the high incidence of crime, the generally sterile appearance, [and] the rising costs of construction and maintenance"[25] was evidenced in a considerable change in contemporary writing on the subject of public housing. Fewer articles were written about new public housing projects, with the notable exception being those projects that differed in some way from the standardized norm. For example, public housing for the elderly, which was a novelty, tended to receive more favorable press coverage.[26]

Public housing's most ardent early supporters criticized some aspects of how the flawed implementation of the program had affected the result. Focusing on design, Catherine Bauer wrote, "[T]here is a strong prejudice against the row house in most sections of America. What we need to know is whether its unpopularity is due to inherent factors (such as closeness to neighbors, relatively small yards, and lack of 'individuality') or to the fact that few people have seen or occupied a really well-designed up-to-date version as yet."[27] Similarly, respected trade journals printed editorials written by private industry which at times featured emotionally-charged rhetoric such as this, published in the January 1950 issue of *Architect and Engineer*: "If the government would stay off the market, 1950 would almost automatically be another all-time high year for home building. All conditions except that of the socialized housing threat are good."[28]

In reaction to critiques like these, officials began looking for other solutions to the country's affordable housing problems. One infamous strategy was "urban renewal," in which the existing federal public housing and slum clearance programs were combined with new efforts to develop commercial and transportation features of a given neighborhood. The process began with the Housing Acts of 1949 and 1954, which created federal subsidies for private industry projects on land that had been cleared of slums. Another, somewhat lesser-known, later program was referred to as the "scatter plan," in which local housing authorities purchased and renovated existing homes in various neighborhoods throughout their city in hopes of lessening the isolation and stigma attached to low-income public housing. Finally, throughout the post-war period the federal government passed legislation making private homes more accessible through new mortgage financing and subsidies.

Public Housing in San Francisco

The history of public housing in San Francisco closely follows national trends. It begins with passage of the United States Housing Act of 1937. Empowered by this act, the California Legislature passed a series of laws 1938 that allowed local communities to create independent housing authorities with tax-exempt status, the power of eminent domain, and the authority to seek federal funding. The San Francisco Housing Authority (SFHA) was formed in 1938 and was among the first California cities to request USHA funding.[29]

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[24] Howard, "More than Shelter," 26-29.

[25] Gwendolyn Wright, "The E**volution of** P**ublic** H**ousing** P**olicy and** D**esign in the San Francisco-Bay** A**rea," (Ph.D. diss. University of California, Berkeley, 1976**), 42-3.

[26] Norman D. Peel, Garth E. Pickett, Stephen T. Buehl, "Racial Discrimination in Public Housing Selection," *Stanford Law Review*, 23 (November 1970), 92

[27] Bauer, *Social Questions,* 21.

[28] Rodney M. Lockwood, "Increased Home Construction Costs May Result from Federal Housing Program," *Architect and Engineer* 153, no. 1 (January 1950), 11.

[29] Jeffrey Tilman, *Arthur Brown, Jr.: Progressive Classicist* (New York, 2006), 199.

*Recorded by: Carey & Co., Inc. *Date: April 26, 2010 ☑ Continuation ☐ Update

Continuation of B10. Significance:

The SFHA initially directed efforts toward determining how great the need for public housing was. After its first survey indicated that 46,000 homes in San Francisco were "substandard," the agency planned eleven public housing projects with a total of 2,855 units.[30] Five of these were undertaken before WWII (Holly Courts, Potrero Terrace, Sunnydale, Valencia Gardens, and Westside Courts), and three were completed or partially occupied before December 1941 (Holly Courts, Potrero Terrace, Sunnydale). Of these, two projects deserve particular attention: According to architectural historian Jeffrey Tilman, Holly Courts in Bernal Heights was "the first federally subsidized housing development west of the Rocky Mountains, and a model project to this day." Completed in May 1940, it was also was designed by Arthur Brown, Jr., architect of San Francisco City Hall, among many other prominent buildings in San Francisco, California, and elsewhere. The SFHA's selection of Brown, like its later selections of Timothy Pflueger, Clarence Tantau, and William Wurster, served a strategic purpose to elevate the prestige of public housing and to convey the Authority's commitment to quality housing for low-income residents. The series of ten, reinforced concrete, International Style buildings were designed to "cascade down the hillside, giving the effect of an Italian hill town or a Greek fishing village," and organized to create private courtyards for community interaction, play space, or simple relaxation. They remain the most popular and viable of San Francisco's public housing projects.[31] Westside Courts was the only public housing project in San Francisco programmed specifically for African-American families.

Like many other housing authorities, the SFHA organized a public information campaign. This included brochures and pamphlets emphasizing modern conveniences, improved sanitary conditions, careful planning, and assurances that respectable citizens would populate the projects. One of these brochures, entitled *Holly Courts*, describes the highlighted project with typical language: "The things to notice in the architecture of Holly are the service and simplicity, service to fulfill the basic needs of the tenants in little as well as big factors, in a floor that can be swept easily as well as in walls that won't fall down: simplicity primarily to keep construction costs low. The two together are important to good architecture. . .In spite of their rectangular simplicity and concrete construction, the buildings avoid austerity by the informality, their close relation to the play spaces, and their warm friendly color and texture.[32]

War-related changes in public housing policies made the SFHA the largest landlord in the city, managing the five permanent projects as well as 10,000 new temporary housing units. Many of these units were concentrated in Hunter's Point, where land was easily secured and close to defense jobs, as well as in areas that private industry considered less desirable, such as steep terrain on Potrero Hill and along Alemany Boulevard. These locations eventually became the sites for permanent postwar housing projects.

The first projects on the SFHA's list after World War II were the remaining six of the original eleven planned before the war. Designs for Ping Yuen in Chinatown and North Beach Place in North Beach were finished when the program was suspended, so these two provided the most logical and most easily achievable starting point for the revived effort. Construction was completed for both projects in 1952, providing the first new permanent public housing in San Francisco in over a decade. Ping Yuen received many accolades. Other projects that followed in the early 1950s tended to relate to the ongoing process of phasing out and disposing of temporary defense housing units (though as late as 1966, the SFHA was still housing people in substandard temporary units). This usually meant providing new permanent housing near occupied temporary units or reusing land that recently had been cleared. Building new units adjacent to older ones was also an option, as in the case of Potrero Annex and Velasco.[33]

While the SFHA was starting to construct new, voter-approved permanent public housing, the agency was fending off negative national attention on its segregation policy. The "neighborhood pattern" policy officially began in 1942 when officials decided to base the racial mix of a project on that of the surrounding neighborhood. Out of the original 11 projects, for example, Westside Courts was set aside for African-Americans because there was a high concentration of African-Americans living in that area, Ping

[30] "History of the Authority," *San Francisco Housing Authority 1942-1943 Annual Report*, no. 5 (April 15, 1943).
[31] Tilman, *Arthur Brown*, 200-201.
[32] *Holly Courts* (San Francisco: San Francisco Housing Association, 1940), 1.
[33] See *Annual Report* of the SFHA.

Continuation of B10. Significance:

Yuen in Chinatown was reserved solely for the Chinese, and the remaining housing developments were meant for Caucasians. SFHA officials used the federal requirement of neighborhood "harmony" as justification, but within a decade the policy came under attack. In 1950, the San Francisco Board of Supervisors forced the agency into a partial compromise; the SFHA agreed to stop using the policy for tenants in newly designed and constructed projects but was able to continue enforcing it in "all war-deferred projects and existing low-rental housing."[34] The issue was finally settled by the United States Supreme Court in 1954, one week after its landmark ruling against the "separate but equal" policy in *Brown vs. the Board of Education*. In the public housing case, the Supreme Court refused to hear an appeal from a federal district judge's ruling that San Francisco's "neighborhood pattern" policy was unconstitutional under the 14th Amendment.

Like public housing programs in the United States in general, the SFHA was established in 1938 with optimistic idealism that it was providing a valuable public service to upstanding citizens who had fallen on hard times and that public housing could help the needy find their way back to the middle class. By 1966, however, the SFHA presented a bleak outlook on the status of public housing in San Francisco. That year's annual report enumerated a laundry list of obstacles to providing adequate public housing, including scarcity of affordable land; greater reliance on private partnerships due to a decrease in federal subsidies as well as the absence of federal recognition that San Francisco's property values were higher than those in many other cities; a decline in revenue because of the phasing out of temporary units – meaning fewer rents or subsidies – and prohibitive costs to maintain the remaining temporary units; a lack of 3-5 bedroom units for families; vandalism, especially at Hunters Point; and a growing sense of isolation among tenants. To help remedy these problems, the SFHA completely revamped its personnel, purchasing practices, mail distribution and printing services, vehicle maintenance, management, rent collection procedures, human relations department, and police activities. In more recent years, the SFHA has undertaken an ambitious program to renovate or demolish and build new public housing units through the Hope VI program. [35]

Velasco

The Velasco Housing Project originated in 1960 as part of the Hayes Valley Apartments. The latter consisted of 328 units in twenty buildings on two blocks. "The third unit of this project, consisting of 18 apartments (in two buildings), is situated adjacent to the Sunnydale project." The Velasco Units were completed in 1963.[36] After including the above statement in its 1963-1964 Annual Report, the SFHA all but ignored Velasco. The housing project was never listed among all of San Francisco's other housing projects on the back page of annual reports. And the figures for Sunnydale remained constant rather than reflecting the additional 18 units that Velasco introduced to the immediate area.

William Mooser, III, designed the Velasco housing project. He was born in San Francisco in 1893 to an architectural dynasty. Mooser's grandfather, William Mooser, Sr., a native of Geneva, Switzerland, arrived in San Francisco in 1853. One of his oldest extant buildings in San Francisco is the 1864 Pioneer Woolen Mill at Ghirardelli Square, and his son, William Mooser, II or Jr., designed the remaining buildings that comprised the Ghirardelli Chocolate Factory. William Mooser III trained at the Ecole des Beaux-Arts and apprenticed with MacDonald and Couchot in Los Angeles before joining the family practice. The youngest Mooser was given to popular styles. He designed the 1929 Santa Barbara County Courthouse in the Spanish Colonial style, as was particularly popular in southern California and Santa Barbara at that time. Ten years later, working for the Works Progress Administration, Mooser and his father designed San Francisco's Aquatic Park, a celebrate Art Deco masterpiece.[37] For Velasco, completed in 1963 on a parcel of land located adjacent to the massive Sunnydale housing project, Mooser chose the International Style. It was economical, but also in keeping with architectural taste of the postwar era.

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[34] "Cooperation Agreement Bans Racial Segregation," *The Journal of Housing* 7, no. 3 (March 1950), 82.

[35] Annual Report of the San Francisco Housing Authority, 1966.

[36] Annual Report of the San Francisco Housing Authority, 1960 and 1963-64.

[37] David Parry, "Mooser, William," *Encyclopedia of San Francisco*, http://www.sfhistoryencyclopedia.com (accessed April 15, 2010); National Park Service, "Architecture in the Parks: Aquatic Park Historic District," http://www.hps.gov (accessed April 15, 2010); "Art: Sea Murals," *Time*, February 6, 1939, http://www.time.com (accessed April 15, 2010).

*Recorded by: Carey & Co., Inc. *Date: April 26, 2010 ☑ Continuation ☐ Update

Continuation of B10. Significance:

EVALUATION

A/1: Event or Historic Trend
Completed in 1963, the Velasco Housing Project is one of many housing projects constructed in San Francisco between 1940 and 1965. While it is associated with postwar developments in the city's public housing, including additions to pre-existing housing projects and increasingly simplified designs, it does not have a specific association with this trend to make it stand out as significant. The project is not known to be associated with any other events in the history of public housing or San Francisco. Thus, the Velasco Housing Project does not appear to be eligible for the NRHP/ CRHR under Criterion A/1.

B/2: Persons of Significant
The Velasco Housing Project is not known to be associated with persons significant to history and, therefore, does not appear to be eligible for the NRHP/ CRHR/ under Criterion B/2.

C/3: Architecture
While William Mooser, III, a recognized master architect, designed Velasco, this commission does not gain significance through its association with him. Commissions like the Santa Barbara County Court House and San Francisco's Aquatic Park better captures the scale of Mooser's oeuvre and his range of design styles. Velasco is a plain, small-scale project of little architectural interest. While possessing characteristic public housing project attributes like an absence of ornamentation and simple, economic style, better examples exist in the city. The building is not a good example of an architectural type or style or a particular method of construction. It does not appear to be eligible for the NRHP/CRHR under Criterion C/3.

D/4: Prehistory or History
The property is unlikely to yield information that is significant to history or prehistory and, therefore, does not appear to be eligible for the NRHP/CRHR under Criterion D/4.

Integrity
The Velasco Housing Project appears to retain excellent integrity. It has not been moved and, therefore, retains its integrity of location. It still stands adjacent to the massive Sunnydale complex and on a residential street filled with pre-World War II buildings. Thus, it retains its integrity of setting too. The building has undergone virtually no alterations; therefore, it retains its integrity of design, materials, workmanship, feeling, and association as well.

Continuation of B12. References:

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HISTORIC RESOURCE EVALUATION

Sunnydale Housing Development
San Francisco, California
DRAFT

May 25, 2001



Prepared for the
San Francisco Housing Authority

CAREY & CO. INC.
ARCHITECTURE

HISTORIC RESOURCE EVALUATION

Sunnydale
San Francisco, California
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Prepared by
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Sunnydale
HISTORIC RESOURCE EVALUATION
San Francisco, California
DRAFT

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CAREY & CO. INC.
ARCHITECTURE

SUNNYDALE
San Francisco, California
DRAFT
HISTORIC RESOURCE EVALUATION

May 25, 2001

INTRODUCTION
At the request of the San Francisco Housing Authority (SFHA), Carey & Co. has undertaken a historic resource evaluation of the Sunnydale housing complex located in San Francisco. This evaluation report is intended to serve as a determination of the complex's historic significance as a compliance measure of Section 106 of the National Historic Preservation Act (NHPA). The SFHA has various rehabilitation projects planned for this housing complex, and these federally-funded projects (by the Department of Housing and Urban Development) have triggered this Section 106 review process.

METHODOLOGY
Carey & Co. prepared this evaluation by visiting the site to inspect the property, taking photographs, and conducting archival historic research. During the site visit Carey & Co. evaluated the existing conditions, historic features, and architectural significance of the residence. The site visit was carried out on May 15, 2001. Because all the residential units are occupied, the interiors were not surveyed. Carey & Co. also conducted archival research on Sunnydale and the history of housing projects in general at the San Francisco Public Library History Room, the University of California at Berkeley's Bancroft Library and College of Environmental Design Library, and the SFHA's drawing archives at the Egbert Avenue offices. Although original architectural drawings and specifications were found at the SFHA offices on Egbert Avenue, administrative records pertaining to the individual housing projects were not available.

SUMMARY
Our evaluation was based on the eligibility criteria for the National Register of Historic Places (NRHP), which requires that the resource be at least fifty years old (except under special circumstances), that it retain its historic integrity, and that it be significant under at least one of four criteria. These four criteria include: association with historic events, association with

important persons, distinctive design or physical characteristics, and the potential to provide important information about history or prehistory. In determining National Register eligibility, we weighed known historical associations, architectural merit, and the current level of integrity.

We have assigned the property a NRHP Status Code of 6Z, which indicates, in our opinion, that the property is ineligible for listing in the National Register through a complete evaluation process. After conducting extensive historic research and a site assessment of the property, Carey & Co. believes that Sunnydale, though over fifty years old, is neither architecturally remarkable nor associated with significant people or events, and therefore would not be eligible for a listing in the National Register.

DESCRIPTION

This housing complex consists of 767 units in 90 separate buildings located on a large site in Visitacion Valley bound by John McLaren Park to the north and west, Hahn Street to the east, and Velasco Street to the south–the site is 48.83 acres total. Curvilinear streets wind through the complex. Similar to Potrero Hill, the footprint of each building is aligned with the natural topography so that they are each oriented according to the slope. This gives the appearance that the buildings are situated randomly on the site, but they actually follow the natural contours of the land to reduce the required amount of soil cut and fill and to help prevent erosion. While every building is quite similar in style and materials, there are six different types of buildings within the complex–they are labeled alphabetically from A to F. There are six type A buildings, three type B, five type C, seven type D, forty-five type E, and twenty-four type F buildings. Sunnydale has 71 one bedroom units, 531 two bedroom units, 150 three bedroom units, and 15 four bedroom units. An Administration Building at the junction of Santos Street and Sunnydale Avenue serves as the on-site SFHA offices as well as recreation and health facilities.

Each of the buildings is rectangular in plan, constructed of reinforced poured-in-place concrete, and features a gabled flat tile roof. The buildings range from one to two stories, with two building types having a single story at the rear and two stories in front because of the sloped site. The windows are aluminum sliding sash replacements and the entry doors are solid wood. Most of the entries are paired with corrugated concrete dividers flanking the doorways and a flat concrete awning projection. The rear elevations feature a back entry for each unit which also has a flat concrete awning projection. The exterior concrete walls have expressed form board lines creating a horizontal pattern at every elevation. These rather simple buildings have minimal architectural articulation and detail. The corrugated pattern on the entry dividers is continued at the building elevations, where corrugated concrete panels articulate the corners of every building and separate window openings on all front elevations.

The type A buildings each have eight units, with a one story upper elevation and a two story lower elevation. The type B buildings, with eleven units each, are a bit longer and also have a one story upper elevation and a two story lower elevation. The one story type C buildings only have three units each. With two full stories at both sides, the type D buildings contain four units; the most prevalent type E buildings are just two attached type D buildings, so they have eight units each. The type F buildings, which are the longest, have twelve units each.

The reinforced concrete, two story Administration Building is composed of two end gable-front sections with a long side-gabled section connecting them. The gabled section at the west end features an entry with a gabled canopy above. In front of this entry is a black granite sculpture depicting a woman's head with a bear behind it. The side-gabled section features three large window openings with new aluminum sash windows; flanking these openings are narrow corrugated concrete panels which match those on the housing buildings. The east end portion of the building retains the original steel sash casement windows–between these are corrugated concrete panels. The entry features a border of the same corrugated concrete panels.

The circulation between the buildings consists of concrete walkways, steps and retaining walls. T-shaped pipes with clotheslines strung between, located at the rear elevation of the buildings, are for hanging wash. The landscaping is minimal–between the concrete walkways is a combination of grass lawn and dirt, with some mature trees extant along the curvilinear streets. Paved parking areas are located between the buildings.

CONDITION AND ALTERATIONS

The exterior of these buildings appear to be in good condition. However, the original landscape design for the complex does not remain, except for some trees. Monterey pines were planted at twenty foot intervals along the sidewalks at both sides of the roads winding through the complex–only a small percentage of these remain. This is most probably a result of lack of maintenance and the natural attrition of plant material.

The architectural design of these buildings remains fairly intact, however certain alterations and improvements have removed original material and changed certain character-defining features of the buildings. At an unknown date, the original steel sash casement windows were removed and replaced with the existing aluminum sash variety; also, the original entry doors, which were 3-panel wood doors, have been replaced with the current solid wood doors. The original flat clay tile roofs are currently being replaced with a similar, in-kind concrete tile.

The Administration Building has been heavily altered with new stone cladding surrounding the main west entry, the addition of new entry doors, the new gabled canopy over the entry, and the installation of new aluminum windows.

HISTORICAL BACKGROUND

History and Background of Public Housing in the United States

Confronting the problems of Depression-era unemployment and growing slums in America's cities, the federal government began a focused initiative to alleviate unsafe urban living conditions. In the early 1930s, through the Public Works Authority (PWA), the federal government built homes for low-income families illustrating the benefits of modern housing. Spurred on by critics of the nascent housing program, a 1935 court ruling established that the federal government could not appropriate private land for public housing. Because these new programs began in the East, no PWA projects were carried out on the West Coast.

Congress passed the United States Housing Act in 1937, establishing the U.S. Housing Authority (USHA) within the Department of the Interior. This act bypassed earlier court rulings on the legality of federal land confiscation by allowing funding for local housing authorities. Income limits guaranteed that the neediest people benefitted from the program while the mandated elimination of slums insured an increase in the quality, not quantity, of urban housing.

The first USHA secretary, Nathan Straus, believed that clearing slums was important, but that new construction had the potential to benefit the poor more quickly. He appointed Catherine Bauer, an influential supporter of modern public housing, to be in charge of slum clearance deferments. Priorities were set from the beginning, therefore, with the USHA's main emphasis on the construction of new buildings. This policy had an immediate influence on which sites were chosen; some of the first projects tended to be located on empty lots at the edges of cities.

One of the strongest criticisms of the PWA projects was that designers included unnecessary luxuries in an effort to highlight the potential of "modern housing" to help eradicate slum conditions. In reaction to this, the USHA mandated cost limits of $1000 per room or $4000 per family unit, thereby impacting the decision-making processes of many local housing authorities. There was an increased reliance on "standardized unit plans," which, in conjunction with "restrictive budgets," "conspired to significantly inhibit creativity in housing design."[1] Since the cost of land was included in the per room and per family unit calculations, the high cost of land in San Francisco made meeting the limitations particularly difficult. Indeed, in many cases the City and County of San Francisco had to contribute additional funds to cover expenditures that exceeded the federally-allocated budget.

Site planning was often seen as a way to make housing projects attractive and liveable without increasing costs. In 1939, Straus wrote,

> In low-rent housing, it is in the plan of the project as a whole–in the relation of the buildings to each other and to the land–that we may provide both insurance against deterioration of the neighborhood and the opportunities for the growth of a better community life.[2]

For the most up-to-date ideas on public housing site planning, American designers looked to the "European planning and design philosophies" advanced by Catherine Bauer in her seminal book of 1934, *Modern Housing*.[3] According to Bauer, the English "super-block" was a large contiguous block of land, defined by multi-use roads along its edges but featuring small vehicle- or pedestrian-only pathways "indented into the periphery of the block."[4] This concept allowed "very large economies in paving...and at the same time whole neighborhoods were rendered immune from traffic noise and dirt and dangers."[5] Orientation toward sun and air flow was part of the German version of the super-block, *Zeilenbau*, in which parallel rows of buildings led to "[n]o closed courtyards, no traffic, no wasted pavement, and an open vista in two directions for every window and balcony."[6] Despite topographical influences, Potrero Terrace and Sunnydale are the two examples of super-block-type site planning among San Francisco's five permanent pre-WWII housing projects.

Another way to arrange buildings on a site was referred to as a "court plan."[7] Designers using this technique placed inward-facing buildings at the perimeter of the site, creating "spaciousness of effect and esthetically satisfying enclosed areas" between the buildings.[8] Protected inner courtyards were considered safer for children and easier to maintain than lawns or gardens along the street and the court plan tended to be chosen when sun, wind, and views were not programmatic considerations, such as on small sites in dense urban neighborhoods. In San Francisco, court plan-type site planning among the first five permanent projects can be see at Holly Courts, Westside Courts, and Valencia Gardens.

Landscape design was an important component of early housing project design, however, cost limitations and maintenance requirements prohibited the use of many types of plantings. Only the varieties that were "thoroughly hardy and free from horticultural handicaps" were considered appropriate for the purposes of low-rent housing. Trees were not generally recommended due to the desire for maximum sun and wind and shrubs, flowers, and grass were discouraged because caring for these items was very expensive. Vines, on the other hand, added "the charm of green foliage" and helped reduce the harshness of unarticulated concrete facades.[9] The federal government also looked favorably on landscape designs that included tenant-maintained areas, believing that this would reduce costs and promote civic pride.

While design and construction of housing projects was the responsibility of local housing authorities, the federal government provided advice and guidance through "education" books or pamphlets. One such book, entitled *Design of Low-Rent Housing Projects: Planning the Site* (1939), described how designers could work with different types of topographic situations. In one example, the preferred schemed for 320 families "on a very steep site in a large western city" lays the buildings along the site contours but cuts the roads across them. The sketch in the book is practically identical to the site plan for Potrero Terrace.[10]

As the economy improved in the late 1930s and early 1940s, the USHA experienced several budget cuts. Simultaneously, the country's increased involvement with World War II was leading to a housing shortage in cities as workers moved from outlying areas to take defense-related jobs. Eventually, in 1942, the program was folded into the Federal Public Housing Administration (FPHA). This new agency's role was much narrower; it was meant only to administer existing public housing projects and build temporary defense worker housing.

Debates erupted over the temporary nature of the new war-time construction. Private industry supported it because of the potential for a huge post-war housing market, however, public housing advocates believed that quality should not be compromised. In the end, income levels were raised to allow defense workers to occupy public housing legally, projects that were incomplete or only partially occupied by December 1941 were "reclassified" as defense worker housing, landscapes recently installed went unmaintained, and the slum clearance policy was eliminated. It was not until the 1950s that the conversion from temporary defense workers' housing back to permanent low-income public housing was completed.

Public Housing in San Francisco

Like many other local housing authorities, the history of the San Francisco Housing Authority

(SFHA) begins with the United States Housing Act of 1937. Empowered by this act, the California Legislature passed the Housing Authorities Law in 1938, which allowed local communities to create their own housing authorities and begin asking for federal funding. The SFHA was formed in 1938 and was among the first California cities to request USHA funding.

In addition to requesting funds, the SFHA's initial efforts were directed toward determining how great the need for public housing was at the time. With the first survey indicating that 46,000 homes in San Francisco were "substandard," the agency planned 11 public housing projects with a total of 2,855 units.[11] Five of these were undertaken before WWII (Holly Courts, Potrero Terrace, Sunnydale, Valencia Gardens, Westside Courts) and three were completed or partially occupied before December 1941 (Holly Courts, Potrero Terrace, Sunnydale). Of these, two projects deserve particular attention: Holly Courts, because it was the first completed public housing project located west of the Rocky Mountains (May 1940) and was designed by Arthur Brown Jr., and, Westside Courts, because it was the only public housing project in San Francisco programmed specifically for African-American families.

Also like many other housing authorities, the SFHA undertook a public information campaign. This included brochures and pamphlets emphasizing modern conveniences, improved sanitary conditions, and careful planning. One of these, entitled *Holly Courts*, describes the highlighted project with typical language:

> The things to notice in the architecture of Holly are the service and simplicity, service to fulfill the basic needs of the tenants in little as well as big factors, in a floor that can be swept easily as well as in walls that won't fall down: simplicity primarily to keep construction costs low. The two together are important to good architecture. . .In spite of their rectangular simplicity and concrete construction, the buildings avoid austerity by the informality, their close relation to the play spaces, and their warm friendly color and texture.[12]

The war-related changes in public housing policies made the SFHA the largest landlord in the City, managing the five permanent projects as well as 10,000 new temporary housing units. It was not until the early 1950s that the SFHA returned to building permanent public housing projects.

The Development of Sunnydale

This housing project, designed by Albert F. Roller and Roland I. Stringham in 1939, was constructed in 1941, and the landscape was designed by Thomas D. Church. Sunnydale was the largest of the five pre-WWII permanent projects with 772 units in 90 building located on 48.83 acres. Standardization was one of the key features at this project as it allowed construction to be completed at a rapid rate. Contemporary documents refer to the "house a day for 90 days" and was complimentary of the efficiency achievable through the standardized policies of the USHA.[13]

Site planning was another element of Sunnydale which gained a great deal of attention. The site was large but more gently sloped than Potrero Terrace, allowing designers more freedom in

their planning. The super block, a planning concept gaining favor at this time, provided the organizing principle; roads defined large sections of the project while footpaths provided the interior circulation. Giving less land over to roads meant that more could be allocated to play areas, dry yards, and other common-use features. A 1941 magazine declared, "[t]he super blocks take the place of the well known chaotic criss-cross of modern speculative subdivision: twenty such blocks would ordinarily cover a comparable area."[14] In comparison, very little attention was given to building design. A SFHA document, in fact, stated that, "from the architectural point of view, it is the development of the super block and the arrangement of plan that is interesting, rather than the buildings themselves."[15]

Albert F. Roller was a self-taught architect from San Francisco. He worked on two non-extant buildings on Market Street which "were highly regarded expressions of the Moderne style when completed in 1930."[16] Some of Roller's other San Francisco Moderne projects include Lloyd's Bank Building (1931) and, later, the NBC Building (1942). He also remodeled the Van Ness face of the California State Automobile Association as well as the Hayes addition to this same building. In the late 1950s, Roller worked with John Carl Warnecke on perhaps his most well known commission, the Federal Building located one block from the Civic Center.

Thomas D. Church was the landscape architect for Sunnydale. While very little remains of Church's design due to lack of maintenance immediately after installation, plans for the project indicate that his design was somewhat formal, reflecting the urbane and elegant approach expected in a city development. He is considered a pioneer in modern landscape architecture who changed a diverse range of past styles into the Modernist designs of today. Church designed as many as 2,000 gardens in addition to housing developments and corporate and college campuses, including such well-known projects as the Memorial Court garden at the San Francisco War Memorial and Performing Arts Center and the *Sunset* magazine headquarters in Menlo Park. His work was influenced in part by his training in landscape architecture at the University of California at Berkeley and Harvard University.

Church's design style changed during the Depression, when he needed to develop landscapes that involved minimal maintenance. His gardens simplified traditional styles, using informal masses of plants and ground cover and also highlighted indoor-outdoor living, popular in California at that time.[17] According to Michael Laurie, the chair of the department of landscape architecture at the University of California, Berkeley and an authority on Church's work, "Church was on the cutting edge of change to smaller, more functional, yet still artistic gardens. . . .Church developed a devoted following in part because he built gardens to last and because his designs took into account practical matters as well as the common man's desire for beauty."[18]

Benieminio (Benny) Bufano created the stone sculpture in front of the Administration Building at Sunnydale. He usually depicted animals in his work, for which he was famous. Some of his sculptures are on display at the Steinhart Aquarium in Golden Gate Park and outside the North Beach headquarters of the International Longshoremen's and Warehousemen's Union. Other sculptures have been stolen or damaged, including a 250-pound "Bird of Repose" which was stolen from Alcoa Plaza in San Francisco in 1968, a bronze Madonna which was hit by a car at Fort Mason, and his celebrated statue of St. Francis which was removed from the St. Francis

Church of Assisi in North Beach. His sculptures are very recognizable in their smooth, rounded forms, and are generally composed of a combination of granite, stainless steel and mosaic. Bufano often departed from sculpting gentle animals to making political statements in stone.[19]

Bufano studied under Paul Manship in New York and came to San Francisco in 1915 to supervise the installation of Manship's two statues, called "Music" and "The Dance," at the Panama-Pacific Exposition. He continued Manship's work which stood for precise outlines, clean surfaces, clearly silhouetted volumes, and the use of metal, stone, and wood. Bufano and Manship abhorred the use of clay in sculpture. Bufano designed glazed terra cotta figures in the Chinese style and mosaics, but his best work was done in stainless steel and granite. He carved animals out of hard stone, which was often combined with stainless steel. These included bears, dogs, penguins, and horses which showed the innate stance of each creature. [20]

Bufano was known in the local art world for his constant publicity-seeking with the local media and for his outspoken political statements. He also served on the San Francisco Art Commission and created a scandal for his feud with the San Francisco Symphony in his efforts to create a rival orchestra with money provided by a local photographer.

EVALUATION

We have assigned the property a NRHP Status Code of 6Z, which indicates, in our opinion, that the property is ineligible for listing in the National Register through a complete evaluation process. After conducting extensive historic research and a site assessment of the property, Carey & Co. believes that Sunnydale, though over fifty years old, is neither architecturally remarkable nor associated with significant people or events, and therefore would not be eligible for a listing in the National Register.

As the USHA was developing and codifying their housing policies during the late 1930s, they released publications in order to promote a consistency of approach and design for the individual public housing projects around the country. For example, in their document *Design of Low-Rent Housing Projects: Planning the Site*, the USHA addressed all aspects of site selection, planning and design, and presented various hypothetical case studies which reflected these standardized policies. For most important areas of public housing development, including cost controls, management and tenant selection, the federal agency published materials to help guide the local housing authorities.

Because of these established standards, there is a broad consistency in the site planning and architectural design of extant historic public housing projects around the nation. While Sunnydale reflects the "super-block" approach to site planning on a steep slope, it is not necessarily a distinctive example of this planning type. Architecturally, the buildings are not significant, and there are no historic people or events associated with the complex. Therefore, Sunnydale is not eligible for inclusion in the National Register under any of the NRHP criteria.

NOTES

1. Robinson & Associates, Inc., and Jeffrey Shrimpton, *Draft Historic Context: Public Housing in the United States, 1933-1949* (August 14, 1997) 68.

2. Nathan Straus, Foreword to U.S. Department of the Interior, U.S. Housing Authority, *Design of Low-Rent Housing Projects: Planning the Site* (Bulletin no. 11 on Policy and Procedure, 1939) 3.

3. Oakland Cultural Heritage Survey, *State of California Historic Resources Inventory Form for Peralta Villa* (August 1990) 8.

4. Catherine Bauer, *Modern Housing* (Boston & New York: Houghton Mifflin Company, 1934) 178.

5. Bauer 178.

6. Bauer 180-1.

7. U.S. Department of the Interior, U.S. Housing Authority 22.

8. U.S. Department of the Interior, U.S. Housing Authority 22.

9. U.S. Department of the Interior, U.S. Housing Authority 71.

10. U.S. Department of the Interior, U.S. Housing Authority 46-7.

11. "History of the Authority," *San Francisco Housing Authority 1942-1943 Annual Report*, no. 5 (April 15, 1943).

12. *Holly Courts* (San Francisco: San Francisco Housing Association, 1940) 1.

13. Arthur Eaton, "Sunnydale: A Major Housing Project," *Architect and Engineer* 144, no. 2 (February 1941) 28.

14. Eaton, 28.

15. *San Francisco public housing: a citizens' survey of five permanent projects: Holly Courts, Potrero Terrace, Sunnydale, Valencia Gardens and Westside Court* (San Francisco: San Francisco Planning and Housing Association, 1946) 8.

16. "Architect Albert F. Roller," *Heritage News* 29, no. 2 (March/April 2001) 7.

17. "Church's Gardens," *Historic Preservation*, (January/February 1995) 74-79.

18. "Church's Gardens," 74-79.

19. "Bufano," *The Sacramento Bee*, (July 30, 1982).

20. "The Gentle Clown - And Man of Steel." *San Francisco Chronicle Datebook.* (August 23, 1970).

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Robinson & Associates, Inc., and Jeffrey Shrimpton. *Draft Historic Context: Public Housing in the United States, 1933-1949.* August 14, 1997.

Roller, Albert F., Roland I. Stringham and Thomas D. Church. *Sunnydale [Drawings].* San Francisco: San Francisco Housing Authority, November 22, 1939 and April 1, 1941.

San Francisco Housing Authority. *Permanent Project Information [Fact Sheet].* n.d.

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State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

*Resource Name or #: Sunnydale

P1. Other Identifier: _____

*P2. Location: ☐ Not for Publication ☐ Unrestricted a. County San Francisco

b. USGS 7.5' Quad _____ Date _____ T _____ • R _____, ____ 1/4 of ___ 1/4 of Sec ___ _____ B. M.

c. Address _____ 1654 Sunnydale Avenue _____ City San Francisco, CA Zip _____

d. UTM: (Give more than one for large and/or linear feature) Zone _____ _____ rnE/ _____ mN

e. Other Locational Data: (e.g. parcel #, legal description, directions to resource, elevation, additional UTMs, etc. as appropriate)

Located on several blocks in Visitacion Valley, bound by John McLaren Park to the north and west, Hahn Street to the east, and Velasco Street to the south.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

This housing complex consists of 767 units in 90 separate buildings located on a large site in Visitacion Valley bound by John McLaren Park to the north and west, Hahn Street to the east, and Velasco Street to the south–the site is 48.83 acres total. Curvilinear streets wind through the complex. Similar to Potrero Hill, the footprint of each building is aligned with the natural topography so that they are each oriented according to the slope. This gives the appearance that the buildings are situated randomly on the site, but, rather, they follow the natural contours of the land to reduce the required amount of soil cut and fill and to help prevent erosion. While every building is quite similar in style and materials, there are six different types of buildings within the complex–they are labeled alphabetically from A to F. There are six type A buildings, three type B, five type C, seven type D, forty-five type E, and twenty-four type F buildings. Sunnydale has 71 one bedroom units, 531 two bedroom units, 150 three bedroom units, and 15 four bedroom units. An Administration Building at the junction of Santos Street and Sunnydale Avenue serves as the on-site SFHA offices as well as recreation and health facilities.

See Continuation Sheet.

*P3b. Resource Attributes: (List attributes and codes) HP3. Multiple Family

* P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, etc.)
Type E Building, View Northwest (May, 2001)

*P6. Date Constructed/Age and Sources:
☐ Prehistoric ☒ Historic ☐ Both
1941, original drawings

*P7. Owner and Address:
San Francisco Housing Authority
440 Turk St.
San Francisco, CA 94102

*P8. Recorded by: (Name, affiliation, address)
Winslow Hastie
Carey & Co. Inc.
460 Bush Street
San Francisco, CA 94108

*P9. Date Recorded: 5/24/01

* P10. Survey Type: (Describe)
Intensive

11. Report Citation: (Cite survey report/other sources or " none ") Sunnydale Historic Resource Evaluation

*Attachments: ☐ NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other: (List) _____

Description, Continued.

Each of the buildings is rectangular in plan, constructed of reinforced poured-in-place concrete, and features a gabled flat tile roof. The buildings range from one to two stories, with two building types having a single story at the rear and two stories in front because of the sloped site. The windows are aluminum sliding sash replacements and the entry doors are solid wood. Most of the entries are paired with corrugated concrete dividers flanking the doorways and a flat concrete awning projection. The rear elevations feature a back entry for each unit which also has a flat concrete awning projection. The exterior concrete walls have expressed form board lines creating a horizontal pattern at every elevation. These rather simple buildings have minimal architectural articulation and detail. The corrugated pattern on the entry dividers is continued at the building elevations, where corrugated concrete panels articulate the corners of every building and separate window openings on all front elevations.

The type A buildings each have eight units, with a one story upper elevation and a two story lower elevation. The type B buildings, with eleven units each, are a bit longer and also have a one story upper elevation and a two story lower elevation. The one story type C buildings only have three units each. With two full stories at both sides, the type D buildings contain four units; the most prevalent type E buildings are just two attached type D buildings, so they have eight units each. The type F buildings, which are the longest, have twelve units each.

The reinforced concrete, two story Administration Building is composed of two end gable-front sections with a long side-gabled section connecting them. The gabled section at the west end features an entry with a gabled canopy above. The side-gabled section features three large window openings with new aluminum sash windows; flanking these openings are narrow corrugated concrete panels which match those on the housing buildings. The east end portion of the building retains the original steel sash casement windows–between these are corrugated concrete panels. The entry features a border of the same corrugated concrete panels.

The circulation between the buildings consists of concrete walkways, steps and retaining walls. T-shaped pipes with clotheslines hung between, located at the rear elevation of the buildings, are for hanging wash. The landscaping is minimal–between the concrete walkways is a combination of grass lawn and dirt, with some mature trees extant along the curvilinear streets. Paved parking areas are located between the buildings.



Photo 1: Type F Building, Front Elevation



Photo 2: Detail of Corner Concrete Panels



Photo 3: Several Buildings showing Site Plan and Circulation, View South



Photo 4: Roof Tiles and Building Layout



Photo 5: Rear Elevation of Building and Pedestrian Circulation



Photo 6: Rear Elevation and Laundry Area



Photo 7: Detail of Paired Entries with Concrete Canopy and Corrugated Divider



Photo 8: Front Elevation of Administration Building

SCHEDULE OF BUILDINGS

BUILDING NO.		1	2	3	4	5	TOTALS		DIRECT CONTROL: AGENT (Name & Address)	Owner (Name & Address)	Heating & Plumbing (Name & Address)	General Type (Occupancy)
NO. OF STORIES		3	3S	4S	3S	3						
NO. OF DWELLING UNITS												
ACCESS	BLDG						DU	ROOMS				
A	E				6	2	8	36	A.I.A.	HOUSING	PUB	APTS
B	E				6	2	8	36	A.I.A.	HOUSING	PUB	APTS
C	E				10	2	12	54	A.I.A.	HOUSING	PUB	APTS
D	E				10	2	12	54	A.I.A.	HOUSING	PUB	APTS
E	E				10	2	12	54	A.I.A.	HOUSING	PUB	APTS
F	E				10	2	12	54	A.I.A.	HOUSING	PUB	APTS
A	E				10	2	12	54	A.I.A.	HOUSING	PUB	APTS
B	E				10	2	12	54	A.I.A.	HOUSING	PUB	APTS
C	E				10	2	12	54	A.I.A.	HOUSING	PUB	APTS
D	E				6	2	8	36	A.I.A.	HOUSING	PUB	APTS
E	E				6	2	8	36	A.I.A.	HOUSING	PUB	APTS
F	E				6	2	8	36	A.I.A.	HOUSING	PUB	APTS
A	E				6	2	8	36	A.I.A.	HOUSING	PUB	APTS
B	E				6	2	8	36	A.I.A.	HOUSING	PUB	APTS
C	E				6	2	8	36



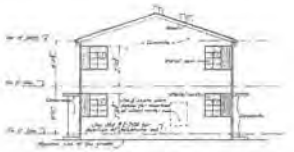
REAR ELEVATION
Scale 1/16"



END ELEVATION "X"
Scale 1/16"



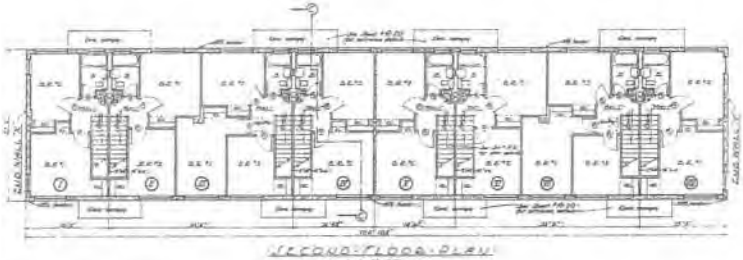
FRONT ELEVATION
Scale 1/16"



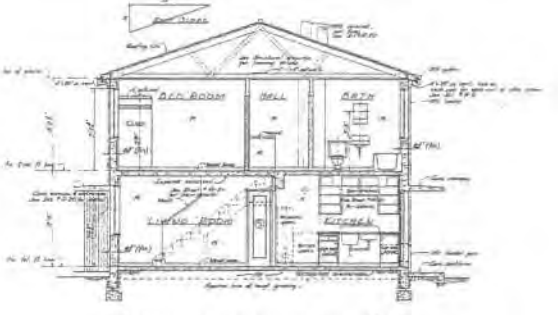
END ELEVATION "Y"
Scale 1/16"

NOTES FOR TYPE "K" BLDG.

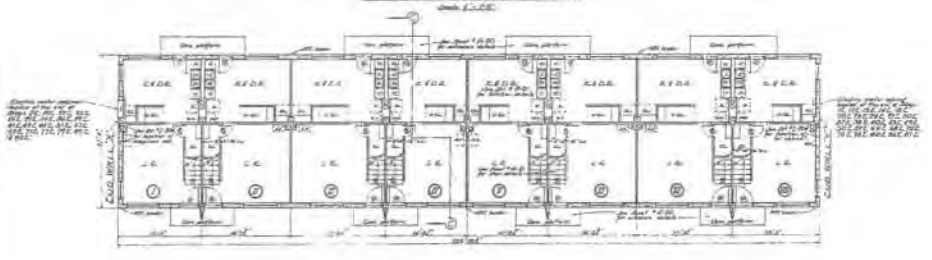
1. Refer to plans numbers A-2 & A-15 relative to location of all types of bldgs. upon the site and for all exterior and water arround these buildings.
2. All interior dimensions are given from concrete face on exterior face wall to face of studs unless otherwise noted or shown. All exterior dimensions are given to concrete openings unless otherwise noted or shown.
3. All corner stud partitions unless otherwise noted or shown shall be 5'-3" inside of face.
4. The inside side of all exterior concrete walls shall be furred with 2"x4" wood strips at 16" o.c.
5. For all finish notes & schedules refer to sheet "A-2" for all dimensions of type "K" bldgs. see 2" over, what plan on sheet "A-15" for exterior and interior wall refer to sheets "A-20" & "A-21 & "A-22
6. For elevations of bottoms of footings & trenches refer to structural drawings "S-103 & "S-104
7. For plumbing and heating work refer to plumbing drawing "P-61"
8. For electrical work see electrical drawing "E-102
(K) Designates number of dwelling unit in building



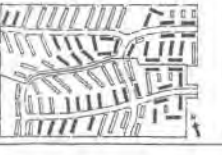
SECOND FLOOR PLAN
Scale 1/16"



CROSS SECTION ON LINE "C-C"
Scale 1/16"



FIRST FLOOR PLAN
Scale 1/16"



SUNNYDALE HOUSING PROJECT
CAL. 1-3
FOR HOUSING AUTHORITY OF THE CITY AND COUNTY OF SAN FRANCISCO
ALBERT F. ROLLER, ROLAND I. STRINGHAM
ARCHITECTS ASSOCIATED

TYPE "K" BLDG.
PLAN, ELEVATIONS
AND SECTIONS

A-15

CREDITS

The following individuals participated in this historic resource evaluation report:

Carey & Co. Inc.	Alice Carey, Principal Hisashi B. Sugaya, Project Manager Winslow Hastie, Preservation Planner Sarah M. Dreller, Architectural Historian

Byrd, Brian, and Rebecca Allen, *Archaeological Sensitivity Assessment for the Sunnydale-Velasco Hope San Francisco Redevelopment Project, City of San Francisco, California.* Prepared for ESA, 2011.

Confidential Report available at the Northwest Information Center of the California Historical Resources Information System and the San Francisco Planning Department.

FORM A

NEPA SECTION 106 RESEARCH FORM

Mayor's Offices of Housing

Reviewed per 2006 Programmatic Agreement between the City and County of San Francisco, Advisory Council on Historic Preservation and the California State Historic Preservation Office.

(To be completed by MOH representative)

Date: **7/2/2012**
PROJECT INFORMATION **FOR Sunnydale Housing Development (Velasco)**

Address: **1654 Sunnydale San Francisco CA 94134**
Assessor's Block: **6315 Lot: 001 et al**
Zoning: RM-1
Year of Initial Construction: **1941**
Type of Ownership: ☐ Unknown ☐ Federal ☐ State ☐ Private ☐ CCSF
☒ San Francisco Housing Authority

☐ Existing Use: **Housing** Proposed Use: **Same**

*Interior Work: Yes ☐ No ☐ *Exterior Work: Yes ☐ No ☐
Proposed Building Expansion: Yes ☐ No ☐
Demolition of existing structures and construction of replacement public housing and additional market rate and affordable housing

Area of Potential Effects: **The Area of Potential Effects is the Sunnydale Housing Development**

Map: Please attach a map if the area of potential effect is larger than the footprint of the subject building

*PLANS AND CLEAR PHOTOGRAPHS ARE ALWAYS REQUIRED FOR REVIEW OF PROPOSED EXTERIOR WORK. PLANS AND PHOTOGRAPHS ARE REQUESTED FOR REVIEW OF PROPOSED ALTERATIONS OF SIGNIFICANT INTERIORS.

Project Contact: Eugene Flannery Phone **415-701-5598**
Lead Federal Agency: **HUD** Local Agency: MOH
Architect: Architect Phone:
Architect Email:
Architect Complete Address:
Environmental Consultant: **ESA**
Environmental Consultant Phone: **415-896-5900**
Environmental Consultant Email:
Environmental Consultant Address: **225 Bush Street Suite 1700 San Francisco, CA 94104**

Applicable HUD Program: Check all that apply.

☐ CDBG ☒ Home ☐ HOPWA ☐ HOPE VI
☒ Public Housing Modernization ☒ Section 8
☐ McKinney Programs (Identify the specific program)
☐ Section 202/811 (For Information Only. HUD prepares a Part 50 Clearance)
☐ Other (Please specify – i.e., Special Purpose)

RESOURCE INFORMATION

*Please attach supporting documents (maps, survey data, designation reports, etc) as applicable.

1. Resource (the subject being evaluated is a):

District ☐ Site ☒ Building ☐ Structure ☐ Object ☐

2. Designations/Survey Information

Listing	Ratings	Landmark No. or Local District /National Register Information	Information Attached? (Yes or No)
SF Planning Historic Resource Status Code			
National Register			
California Register of Historic Places			
City Landmark or Historic District Article 10			
Conservation Buildings or District Article 11			
General Area Plan			
Here Today Survey			
1976 Architectural Survey			
Unreinforced Masonry Building Survey			
San Francisco Heritage Survey			
Other Surveys (Please List)			

Maps (Please check if consulted)

Type	Consulted – yes or no	Attached – attach if consulted
Sanborne		
Metroscan		
Coastal Survey		

4. Photographs (List historic photographic sources)

Type	Attached – yes or no	Source
Current		
Historic		

FORM B

NEPA SECTION 106 REVIEW FORM
Planning Department, City and County of San Francisco

Reviewed per 2007 Programmatic Agreement among the City and County of San Francisco, the ACHP and the SHPO.

Subject Address: 1654 Sunnydale 94134
Assessor's Block: 6315 Lot: 001 et al
Case Number 2010.0305F
Date Review Completed 7/3/2012

- ☐ District
- ☐ Site
- ☒ Building
- ☐ Structure
- ☐ Object

1. National Register Status

Note on Source of Determination: If the State Office of Historic Preservation has made no previous determination of eligibility for the resource, the Planning Department should make a determination of eligibility for the purposes of this Section 106 review. In this case, the planner should put his or her initials under source for the status code chosen. If there is a determination made by the State Office Historic Preservation Office (OHP), please put OHP under source for the status code. Use item 3 on page 2 of this review form to show the Planning Department's application of the National Register Criteria for eligibility.

a. Source / Determination (indicates the status generally):

Source	Determination		
____	____	1	Listed in the National Register
____	____	2	Determined eligible for the Register in a formal process involving federal agencies
____	____	3	Appears eligible for listing in the National Register in the judgment of the person(s) completing or reviewing the form. (In this case the form is either an attached survey or nomination form, not the Section 106 review form.)
____	____	4	Might become eligible for listing
____	____	5	Ineligible for the Register but still of local interest
____	X	6	Determined ineligible for National Register listing
____	____	7	Not evaluated

b. The subject status (indicates why the registration status was given to the property):

____	D	Part of District
____	I	Individual Property
____	B	Both of the above

FORM B
SECTION 106 REVIEW FORM
Page 2

2. Record of Planning Department's Application of National Register Criteria for Eligibility
**The Planning Department should make a determination of eligibility only when no other determination of eligibility has been made.*

The subject resource being evaluated is a:

___ district
___ site
___ building
___ structure
___ object

The subject resource possesses integrity of:

___ location
___ design
___ setting
___ materials
___ workmanship
___ feeling and association

OR
___ does not possess integrity of any of the above

The subject resource has significance by virtue of its being:

___ A associated with events that have made a significant contribution to the broad patterns of our history
___ B associated with the lives of persons significant in our past
___ C embodies the distinctive characteristics of a type, period, or method of construction which:

- ___ represents the work of a master
- ___ possesses high artistic values
- ___ represents a significant and distinguishable entity whose components may lack individual distinction

___ D has yielded, or may be likely to yield, information important in prehistory or history

OR
X does not have significance for any reason above

FORM B
SECTION 106 REVIEW FORM
Page 3

3. Record of Proposed Projects and Required Approvals (check and complete items that apply):

_____ The proposed project is shown in plans labeled _____ that are included in the project file.

_____ There is no active active Building Permit Application (BPA) at the time of Section 106 review.

_____ Associated active BPA's at time of Section 106 review include:
BPA no. _____ Assigned planner_____

_____ A notation was placed in Parcel Tracking to notify planners of the need to review future BPAs with the associated section 106 review. This is required if a project was reviewed and approved under Section 106 but had no active BPA.

_____ A Certificate of Appropriateness is required for the proposal. Case No. and Date reviewed by Landmarks Preservation Advisory Board: _____

4. Findings

Finding of no adverse effect

__X__ yes _____ no _____ unknown _____ not applicable

Comments:

Finding of no adverse effect with mitigations

_____ yes _____ no _____ unknown __X__ not applicable

Comments:

Proposed activity causes an adverse effect:

_____ yes __X__ no

Comments:

See attached HRER, date Jan. 12, 2011.

Planner
San Francisco Planning Department
1650 Mission Street, Fourth Floor
San Francisco, CA 94103

7/7/2012
Date


886
886
NINE
SUMMIDALE
SUNNYDALE
VOLUNTEER
SEE
VELASCO
SANTOS
HAHN
899N
887
886
0

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

Page 1 of 1 *Resource Name or #: Velasco Housing Project

P1. Other Identifier:
*P2. Location: ☐ Not for Publication ☑ Unrestricted *a. County: San Francisco
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad: Date: T ; R ; ¼ of ¼ of Sec ; M.D. B.M.
c. Address: Velasco Avenue at Castillo Street City: San Francisco Zip: 94134
d. UTM: Zone: 10 ; mE/ mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The Velasco Housing Project consists of two, two-story, reinforced concrete, rectangular-in-plan, single-gable buildings situated parallel to each other on a west-to-east axis. They are set back on the northern side of Velasco Avenue, a residential street in the Visitacion Valley neighborhood of San Francisco, and stand among trees, grass, and concrete patios. The buildings have asphalt shingle-clad roofs and one-over-one metal sash windows with wood surrounds and operational awning upper lites. Some windows are one-over-one double hung metal sash. Doors are wood. The northerly building features two exterior chimneys, while the southerly, shorter building features one.

Exterior concrete stairways with metal rails and metal mesh balusters are located at the ends of the buildings. They lead from the ground floor to the second-story exterior hallways. A metal balustrade runs the length of the second-story hallway, which is supported by square metal posts. Metal posts also support a wide eave overhang that shelters the second-story hallway.

Major design elements are limited to the siting of the buildings and window type. The buildings are significantly set back from the sidewalk and partially overlap one another, creating an enclosed hallway on three sides. The buildings also face one another; thus the south elevation constitutes the rear of the southerly building and the front of the northerly building. Double-hung windows adorn the front elevations of the buildings, and one-over-one with operable upper awnings adorn the rear elevations. Concrete patios contribute to landscaped exterior space to the west of the buildings and to the south of the northerly building/east of the southerly building.

*P3b. Resource Attributes: (List attributes and codes)
*P4. Resources Present: ☑Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
South elevations, from southwest. April 22, 2010

*P6. Date Constructed/Age and Sources: ☑Historic
☐Prehistoric ☐Both
1963, Annual Report of the SFHA

*P7. Owner and Address:
San Francisco Housing Authority
440 Turk Street
San Francisco, CA 94102

*P8. Recorded by: (Name, affiliation, and address)
Carey & Co., Inc.
460 Bush Street
San Francisco, CA 94108

*P9. Date Recorded:
April 26, 2010

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: Carey & Co., Inc. "Velasco Housing Project: Historic Resource Evaluation." April 26, 2010.

*Attachments: ☐NONE ☐Location Map ☐Sketch Map ☐Continuation Sheet ☐Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z
Other Listings _____
Review Code _____ Reviewer _____ Date _____

*Resource Name or #: Sunnydale

P1. Other Identifier: _____

*P2. Location: ☐ Not for Publication ☐ Unrestricted a. County San Francisco

b. USGS 7.5' Quad _____ Date _____ T _____ R _____, _____ 1/4 of ___ 1/4 of Sec ___ _____ B. M.

c. Address _____ 1654 Sunnydale Avenue _____ City San Francisco, CA _____ Zip _____

d. UTM: (Give more than one for large and/or linear feature) Zone _____ _____ mE/ _____ mN

e. Other Locational Data: (e.g. parcel #, legal description, directions to resource, elevation, additional UTMs, etc. as appropriate)

Located on several blocks in Visitacion Valley, bound by John McLaren Park to the north and west, Hahn Street to the east, and Velasco Street to the south.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

This housing complex consists of 767 units in 90 separate buildings located on a large site in Visitacion Valley bound by John McLaren Park to the north and west, Hahn Street to the east, and Velasco Street to the south -the site is 48.83 acres total. Curvilinear streets wind through the complex. Similar to Potrero Hill, the footprint of each building is aligned with the natural topography so that they are each oriented according to the slope. This gives the appearance that the buildings are situated randomly on the site, but, rather, they follow the natural contours of the land to reduce the required amount of soil cut and fill and to help prevent erosion. While every building is quite similar in style and materials, there are six different types of buildings within the complex--they are labeled alphabetically from A to F. There are six type A buildings, three type B, five type C, seven type D, forty-five type E, and twenty-four type F buildings. Sunnydale has 71 one bedroom units, 531 two bedroom units, 150 three bedroom units, and 15 four bedroom units. An Administration Building at the junction of Santos Street and Sunnydale Avenue serves as the on-site SFHA offices as well as recreation and health facilities.

See Continuation Sheet.

*P3b. Resource Attributes: (List attributes and codes) HP3. Multiple Family

*P4 Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, etc.)
Type E Building, View Northwest (May, 2001)

*P6. Date Constructed/Age and Sources:
☐ Prehistoric ☒ Historic ☐ Both
1941, original drawings

*P7. Owner and Address:
San Francisco Housing Authority
440 Turk St.
San Francisco, CA 94102

*P8. Recorded by: (Name, affiliation, address)
Winslow Hastie
Carey & Co. Inc.
460 Bush Street
San Francisco, CA 94108

*P9. Date Recorded: 5/24/01

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report/other sources or "none") Sunnydale Historic Resource Evaluation

*Attachments: ☐ NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other (List) _____

Description, Continued.

Each of the buildings is rectangular in plan, constructed of reinforced poured-in-place concrete, and features a gabled flat tile roof. The buildings range from one to two stories, with two building types having a single story at the rear and two stories in front because of the sloped site. The windows are aluminum sliding sash replacements and the entry doors are solid wood. Most of the entries are paired with corrugated concrete dividers flanking the doorways and a flat concrete awning projection. The rear elevations feature a back entry for each unit which also has a flat concrete awning projection. The exterior concrete walls have expressed form board lines creating a horizontal pattern at every elevation. These rather simple buildings have minimal architectural articulation and detail. The corrugated pattern on the entry dividers is continued at the building elevations, where corrugated concrete panels articulate the corners of every building and separate window openings on all front elevations.

The type A buildings each have eight units, with a one story upper elevation and a two story lower elevation. The type B buildings, with eleven units each, are a bit longer and also have a one story upper elevation and a two story lower elevation. The one story type C buildings only have three units each. With two full stories at both sides, the type D buildings contain four units; the most prevalent type E buildings are just two attached type D buildings, so they have eight units each. The type F buildings, which are the longest, have twelve units each.

The reinforced concrete, two story Administration Building is composed of two end gable-front sections with a long side-gabled section connecting them. The gabled section at the west end features an entry with a gabled canopy above. The side-gabled section features three large window openings with new aluminum sash windows; flanking these openings are narrow corrugated concrete panels which match those on the housing buildings. The east end portion of the building retains the original steel sash casement windows; between these are corrugated concrete panels. The entry features a border of the same corrugated concrete panels.

The circulation between the buildings consists of concrete walkways, steps and retaining walls. T-shaped pipes with clotheslines hung between, located at the rear elevation of the buildings, are for hanging wash. The landscaping is minimal–between the concrete walkways is a combination of grass lawn and dirt, with some mature trees extant along the curvilinear streets. Paved parking areas are located between the buildings.

SAN FRANCISCO
PLANNING DEPARTMENT

MEMO

Historic Resource Evaluation Response

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

MEA Planner:	Nannie Turrell
Project Address:	**Sunnydale Hope SF Master Plan**
Block/Lot:	6310/001, 6311/001, 6312/001, 6313/001, 6314/001, 6315/001
Case No.:	**2010.0305E**
Date of Review:	January 12, 2011
Planning Dept. Reviewer:	Pilar LaValley
	(415) 575-9084 | pilar.lavalley@sfgov.org

PROPOSED PROJECT ☒ Demolition ☐ Alteration ☒ New Construction

PROJECT DESCRIPTION

The proposed project is the Sunnydale Hope SF Master Plan for the subject property, which would include the demolition and redevelopment of the site as a mixed-income community at a scale and density consistent with other San Francisco neighborhoods.

PRE-EXISTING HISTORIC RATING / SURVEY

Information provided in the Historical Resource Evaluation Report, prepared by Carey & Co., May 25, 2001, indicates that the subject property was constructed in 1941.[1] In this previous evaluation, Carey & Co. assigned a status code of "6Z," or "found ineligible for National Register, California Register, or Local designation through survey evaluation." Although the subject property was previously surveyed and found ineligible, such evaluation was undertaken more than five years ago so the recorded date of construction (1941) makes the subject property a "Category B" (potential historical resource) property for the purposes of CEQA review by the Planning Department.

HISTORIC DISTRICT / NEIGHBORHOOD CONTEXT

This housing complex consists of 767 units in 90 separate buildings located on a large site bounded by John McLaren Park to the north and west, Hahn Street to the east, and Velasco Street to the south in the Visitacion Valley neighborhood. Curvilinear streets wind through the complex and each building is aligned with the natural topography so that they are each oriented according to the slope. An Administration Building with San Francisco Housing Authority offices and recreation and health facilities is located at the junction of Santos Street and Sunnydale Avenue. The Sunnydale Housing Development property is surrounded by a RH-1 (Residential, House, Single-Family) Zoning District and a 40 -X Height and Bulk District. The immediate area consists largely of single-family, two-story homes constructed primarily between 1920 and 1980.

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1. **California Register Criteria of Significance:** **Note,** a building may be an historical resource if it meets any of the California Register criteria listed below. If more information is needed to make such

[1] Carey & Co., "Sunnydale Housing Development, Historic Resource Evaluation Report," May 25, 2001.

a determination please specify what information is needed. *(This determination for California Register Eligibility is made based on existing data and research provided to the Planning Department by the above named preparer / consultant and other parties. Key pages of report and a photograph of the subject building are attached.)*

Event: or	☐ Yes	☒ No	☐ Unable to determine
Persons: or	☐ Yes	☒ No	☐ Unable to determine
Architecture: or	☐ Yes	☒ No	☐ Unable to determine

Information Potential: ☐ Further investigation recommended.

District or Context: ☐ Yes, may contribute to a potential district or significant context

If Yes; Period of significance:

Based on the criteria, staff believes that the subject property is not eligible for inclusion on the California Register. This evaluation is based, in part, on information provided in Historic Resources Evaluation Reports, dated May 25, 2001, prepared by Carey & Co., and dated March 31, 2009, prepared by CIRCA: Historic Property Development, as well as an integrity analysis report for the Thomas Church landscape design prepared by Carey & Co. Staff concurs with the findings of these reports.

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

This development, designed by Albert F. Roller and Roland I Stringham with landscape design by Thomas Church, was constructed in 1941 as one of five public housing projects built in San Francisco prior to World War II. The other public housing projects undertaken prior to WWII were Holly Courts, Potrero Terrace, Valencia Gardens, and Westside Courts. Sunnydale, Holly Courts, and Potrero Terrace were completed or partially occupied before December 1941 with Sunnydale being the largest with 772 units in 90 buildings located on 48.83 acres.[2] Holly Courts, designed by Arthur Brown Jr., was the first completed public housing project west of the Rocky Mountains (May 1940), and, Westside Courts was the only public housing in San Francisco programmed specifically for African-American families. While one of the earliest public housing projects completed in San Francisco, the subject property does not appear to have made a significant or unique contribution to the development of the history of public housing in the region. Therefore, the subject property does not appear to be associated with significant events and does not appear eligible under Criterion 1.

Criterion 2: It is associated with the lives of persons important in our local, regional or national past;

According to the Carey & Co. report, no persons of known historical significance appear to have been associated with the subject building. The subject property does not appear eligible under Criterion 2.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values;

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[2] Carey & Co., "Sunnydale Housing Development, Historic Resource Evaluation," May 25, 2001, p. 6.

The housing complex consists of 767 units in 90 separate buildings on 48 acres.[3] The site is arranged as a "super-block," a planning concept gaining popularity at the time of construction, with streets defining large sections of the project and footpaths providing the interior circulation. Buildings follow the natural topography of the site and curvilinear streets wind through the complex. Each building is rectangular in plan, constructed of reinforced poured-in-place concrete, and features a gabled flat tile roof. The buildings range from one- to two-stories, have aluminum sliding sash replacement windows and solid wood entry doors, and minimal architectural articulation and detail. Most entries are paired with corrugated concrete dividers flanking the doorways and a flat concrete awning projection. The corrugated concrete panels articulate the corners of the every building and highlight windows openings an all front elevations. The Administration Building is two-stories, constructed of reinforced concrete, with front-facing gable ends connected by a long side-gabled section. The main entrance, covered by a gabled canopy, is at the west end of the building. Windows are either aluminum sliding replacement sash or original steel casement sash.

Circulation between the buildings consists of concrete walkways, steps and retaining walls. Landscaping is minimal with grass lawn, a few shrubs, and some mature trees lining portions of the curvilinear streets. Paved parking areas are located between the buildings.

According to the consultant reports, the housing development was designed by Albert F. Roller and Roland I. Stringham in 1939, with landscape design by Thomas Church, and a stone sculpture at main entrance by Benieminio (Benny) Bufano. No information has been located regarding the partnership with, or professional history of, Roland I. Stringham.

Albert F. Roller

Albert F. Roller (1891-1981) was a self-taught architect from San Francisco whose architectural practice spanned numerous decades and architectural styles. After working for several different architectural firms in the early 1900s, Roller established his own practice in 1926 and maintained offices in San Francisco and Los Angeles. Roller appears to have maintained an independent practice for the duration of his career although there were several collaborations with other architects. Review of extant examples of Roller's work indicates that he was adept at adapting to changes in public taste for architectural styles as his buildings range from Beaux Art to Moderne to Mid-Century Modernist.

Projects by Roller include:

Breuner Building (2201 Broadway), Oakland (1931) (listed on Local Register)
Lloyd's Bank Building (address unknown), San Francisco (1931)
Call/Spreckles Building (703 Market Street), San Francisco (1938 remodel)
Sunnydale Housing Development (with Roland I. Stringham), San Francisco (1941)
NBC Building (420 Taylor Street), San Francisco (1942)
Federal Office Building #2 (with John Carl Warnecke, 450 Golden Gate Avenue), San Francisco (1959)
475 Sansome Street, San Francisco (1971)
California Automobile Association Building (100 Van Ness Avenue), San Francisco (1974)

[3] This information and the following description are taken from the Carey & Co., "Historic Resource Evaluation Report," pgs. 2-3.

Roller appears to have operated a long-running and productive architectural practice focused on mid- to large-scale domestic, commercial, and institutional projects in the Bay Area. His buildings display a variety of architectural styles reflective of the time period in which they were commissioned and constructed. While Roller may eventually be considered a notable local architect, there has been no scholarly examination of his work to date, and insufficient time has passed for a scholarly perspective on his body of work. The Sunnydale Housing Development project is reflective of Roller's focus on Moderne style buildings during that period of time but with a much more minimal and stripped down expression, likely due to the budget constraints of public housing projects. Given the range of architectural styles Roller adopted over the course of his career, the Sunnydale project does not appear either unique or significant within the larger body of work. While Sunnydale reflects the "super-block" approach to site planning, it is not a distinctive example of this concept nor does the architecture break new ground or appear to mark a new direction for the architect. At this time, the subject property does not appear to be significant for its association with a master architect (Albert F. Roller) nor does it appear to have distinctive characteristics of a type, period, or method of construction such that it would be eligible for listing under Criterion 3.

Thomas D. Church

Thomas D. Church (1902-1976), one of the most influential mid-century landscape architects, lived and practiced in the Bay Area after receiving degrees in landscape architecture from the University of California Berkeley and Harvard University. Church was operating a successful firm when the release of his 1955 book *Gardens are for People*, spread his name and the California-style garden all over the world. Church endorsed a casual, minimalist style of rectilinear and curvilinear forms to enclose and define spaces and his landscape designs tended to work with the topography of each site. Church designed over 2,000 gardens in addition to housing developments and corporate and college campuses, including such well-known projects as the Memorial Court garden at the San Francisco War Memorial and Performing Arts Center and the *Sunset* magazine headquarters in Menlo Park.

According to the Carey & Co. Landscape Design Integrity Analysis and the original landscape plans, very little of the Church landscape design is extant at the subject property. The original design

> called for orderly rows of Monterey Pines, surrounded by Ice Plant for ground cover, to line the major streets and define them as public circulation corridors. The courtyards formed by the arrangement of buildings featured grassy lawns, and rectilinear pedestrian paths provided access through the spaces. Looser groupings of trees were to be placed in the courtyards to give the appearance of a more natural, wooded area. Each unit was to have a low hedge, arranged in a chevron shape...At various locations, the hedges were arranged into curlicues that would define borders or accent a transition between two different types of spaces.[4]

Although it is not clear how much of the original design was implemented at the site, it is consistent with Church's broader body of work and would have provided simple, low-maintenance landscaping that "softened and humanized the relentlessly rectilinear rows of the vast public housing development."[5] If it retained integrity, the landscape design of the subject property could have been

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[4] Carey & Co., "Sunnydale Housing Project, Thomas Church Landscape Design Integrity Analysis," October 12, 2010, p. 3.

[5] Ibid.

significant under Criterion 3 for its association with Thomas Church. Please see below for a discussion of integrity.

Criterion 4: It yields, or may be likely to yield, information important in prehistory or history;
It does not appear that the subject property is likely to yield information important to a better understanding of prehistory or history.

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2. **Integrity** is the ability of a property to convey its significance. To be a resource for the purposes of CEQA, a property must not only be shown to be significant under the California Register criteria, but it also must have integrity. To retain historic integrity a property will always possess several, and usually most, of the aspects. The subject property has retained or lacks integrity from the period of significance noted above:

Location:	☒ Retains	☐ Lacks	**Setting:**	☒ Retains	☐ Lacks
Association:	☐ Retains	☒ Lacks	**Feeling:**	☐ Retains	☒ Lacks
Design:	☐ Retains	☒ Lacks	**Materials:**	☐ Retains	☒ Lacks
Workmanship:	☐ Retains	☒ Lacks			

(This integrity analysis is limited to the landscape design as neither the overall site planning or architecture has been found to have historical significance.)

Staff concurs with the Carey & Co. Landscape Design Integrity Analysis, which found that the existing landscape does not retain historical integrity, as there is too little remaining historic fabric to convey the original design intent or significance. The original plan, as evidenced by the drawings, used a combination of trees, hedges, and ground cover to arrange space, to make a distinction between public and private spaces, and to create spaces for people to use. Few of the trees and virtually none of the hedges and ground cover from the original design exist today. Staff concurs that the landscape lacks integrity of association, design, workmanship, materials, and feeling, and that the loss of these elements compromise the site such that it can no longer convey its potential significance.

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3. **Determination of whether the property is an "historical resource" for purposes of CEQA.**

☒ No Resource Present *(Go to 6 below.)* ☐ Historical Resource Present *(Continue to 4.)*

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4. **If the property appears to be an historical resource, whether the proposed project would materially impair the resource (i.e. alter in an adverse manner those physical characteristics which justify the property's inclusion in any registry to which it belongs).**

☐ The project will not cause a substantial adverse change in the significance of the resource such that the significance of the resource would be materially impaired. *(Continue to 5 if the project is an alteration.)*

☐ The project is a significant impact as proposed. *(Continue to 5 if the project is an alteration.)*

Not applicable.

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5. **Character-defining features of the building to be retained or respected in order to avoid a significant adverse effect by the project, presently or cumulatively, as modifications to the project to reduce or avoid impacts. Please recommend conditions of approval that may be desirable to mitigate the project's adverse effects.**

Not applicable.

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6. **Whether the proposed project may have an adverse effect on off-site historical resources, such as adjacent historic properties.**

☐ Yes ☒ No ☐ Unable to determine

There do not appear to be any off-site historical resources in the immediate vicinity that could be affected by the proposed project.

SENIOR PRESERVATION PLANNER REVIEW

Signature: _____ Date: 1/13/2011

Tina Tam, *Senior Preservation Planner*

cc: Linda Avery, *Recording Secretary*, Historic Preservation Commission
Virnaliza Byrd / Historic Resource Impact Review File

PL: G:\DOCUMENTS\Sunnydale\Historic Resource Evaluation Report.doc

MAYOR'S OFFICE OF HOUSING
CITY AND COUNTY OF SAN FRANCISCO

EDWIN LEE
MAYOR

OLSON LEE
DIRECTOR

July 16, 2012

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Re: Sunnydale-Velasco Housing HOPE Redevelopment and NWIC File No. 12-0001

Dear Mr. Donaldson:

In accordance with Stipulation XI.D of the Programmatic Agreement executed between the City and County of San Francisco, the Advisory Council on Historic Preservation (PA) and your office on January 19, 2007 that governs the City's responsibilities as the responsible entity under the National Historic Preservation Act and the Secretary of the Interior's Regulations MOH is requesting your comments on the enclosed recommendations of the Northwest Information Center (IC) regarding archeological resources at the site of the proposed project.

The Sunnydale-Velasco Housing Development (S-V) consists of 90 separate buildings on 48 acres built in 1941. Proposed activities include constructing 1700 new housing units, 785 one-for-one replacement units and 915 additional new units, creating new streets on 12.2 acres, 6.4 acres of new parks, replacing the existing 29,726 square foot (sf) daycare/community center with 72,500 square feet (sf) of recreation/community services, and leaving 16,200 sf on ground floor of the mixed-use senior housing for retail uses. Housing units would be contained in 33 individual residential buildings. The typical residential building would be three stories high.

The APE for the proposed project is comprised of the S-V housing development site itself, bounded by John McLaren Park to the north and west, Hahn Street to the east and Velasco Street to the south. The San Francisco Planning Department determined the S-V housing development is ineligible for inclusion on the National Register of Historic Place. The Planning Department also concluded that no historic properties would be affected by the proposal.

If you have any questions or require further information please contact Eugene T. Flannery at (415) 701-5598 or by e-mail at Eugene.Flannery@SFGOV.org.

Sincerely,

Olson Lee
Director

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY
EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

CITY & COUNTY OF SAN FRANCISCO
12 AUG -2 PM 12:45
MAYOR'S OFFICE OF COMMUNITY INVESTMENT
BY

July 30, 2012

REPLY TO: HUD120719E

Olson Lee
Director
Mayor's Office of Housing
City and County of San Francisco
1 South Van Ness Avenue
San Francisco, CA 94103

Dear Mr. Lee:

RE: **SUNNYDALE-VELASCO HOUSING HOPE REDEVELOPMENT**

Thank you for forwarding the above referenced undertaking to my office for review and comment pursuant to the terms of *the Programmatic Agreement by and among the City and County of San Francisco, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Historic Properties Affected by the Use of Revenue from the Department of Housing and Urban Development Part 58 Programs.*"

Stipulation XI.D. says that "If the IC [Information Center] informs the City than an archeological property is located within the Undertaking's APE or recommends that a survey be conducted, the City shall promptly furnish the SHPO with a copy of the IC's response and request the comments of the SHPO." The report from the Northwest Information Center recommended the following:

> There is a moderate possibility of identifying Native American archeological resources and a low possibility of identifying historic-period archaeological resources in the project area. We recommend that the recommendations for further work outlined in the Archaeological Assessment (Byrd and Allen 2011) be implemented:
>
> It is recommended that additional investigations be undertaken to ascertain whether archaeological material may be preserved underneath recent fill within the project C-AAPE. This testing effort would entail geoarchaeological coring of the eastern portion of the project C-AAPE. Ideally, this investigation should take place after detailed project design plans have been developed that show the full extent and depth of all project impacts. Then additional prefield investigations into the cut and fill

history of the project C-AAPE should also be undertaken. With these additional data sets, the precise placement and depth of cores can be determined in order to ensure coverage is sufficient to identify any unknown archaeological material that would be impacted by construction activities (40).

Pursuant to stipulation XI.D.1, the SHPO recommends that the City carry out the above outlined recommended actions.

If you have questions, please do not hesitate to contact Lucinda Woodward, Supervisor of the Local Government Unit, at (916) 445-7028 or at lwoodward@parks.ca.gov.

Sincerely,

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

CALIFORNIA
HISTORICAL
RESOURCES
INFORMATION
SYSTEM



ALAMEDA
COLUSA
CONTRA COSTA
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
Email: leigh.jordan@sonoma.edu
http://www.sonoma.edu/nwic

July 5, 2012

NWIC File No.: 12-0001

Eugene T. Flannery
Environmental Compliance Manager
Mayor's Office of Housing
1 South Van Ness Avenue, 5th Floor
San Francisco, CA 94103

Re: Record search results for the proposed Sunnydale-Velasco Hope San Francisco Redevelopment Project, City of San Francisco, California. Project D210039 Task 3

Dear Mr. Flannery:

Per the request received by our office from Heidi Koenig and Karl Heisler of Environmental Science Associates on 28 June 2012, a records search was conducted for the above referenced project by reviewing pertinent Northwest Information Center (NWIC) base maps that reference cultural resources records and reports, historic-period maps, and literature for San Francisco County. Please note that use of the term cultural resources includes archaeological resources and historical buildings and/or structures.

Review of this information indicates that there is record of one report that covers the entirety of the proposed project area: S-38298 (Byrd and Allen 2011). While this report did not include any fieldwork, the detailed archaeological sensitivity assessment contained therein provides recommendations for further work discussed further below (Byrd and Allen 2011:37-40). This project area contains no recorded archaeological resources. While the proposed project area contains no local landmarks, 1654 Sunnydale Ave (DOE-38-01-0035-0000) is listed in the Office of Historic Preservation Historic Property Directory with a status code of 6Y, meaning it has been determined ineligible for the National Register through a Section 106 process, although not evaluated for the California Register or local listing. It appears that this evaluation carried out in 2001 was inclusive of the entire Sunnydale housing complex. In addition to these inventories, the NWIC base maps show no recorded buildings or structures within the proposed project area.

At the time of Euroamerican contact the Native Americans that lived in the area were speakers of the Costanoan/Ohlone language, part of the Utian language family (Levy 1978:485). Milliken (1995:260) considers the northern tip of the San Francisco peninsula (including the proposed project area) as the tribal area of the *Yelamu*. While there are accounts of village and campsites in Visitation Valley, there are no Native American resources referenced in the ethnographic literature in or adjacent to the proposed project area.

Based on an evaluation of the environmental setting and features associated with known sites, Native American resources in this part of San Francisco County have been found in close proximity to sources of fresh water (including perennial and intermittent streams and springs), near ecotones, and near productive resource environments. Prior to the development of San Francisco, the Sunnydale-Velasco Hope project area was located within a transition zone from the bottom of Visitation Valley, to the uplands to the west. Intermittent streams flowed nearby and the marshlands and bay margin were approximately 1 kilometer away. Furthermore, this area has undergone a significant amount of cut/fill episodes in modern times that, along with more natural depositional processes, have the potential in certain locations to bury archaeological deposits. Given the similarity of these environmental factors, coupled with the potential of buried archaeological deposits, there is a moderate potential of identifying unrecorded Native American resources in the proposed Sunnydale-Velasco Hope project area.

Review of historical literature and maps indicated little possibility of historic-period archaeological resources within the proposed Sunnydale-Velasco Hope project area. 19th century maps show the proposed project area void of buildings or structures, as much of the development of the area was concentrated to the north and east of the proposed project area. Some early 20th century development is inferred form the 1915 USGS quadrangle, however, this development was later eclipsed by the existing development, which was constructed in 1942. With this in mind, there is a low potential of identifying unrecorded historic-period archaeological resources in the proposed Sunnydale-Velasco Hope project area.

RECOMMENDATIONS:

1) There is a moderate possibility of identifying Native American archaeological resources and a low possibility of identifying historic-period archaeological resources in the project area. We recommend that the recommendations for further work outlined in the Archaeological Sensitivity Assessment (Byrd and Allen 2011) be implemented:

> It is recommended that additional investigations be undertaken to ascertain whether archaeological material may be preserved underneath recent fill within the project C-AAPE. This testing effort would entail geoarchaeological coring of the eastern-most

portion of the project C-AAPE. Ideally, this investigation should take place after detailed project design plans have been developed that show the full extent and depth of all project impacts. Then additional prefield investigations into the cut and fill history of the project C-AAPE should also be undertaken. With these additional data sets, the precise placement and depth of cores can be determined in order to ensure coverage is sufficient to identify any unknown archaeological material that would be impacted by construction activities (40).

Please refer to the list of archaeological consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.

2) Our research indicates that the proposed project area contains buildings that have been previously evaluated and determined ineligible for the National Register through a Section 106 process, although not evaluated for the California Register or local listing. Therefore, it is recommended that the agency responsible for Section 106 compliance consult with the Office of Historic Preservation regarding potential impacts to these buildings or structures:

Project Review and Compliance Unit
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
(916) 653-6624

3) Review for possible historic-period buildings or structures has included only those sources listed in the attached bibliography and should not be considered comprehensive.

4) If archaeological resources are encountered **during construction,** work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources. Native American resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic-period resources include stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

5) It is recommended that any identified cultural resources be recorded on DPR 523 historic resource recordation forms, available online from the Office of Historic Preservation's website: http://ohp.parks.ca.gov/default.asp?page_id=1069

Thank you for using our services. Please contact this office if you have any questions, (707) 588-8455.

Sincerely,

Bryan Much
Assistant Coordinator

CC: Karl Heisler, ESA, San Francisco; Project D210039 Task 3

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**Note that the Office of Historic Preservation's *Historic Properties Directory* includes National Register, State Registered Landmarks, California Points of Historical Interest, and the California Register of Historical Resources as well as Certified Local Government surveys that have undergone Section 106 review.

From: Eugene.Flannery@SFGOV.ORG
To: jcarey@
Subject: Fw: Sunnydale-Velasco housing developement
Date: Friday, May 03, 2013 1:01:06 PM

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lets discuss

Eugene T. Flannery
Environmental Compliance Manager
Mayor's Office of Housing
1 South Van Ness Avenue
Fifth Floor
San Francisco, CA 94103
415-701-5598
h

----- Forwarded by Eugene Flannery/OCDHH/MAYOR/SFGOV on 05/03/2013 12:58 PM -----

From: Irenne Zwierlein <irennezwierlein@gmail.com>
To: Eugene Flannery <Eugene.Flannery@SFGOV.ORG>
Date: 05/03/2013 12:56 PM
Subject: Sunnydale-Velasco housing developement

There are areas on the map that look to be near where we have either had artifacts or burials or both uncovered.Our recommendations on projects that are the least bit likely to uncover artifacts and or burials is that all crews be culturally trained in sensitivity and knowledge of potential finds. We also recommend they are given visual training on what some of the artifacts look like. We also recommend that if there is any ground disturbance in areas that have or are likely to hit something that the crews be accompanied by Experienced qualified California Archaeological monitors as well as Experienced qualified Native American monitors. Feel free to contact myself or Michelle Zimmer if you need further assistance in any project including this one.
michellezimmer66@gmail.comor irennezwierlein@gmail.com
Or by phone @ 650 851 7489 or 650 400 4806.

--
Irenne Zwierlein

MEMORANDUM OF AGREEMENT BETWEEN THE CITY AND COUNTY OF SAN FRANCISCO AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE SUNNYDALE-VELASCO HOPE SF REDEVELOPMENT PROJECT

WHEREAS, the Mayor's Office of Housing and Community Development (MOHCD) of the City and County of San Francisco (CITY) has been asked to approve funding subject to regulation by 24 CFR Part 58 (Part 58) for the development of the Sunnydale-Velasco HOPE SF Housing Development (Undertaking) by Sunnydale Development Co., LLC (Developer); and

WHEREAS, the City and County of San Francisco (City) has assumed responsibility for environmental review responsibilities for programs and activities subject to regulation under Part 58; and

WHEREAS, the Director of the Mayor's Office of Housing and Community Development has been designated the Agency Official under Section 106 of the National Historic Preservation Act (NHPA) and the Certifying Officer under Part 58; and

WHEREAS, the City has consulted with the California State Historic Preservation Officer (SHPO) pursuant to the Programmatic Agreement by and among the City and County of San Francisco, The California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Historic Properties Affected by the Use of Revenue from the Department of Housing and Urban Development Part 58 Programs, executed January 10, 2007 (PA for Part 58); and

WHEREAS, the City has established the Area of Potential Effects (APE) for the Undertaking as defined at 36 CFR §800.16; and

WHEREAS, the City has determined that the Undertaking may have an adverse effect on archeological resources; and

WHEREAS, the Northwest Information Center (NWIC) at Sonoma State University has advised the City that there is a moderate potential of identifying unrecorded Native American resources and a low possibility of identifying historic-period archaeological resources in the project area, and has made certain recommendations to the City regarding the preservation of cultural resources; and

WHEREAS, pursuant to the ACHP's Section 106 regulations and the PA for Part 58, the City has conducted outreach and has actively sought and requested the comments and participation of members of the Ohlone/Costanoan Indian tribe; and the members did not respond to our requests to engage in such consultation;

WHEREAS, the Advisory Council on Historic Preservation has declined to participate in the consultation process for the resolution of adverse effects; and

WHEREAS, the project sponsor has retained the services of an archaeological consultant (Consultant) from the rotational Department Qualified Archaeological Consultants List (QACL) maintained by the San Francisco Planning Department (Planning) archaeologist; and

WHEREAS, the Archeological consultant has conducted archival research, a site visit and a pedestrian survey of the site, and has prepared an Archaeological Sensitivity Assessment; and

WHEREAS the City and the California State Historic Preservation Officer have agreed to the procedures and methodology that the City will use to take into account any adverse effects the proposed project may have on buried or submerged historical resources; and

WHEREAS, the City, pursuant to 36 CFR§800.13(a) and 36 CFR §800.14(b) will outline actions to be taken if historical or cultural deposits are discovered during the implementation of the Undertaking; and

WHEREAS, the Developer has been invited to concur in this MOA; and

WHEREAS, the signatories to this agreement acknowledge that archeological resources covered by this agreement are subject to the provision of Section 304 of the NHPA and Section 6254.10 of the California Government Code (Public Records Act) relating to the disclosure of archeological site information hand having so acknowledged will ensure that all actions and documentation prescribed by this agreement are consistent with those authorities; and

NOW, THEREFORE, the City and the California State Historic Preservation Officer (SHPO) agree that the Undertaking shall be implemented according to the following stipulations in order to take into account the effects of the Undertaking may have on historic properties.

STIPULATIONS

Based on the reasonable assumption that the Undertaking may cause alterations in the character or use of historic properties and in accordance with the requirements of Stipulation XI of the PA (Consideration and Treatment of Archeological Resources) of the PA, the following measures shall be undertaken to take into account any adverse effects the proposed project may have on buried or submerged historical resources.

I. Qualified Archeological Consultant Responsibilities

The archeological consultant shall undertake an archeological testing program shall be conducted in accordance with an approved Archeological Testing Plan (ATP) as describe herein. In addition, the archeological consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure an archeological testing program.

A. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Review Officer of the San Francisco Planning Department (ERO).

B. All plans and reports prepared by the archeological consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO.

C. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to prevent adverse effects to historical resources. If necessary to suspend construction beyond four weeks, the City shall consult with the SHPO at that point to decide a course of action.

II. Consultation with Descendant Communities

A. On discovery of an archeological site associated with descendant Native Americans, the Overseas Chinese, or other descendant group an appropriate representative of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to consult with ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archaeological Resources Report shall be provided to the representative of the descendant group.

III. Archeological Testing Plan and Program

A. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing.

B. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource.

C. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If, based on the archeological testing program, the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological

testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the ERO or the Planning Department archeologist.

D. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

1) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or
2) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

IV. Archeological Monitoring Program (AMP)

A. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions:

1) The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing.
2) The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context.
3) The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource.
4) The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits.
5) The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis.
6) If an archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be

terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

7) The archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

V. Archeological Data Recovery Program

A. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical;

B. The scope of the ADRP shall include the following elements:

1. Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations.
2. Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures.
3. Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies.
4. Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
5. Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
6. Final Report. Description of proposed report format and distribution of results.
7. Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

VI. Human Remains and Associated or Unassociated Funerary Objects

A. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with

applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

VII. Final Archeological Resources Report

A. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

B. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Mayor's Office of Housing and Community Development and the Environmental Planning division of the Planning Department shall each receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

VIII. Administrative Provisions

A. Should any signatory object at any time to the manner in which the terms of this agreement are implemented, the City shall consult with the objecting party(ies) to resolve the objection. If the City determines within fifteen (15) calendar days of receipt that such objection's) cannot be resolved, the City will forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (ACHP) in accordance with 36 CFR § 800.2(b)(2). The City in reaching a final decision regarding the dispute shall take any ACHP comment provided into account. The City's responsibility to carry out all other actions under this MOA that are not the subjects of the disputed will remain unchanged.

B. At any time during implementation of the measures situated in this agreement, should an objection to any such measure or its manner of implementation be raised in writing by a member of the public, the City shall take the objection into account and consult, as needed, with the objecting party and the SHPO, as needed, for a period of time not to exceed fifteen (15) calendar days. If the City is unable to resolve the conflict, the City shall forward all documentation relevant to the dispute to the ACHP, following the terms outlined in stipulation 5, above.

C. If any signatory believes that the terms of this agreement cannot be carried out, or than an amendment to its terms should be made, that signatory shall immediately consult with the other parties to develop amendments pursuant to 36 CFR §§ 800.6(c)(7) and 800.6(c)(8). If this AGREEMENT is not amended as provided for in this stipulation, any signatory may terminate it, whereupon the City shall proceed in accordance with 36 CFR 800.

D. If either the terms of this agreement or the undertaking have not been carried out within three (3) years following the date of execution of the agreement, the signatories shall reconsider its terms. If the signatories agree to amend the agreement, they shall proceed in accordance with the amendment process referenced in Stipulation VIII.C, above.

E. Any party to this MOA may terminate the MOA by providing ninety days (90) calendar days' notice to the other consulting parties, provided that the consulting parties shall consult during the period before termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the City will comply with 36 CFR Section 800 with respect to individual Undertakings covered by this PA

Execution and implementation of this agreement evidences that the City has taken into account the effects of the undertaking on historic properties, and the City has satisfied its responsibilities under Section 106 of the National Historic Preservation Act and its implementing regulations.

CITY AND COUNTY OF SAN FRANCISCO
MAYOR'S OFFICE OF HOUSING AND COMMUNITY DEVELOPMENT

By: _____ Date: 7-8-14
Olson Lee, Director

CALIFORNIA STATE HISTORIC PRESRVATION OFFICER

By: _____ Date: 7-22-14
Carol Roland-Nawi, Ph.D

SUNNYDALE DEVELOPMENT CO., LLC, A CALIFORNIA LIMITED LIABILITY COMPANY, Concurring Party

By: Mercy Housing California, a California nonprofit public benefit corporation
Its: Member

By: _____ Date: 7/14/14
Name: Doug Shoemaker
Title: President

By: The Related Companies of California, LLC, a California limited liability company
Its: Member

By: _____ Date: 7/10/14
Name: MICHAEL HALPRIN
Title: EVP

APPENDIX TR

Transportation Impact Study

FINAL REPORT

SUNNYDALE-VELASCO
HOUSING DEVELOPMENT TRAFFIC STUDY

Prepared for:
San Francisco Planning Department

Prepared by:



CHS Consulting Group

May 30, 2013

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APPENDICES

Appendix A Project Site Plans
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Appendix E Intersection Level of Service (LOS) Counts
Appendix F Intersection Level of Service (LOS) Definitions
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INTRODUCTION

This report identifies potential transportation impacts of the Sunnydale-Velasco Housing Development Project (Proposed Project). Specifically, the following transportation operations were evaluated in the study:

- Vehicular impacts in terms of intersection level of service (LOS);
- Transit impacts in terms of capacity utilization and transit delay;
- Pedestrian impacts (qualitative);
- Bicycle impacts (qualitative);
- Loading impacts in terms of supply and demand;
- Emergency access impacts;
- Construction impacts; and
- Parking conditions, for information purposes

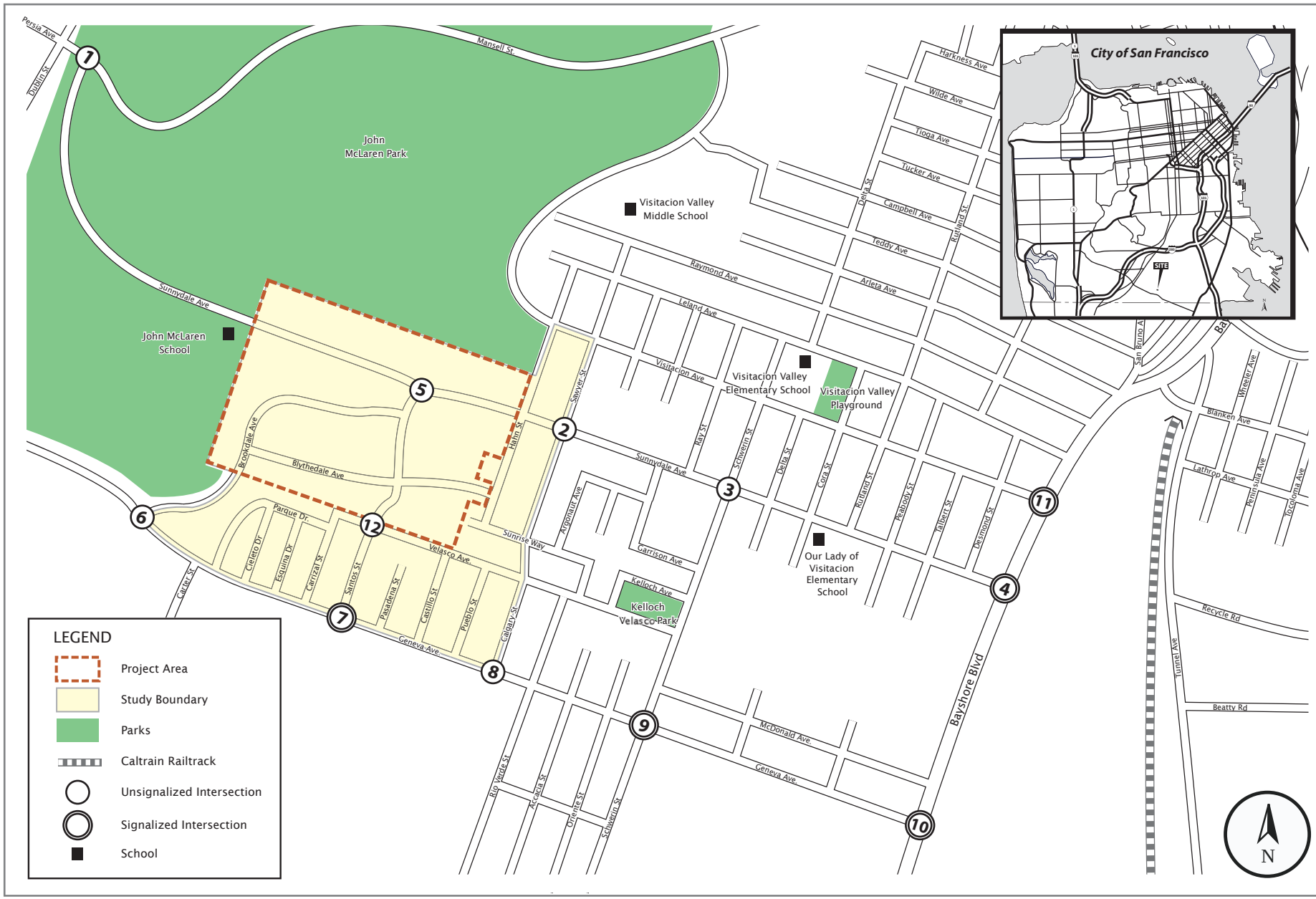
1.1 Project Description

The project site is located on six adjacent lots bounded by Hahn Street to the east, Velasco Street to the south, and McLaren Park to the west and north. The site is approximately 2,127,000 gross square feet (gsf) in size and is located in Superdistrict 3, the southeast region of San Francisco. **Figure 1** presents the location of the project site, study boundary and study intersections. **Figures 2 and 3** illustrate the existing and the proposed site plans for the project, respectively. Detailed project site plans and street cross-sections are included in **Appendix B**.

Within the project site, currently there are 785 affordable public housing units and 29,276 gsf of daycare/community facility which houses two child care programs, a Boys & Girls Club, an after-school program, and San Francisco Housing Authority Office. In addition, there are approximately 430 off-street and 452 on-street parking spaces.

Under the Proposed Project, the project sponsor would replace the existing 785 affordable public housing units with 1,700 new housing units, including 856 "tax credit affordable" units, 694 market-rate units, and 150 senior housing units. As a result, the Proposed Project would create 915 net new housing units on the project site. **Figure 3** presents the site layout for the Proposed Project. Under the Proposed Project, the housing units would be contained in 33 individual residential buildings located throughout the site. A typical residential building would be three stories high and approximately 56,000 square feet in size with the largest residential developments occurring in Block 3 (senior housing building) and Block 6 which would exceed 100,000 square feet of residential use. See **Figure 3** for block locations, and a detailed breakdown of square footage in each block is summarized in **Appendix C**.

The Proposed Project would add 16,200 gsf of neighborhood retail uses and replace the existing 29,276 gsf of daycare/community center with a total of 72,500 gsf of recreation/community spaces. The 16,200 gsf of neighborhood retail uses would be located on the ground floor of the mixed-use senior housing building in Block 3. The senior housing building would contain 65 off-street parking spaces and one off-street loading space that are accessible from Center Street. The 65 parking spaces would be exclusively used by residential units above, and the off-street loading space would be available for both residential and retail uses. It is anticipated that retail customers would use the on-street parking spaces provided in front of the building (approximately 66 parking spaces and three additional loading spaces) along Sunnydale Avenue and Center Street.



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Figure 1
Project and Study Area Boundaries and Analyzed Intersection Locations

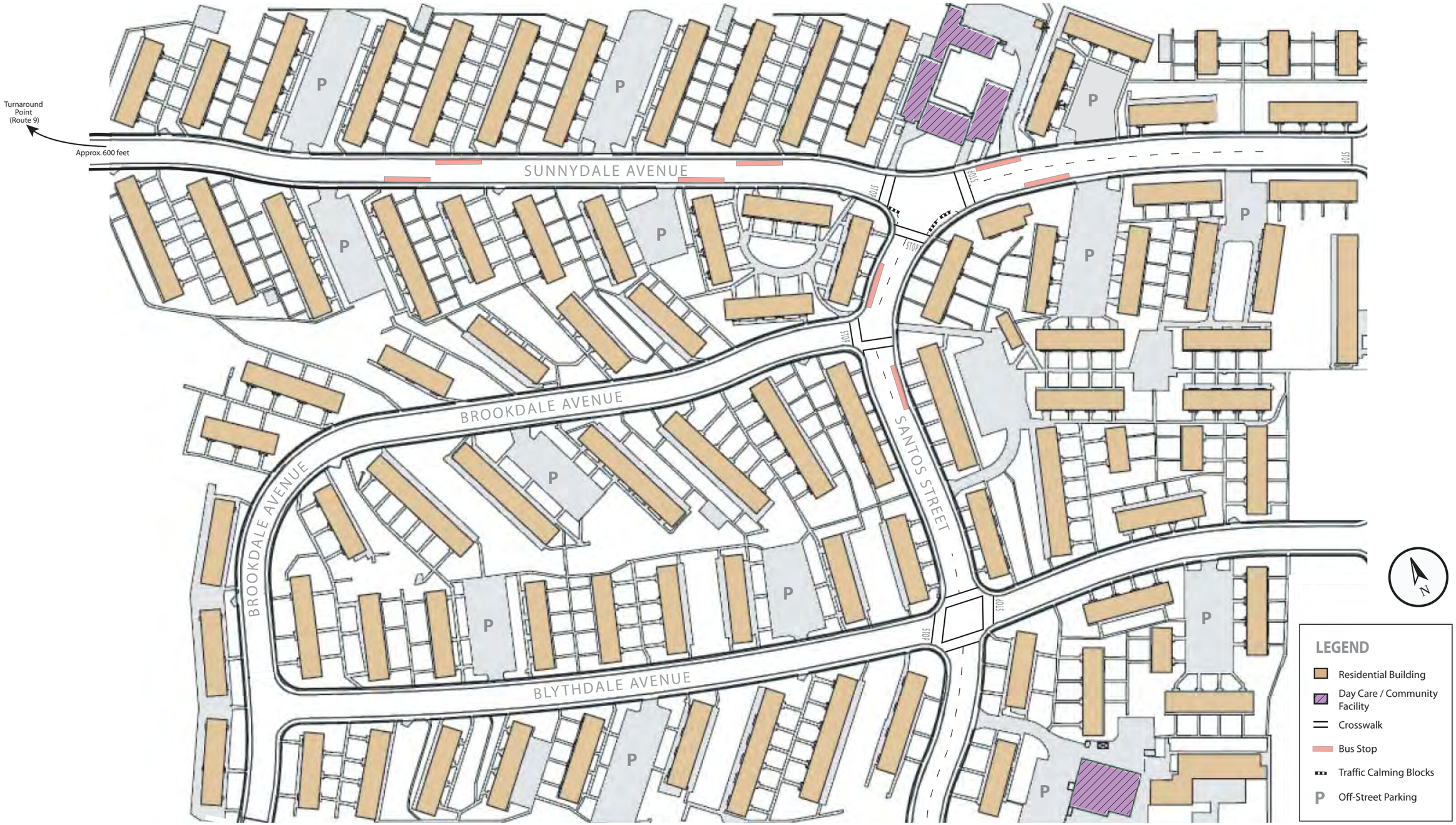


Figure 2
Existing Site Plan

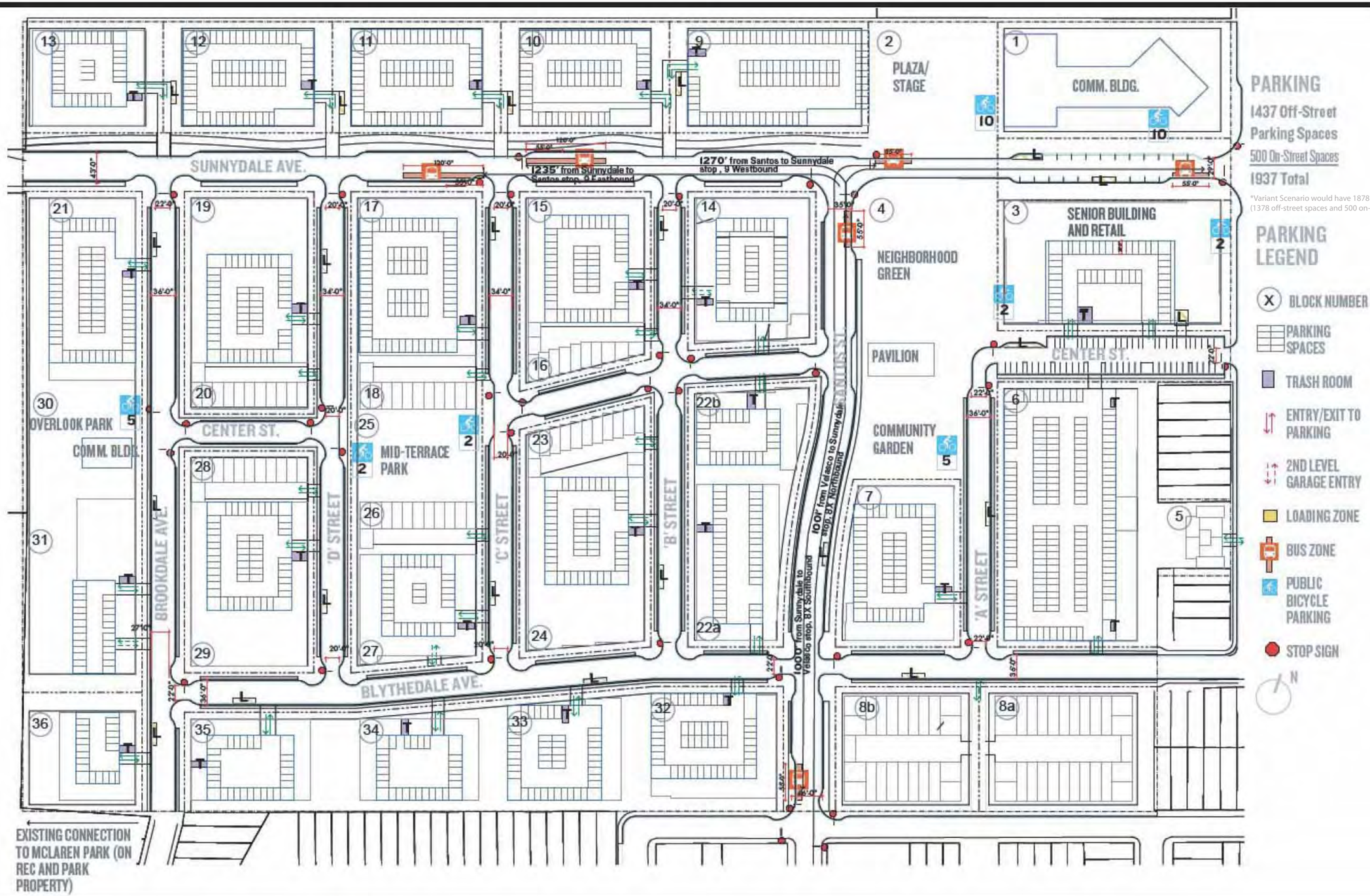


Figure 3
Proposed Project/Variant Scenario Site Plan

Recreation/community uses would be scattered around the site at five different locations. They include a stand-alone community-center building to be located in the northeast corner of the project site in Block 1 (45,000 gsf), a community service space on the ground floor of the mixed-use senior housing building in Block 3 (19,500 gsf), a pavilion next to the Community Garden between Blocks 4 and 5 (5,000 gsf), and a community center building in Overlook Park in Block 30 (3,000 gsf). These recreational/community uses would not have off-street parking spaces; instead on-street parking spaces fronting each site would be used. Loading and passenger pick-up/drop-off activities for these uses would also occur on the street.[1]

In addition, the Proposed Project would provide Greenway and Green Street. The proposed Greenway design would eliminate the vehicle lanes on Center Street between "C" and "D" Streets and create a pedestrian only linear park (Mid-Terrace Park). The proposed Green Streets design would provide seasonal landscapes with bioswales landscaping along with bike paths, neighborhood parks, community gardens, and street-level retail use on project streets. Sunnydale Avenue, Santos Street and Brookdale Avenue would be designated as Green Streets. A new neighborhood open space would be located in the northeastern quadrant of the project site next to the mixed-use senior building for community gatherings and events. South of the neighborhood open space would be a pavilion which provides a potential location for farmer's market, gathering or performance space, and a half acre community garden where residents can grow fresh produce. A hillside pocket park (in Block 25) on Center Street would provide terraces for youth and adult park activities, and an overlook park at the top of the hill (in Block 30) would provide a view of the project site and the Bay.

The Proposed Project would provide 1,437 off-street and 500 on-street parking spaces for a total of 1,937 parking spaces. In addition, a minimum of 438 bicycle parking spaces would be provided both in private garages as required by the planning code and within the public parks and sidewalks as shown in **Figure 3**. Nine car-share parking spaces would be provided behind the senior housing building on Center Street. All off-street residential parking spaces would be provided in the parking garages in residential buildings and parking spaces for the retail and community uses would be provided on the street only. In addition, an off-street loading dock would be provided at the senior housing building which would be accessible from "A" Street (See **Figure 3**). The details of the proposed programs are summarized in **Table 1** below.

[1] Figure 3 illustrates potential on-street loading locations in the project site. Exact locations and the supply of on-street loading spaces would be determined in the future in coordination with the SFMTA.

Table 1 – Proposed Project

Use/ Characteristics[1,2]	Existing	Proposed Project
Residential (gsf)	764,892	2,184,560
Retail (gsf)		16,200
Daycare/Recreation/Community (gsf)	29,276	72,500
Structured Parking (gsf)	-	569,897
Total (gsf)	**794,168**	**2,843,157**
Residential Unit Types (du)	**785**	**1,700**
Market Rate Ownership 2+ Bedrooms (du)	-	309
Market Rate Ownership 1 Bedroom/Studio (du)	-	385
Affordable Rental 2+ Bedrooms (du)	696	772
Affordable Rental 1 Bedroom/Studio (du)	71	84
Senior Housing (du)	18	150
Off-Street Loading Spaces	-	1
On-Street Loading Spaces	-	TBD[3]
Off-Street Parking Spaces	430	1,437
On-Street Parking Spaces	452	500
Bicycle Parking Spaces	0	438[5]

Source: Environmental Evaluation Application, April 17, 2009; Mercy Housing 2010
Notes:
1. gsf indicates gross square foot.
2. du indicates dwelling units.
3. TBD indicates to be determined. Figure 3 illustrates potential on-street loading locations in the project site (16 spaces). The exact location and supply of on-street loading spaces would be determined in the future in coordination with the SFMTA.
4. The Proposed Project would provide the minimum of 438 bicycle parking spaces including 38 public bicycle parking spaces and 400 residential parking spaces.

The Proposed Project would change the existing street layout in the project site. It would realign Sunnydale Avenue, Brookdale Avenue, Blythedale Avenue, and Santos Street, as illustrated in **Figure 4.** Brookdale Avenue would be extended northward to connect to Sunnydale Avenue, and its east-west segment would be replaced by Center Street, which ends at the west side of the proposed Mid-Terrace Park and continues on the east side of the park. Blythedale Avenue would be straightened and extended north via "A" Street to Hahn Street. As a result, five new streets (on Center Street, "A", "B", "C", and "D" Streets[2]) and 12 new additional intersections would be created in the project site. The primary access routes to the project site would remain along Sunnydale Avenue, Santos Street and Brookdale Avenue. The existing traffic calming elements (i.e., curb blocks) at the intersection of Sunnydale Avenue and Santos Street would be removed as part of the street reconfiguration, and new streets would have bulb-outs and stop-signs at all intersections. All streets are proposed as public streets and would be maintained by the City.

The Proposed Project would relocate some of the existing bus stops along Sunnydale Avenue and Santos Street as a result of the new street layout. The changes include the following:

[2] Street names would need to conform to the City system and be approved by the City.

- Consolidate the inbound and outbound bus stops serving Route 9 on Sunnydale Avenue west of Santos Street (two in each direction) to nearside bus stops (one in each direction) at the intersection of Sunnydale Avenue and "C" Street.
- Relocate the inbound far-side bus stop at the intersection of Hahn Street and Sunnydale Avenue, which serves Routes 8X and 8BX, to the nearside southwest corner of the intersection, and install a 55-foot bus bulb-out.
- Relocate the inbound farside bus stop at the intersection of Santos Street and Sunnydale Avenue, which serve Routes 8X and 8BX, to the nearside southeast corner of the intersection, and install a 55-foot bus bulb-out.
- Remove the inbound and outbound bus stops at the intersection of Brookdale Avenue and Santos Street, which currently serve Routes 9, 8X, and 8BX.



Figure 4
Existing and Proposed Street Layout

The route terminus for 9 San Bruno would remain at the same location as the existing condition on Sunnydale Avenue, approximately 600 feet west of the project site within McLaren Park.[3]

The project construction would occur in three primary phases. Each phase of construction would last between three to five years for a total of nine to fifteen years in duration for the entire project. Within each phase, individual buildings will be constructed incrementally, and the new dwellings would be populated as each phase is completed. The current residents would be moved to available residences on the project site as each phase is constructed, or they would be given housing vouchers by the San Francisco Housing Authority for temporary relocation elsewhere during the construction period. **Appendix B** shows a detailed list of the proposed residential unit mix and land uses under each phase.

1.2 Project Variant and Alternatives

In addition to the Proposed Project, the following four options are being considered for this project to comply with the National Environmental Policy Act (NEPA) requirements:

- Variant Scenario – This option would have 62 fewer residential units than the Proposed Project due to different residential unit mixes. There would be more two- and three-bedroom units and fewer one-bedroom units set aside for market rate housing than the number of such units proposed under the project.
- Alternative 1 – This alternative would reduce the number of residential units from 1,700 units in the Proposed Project to 1,372 units under Alternative 1.
- Alternative 2 – This alternative would rebuild the 785 family and senior dwelling units present at the project site under the existing conditions.
- Alternative 3 – This alternative would not involve changes to the project site. The complexes would not be improved and would continue to be operated by the San Francisco Housing Authority (SFHA).

1.2.1 Variant Scenario

The only difference between the Proposed Project and the Variant Scenario would be a different residential unit mix within the project site and associated parking spaces. All other project elements, including the type and location of land uses, number and location of proposed internal blocks, new roadway as well as pedestrian connections, and other planned circulation system modifications within the project site would remain the same.

The Variant Scenario would construct a total of 1,638 new housing units (62 fewer than the Proposed Project), creating 853 net new housing units on the project site. The new housing units would include 856 "tax credit affordable" units, 632 market-rate units and 150 senior housing units. The Variant Scenario would have the mix of neighborhood retail uses (16,200 gsf) and recreation/community spaces (72,500 gsf) as the Proposed Project. The Variant Scenario would provide 1,378 off-street parking spaces, 500 on-street parking spaces, a minimum of 423 bicycle parking spaces, and nine car-share parking spaces. The total number of parking spaces would be 57 fewer than the Proposed Project.

[3] Per request of SFMTA, the terminus of 9 -San Bruno could potentially be relocated to the southwest corner of the Sunnydale Avenue/ Brookdale Avenue intersection; however, the decision has not yet been finalized at this time.

For the Variant Scenario, the roadway network would be the same as the Proposed Project (See **Figure 3**), as discussed above in **Section 1.1**. The details of the programs for the Variant Scenario are summarized in **Table 2**.

Table 2 – Proposed Project and Variant Scenario Programs

Use/ Characteristics[1,2,3]	Existing	Proposed Project	Variant Scenario
Residential (gsf)	764,892	2,184,560	2,184,560
Retail (gsf)		16,200	16,200
Daycare/Recreation/Community (gsf)	29,276	72,500	72,500
Structured Parking (gsf)	-	569,897	569,897
Total (gsf)	**794,168**	**2,843,157**	**2,843,157**
Residential Unit Types (du)	**785**	**1,700**	**1,638**
Market Rate Ownership 2+ Bedrooms (du)	-	309	492
Market Rate Ownership 1 Bedroom/Studio (du)	-	385	140
Affordable Rental 2+ Bedrooms (du)	696	772	772
Affordable Rental 1 Bedroom/Studio (du)	71	84	84
Senior Housing (du)	18	150	150
Off-Street Loading Spaces	-	1	1
On-Street Loading Spaces	-	TBD[4]	TBD[4]
Off-Street Parking Spaces	430	1,437	1,378
On-Street Parking Spaces	452	500	500
Bicycle Parking Spaces	0	438[5]	423[5]

Source: Environmental Evaluation Application, April 17, 2009; Mercy Housing 2013
Notes:
1. gsf indicates gross square feet.
2. du indicates dwelling units.
3. Changes from the Proposed Project to Variant Scenario are shaded.
4. TBD indicates "to be determined." Figure 3 illustrates potential on-street loading locations in the project site (16 spaces). The exact location and supply of on-street loading spaces would be determined in the future in coordination with the SFMTA.
5. The Variant Scenario would provide the minimum of 423 bicycle parking spaces including 38 public bicycle parking spaces and 385 residential parking spaces.

1.2.2 Alternative 1: Reduced Development/Density Alternative

The difference between the Proposed Project and Alternative 1 would be in the number of residential units and associated parking spaces. Alternative 1 would have 328 fewer residential units and 333 fewer parking spaces than the Proposed Project. All other project elements, including the type and location of land uses, number and location of proposed internal blocks, new roadway as well as pedestrian connections, and other planned circulation system modifications within the project site would remain the same.

Under Alternative 1, the project sponsor would replace the existing 785 affordable public housing units with up to 1,372 new housing units, including 702 affordable units, 520 market-rate units, and 150 senior housing units (see **Table 3**). As a result, Alternative 1 would create 587 net new housing units on the project site. The associated parking facilities would be 1,123 parking spaces and 356 bicycle parking spaces for Alternative 1. **Figure 5** presents the site layout for Alternative 1.



STATS

BLOCK GROUP 1
ORIGINAL
150 UNITS

BLOCK GROUP 2
ORIGINAL
291 UNITS
!

BLOCK GROUP 3
MIXED ORIGINAL PODIUM BUILDINGS WITH SURFACE PARKED TOWNHOUSES & STACKED FLATS
514 UNITS
!

BLOCK GROUP 4
FEE SIMPLE TOWNHOUSES W/ MEW FRONT ACCESS MIXED WITH ORIGINAL PODIUM SCHEME
233 UNITS
!

BLOCK GROUP 5
FEE SIMPLE TOWNHOUSES WITH ONE ORIGINAL PODIUM
92 UNITS
!

BLOCK GROUP 6
FEE SIMPLE TOWNHOUSES WITH ONE ORIGINAL PODIUM
92 UNITS

TOTAL 1372 UNITS

AFFORDABLE - 852 UNITS - 62%
MARKET RATE - 520 UNITS - 38%

- ! Mix of affordable building types in center
- ! Mix of building types and affordable/market rate housing at peri meter

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Figure 5
Alternative I Site Plan

For Alternative 1, the roadway network would be the same as the Proposed Project (See **Figure 3**), as discussed above in **Section 1.1**.

Table 3 – Proposed Project, Variant Scenario, and Alternative 1 Programs

Use/ Characteristics[1,2,3]	Existing	Proposed Project	Variant Scenario	Alternative 1
Residential (gsf)	764,892	2,184,560	2,184,560	1,382,898
Retail (gsf)		16,200	16,200	16,200
Daycare/Recreation/Community (gsf)	29,276	72,500	72,500	72,500
Structured Parking (gsf)	-	569,897	569,897	388,092
Total (gsf)	**794,168**	**2,843,157**	**2,843,157**	**1,859,690**
Residential Unit Types (du)	**785**	**1,700**	**1,638**	**1,372**
Market Rate Ownership 2+ Bedrooms (du)	-	309	492	382
Market Rate Ownership 1 Bedroom/Studio (du)	-	385	140	138
Affordable Rental 2+ Bedrooms (du)	696	772	772	590
Affordable Rental 1 Bedroom/Studio (du)	71	84	84	112
Senior Housing (du)	18	150	150	150
Off-Street Loading Spaces	-	1	1	1
On-Street Loading Spaces	-	TBD[4]	TBD[4]	TBD[4]
Off-Street Parking Spaces	430	1,437	1,378	1,123
On-Street Parking Spaces	452	500	500	481
Bicycle Parking Spaces	0	438[5]	423[5]	356[5]

Source: Environmental Evaluation Application, April 17, 2009; Mercy Housing 2013
Notes:
1. gsf indicates gross square foot.
2. du indicates dwelling units.
3. Changes from the Proposed Project to Variant Scenario are shaded.
4. TBD indicates "to be determined." Figure 3 illustrates potential on-street loading locations in the project site (16 spaces). The exact location and supply of on-street loading spaces would be determined in the future in coordination with the SFMTA.
5. Includes 38 public bicycle parking spaces in addition to the residential bicycle parking spaces. The project would provide the minimum of the indicated number of bicycle parking spaces.

1.2.3 Alternative 2: One-for-One Replacement Alternative

Under Alternative 2, all existing housing units at the project site would be replaced in the same locations as today. The site plan and building locations and layouts would not change from the existing conditions. The new buildings would be designed to accommodate 785 family and senior dwelling units. No new community center or retail service would be constructed. All residential units would remain affordable housing, subsidized by SFHA but under management by the developers or related entities. The tenants would be relocated temporarily during the construction period.

For Alternative 2, the street layout and associated parking spaces would remain the same as the current configurations. No improvements to the roadway network would be provided as part of this alternative.

1.2.4 Alternative 3: No Action Alternative

Under Alternative 3, the existing complexes would not be improved. The existing 785 units would remain in the current conditions. All roadways within the project site would remain the same as the

current configuration. No new community center or retail service would be constructed. The site would continue to be operated by SFHA, and no construction activities would occur.

1.3 Study Scope and Approach

Transportation analyses for the Proposed Project, Variant Scenario and Alternatives 1, 2, and 3 were conducted for the following scenarios:

- Existing (Year 2010) Conditions;
- Existing Plus Project (2010) Conditions; and
- Future (Year 2030) Cumulative Conditions

For the Existing Plus Project scenarios, person trip generation for the residential and retail uses were based on trip generation rates provided in the San Francisco Planning Department's *2002 Transportation Impact Analysis Guidelines for Environmental Review (San Francisco Guidelines).* Person trip generation for the proposed recreation/community facility and the credits taken for the trips associated with the existing daycare/community uses were based on the *Institute of Transportation Engineers (ITE) Trip Generation's* trip rate for Recreational Community Center (Land Use 495). Trip distribution and modal split rates for the retail and recreation/community uses were based on the *SF Guidelines*. Trip distribution and modal split rates for the residential use were based on the data obtained from the 2000 US Census for Census Tract 605.02, which is bounded by McLaren Park to the north, Brookdale Avenue to the west, Geneva Avenue to the south, and Hahn and Santos Streets to the east.[4]

The growth in future traffic volumes under the Future Year 2030 scenario was based on the combination of the traffic forecast data obtained from the *Candlestick Point – Hunters Point Shipyard Phase II Development Plan Transportation Study* and the San Francisco County Transportation Authority *(SFCTA)*'s transportation demand forecasting model outputs containing traffic assignments for the PM peak periods for the year 2030. **Appendix C** includes a technical memorandum which describes the methodology used to develop growth rates at the study intersections.

The following 12 intersections were analyzed in terms of intersection LOS during the weekday PM peak period (4:00 p.m. to 6:00 p.m.). The locations of these intersections are presented in **Figure 1**.

1. Sunnydale Avenue/ Persia Street
2. Sunnydale Avenue/ Sawyer Street
3. Sunnydale Avenue/ Schwerin Street
4. Sunnydale Avenue/ Bayshore Boulevard
5. Sunnydale Avenue/ Santos Street
6. Geneva Avenue/ Brookdale Avenue
7. Geneva Avenue/ Santos Street
8. Geneva Avenue/ Calgary Street
9. Geneva Avenue/ Schwerin Street

[4] Census Tract 605.02 encompasses the project site and four adjacent residential blocks located between the project site and Geneva Avenue. Approximately 53 percent of these residents currently drive or carpool to work and 44 percent take transit. Travel behavior of future residents are expected to be similar to those of the existing tenants and the neighboring communities because the transit service would remain unchanged after the project. See **Appendix I** for detailed breakdown of mode splits.

10. Geneva Avenue/ Bayshore Boulevard
11. Visitacion Avenue/ Bayshore Boulevard
12. Velasco Avenue/ Santos Street

For transit impacts, the increase in transit ridership as a result of the Proposed Project, the Variant Scenario, and Alternatives 1, 2, and 3 is estimated to assess the capacity utilization of transit providers and transit operations. In addition, impacts on transit delay due to project-generated traffic are assessed. A qualitative discussion of pedestrian and bicycling conditions, including a description of existing and proposed bicycle lanes and pedestrian improvements, is included. The on-street parking supply and occupancy survey was performed by CHS Consulting Group on Tuesday, August 31, 2010 during the midday (1:30 p.m. to 3:00 p.m.) and evening (6:30 p.m. to 8:00 p.m.) periods. Operations of proposed loading facilities, including garbage storage, are described. Delivery and service vehicle demand was estimated based on the methodology presented in the *San Francisco Guidelines*.

2.0 SETTING

This section describes the existing street network and traffic, transit, parking, pedestrian, and bicycle conditions in the vicinity of the project site. The study area for this report is bounded by Sawyer and Calgary Streets to the east, Geneva Avenue to the south, Brookdale Avenue to the west, and Visitacion Avenue to the north, as presented in **Figure 1**.

2.1 Roadway Description

2.1.1 Local Access

This section presents a discussion of the existing roadway systems in the vicinity of the project site, including roadway designation, number of lanes, and traffic flow directions. The functional designation of these roadways was obtained from the *San Francisco General Plan*.[5] Detailed definitions of the *San Francisco General Plan*'s roadway classification schemes are included in **Appendix D**. It should be noted that as described in **Section 1.1**, the existing street layout within the project site would be reconfigured as part of the Proposed Project, the Variant Scenario, and Alternative 1. These streets include Sunnydale Avenue, Santos Street, Brookdale Avenue and Blythedale Avenue (see **Figure 4**).[6] All streets within the project site would have one traffic lane and one parking lane in each direction of travel.

Bayshore Boulevard is a two-way north-south street which generally parallels U.S. 101, originating in San Francisco and extending to Airport Boulevard in South San Francisco. Bayshore Boulevard is generally a four-lane roadway with two lanes in each direction. The Muni light rail service (T Third line) operates in the median between Hester Avenue and Sunnydale Avenue. Bayshore Boulevard is approximately 100-foot wide and has 13-foot sidewalks in the vicinity of the project area. The *San Francisco General Plan* identifies Bayshore Boulevard as a Major Arterial Street, part of the Metropolitan Transportation System (MTS) and Congestion Management Program (CMP) Networks, and a Transit Preferential Street, and a Neighborhood Commercial Street. Bayshore Boulevard is part of Bicycle Routes 25 and 5. In the vicinity of the project site, the segment south of Sunnydale Avenue is under the jurisdiction of Daly City.

Schwerin Street is a two-way north-south street that extends from Leland Avenue to Linda Vista Drive. Schwerin Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 40 feet wide. In the vicinity of the project site, the segment south of Velasco Avenue is under the jurisdiction of Daly City.

Sawyer Street is a two-way north-south street that extends from Raymond Avenue to Velasco Street. South of Velasco Street, Sawyer Street extends to Geneva Avenue as Calgary Street. Sawyer Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 36 feet wide.

[5] *San Francisco General Plan*, Transportation Element, July 1995.

[6] The existing curvilinear roadway pattern provides few connections to the surrounding neighborhood and within the site. Excessive speed and failure to stop at stop signs are noted on all streets and particularly at the 'Y' intersection of Sunnydale Avenue and Santos Street. The new rectilinear grid pattern and site regrading are expected to provide an accessible path from Sunnydale Avenue to all streets and improved pedestrian and bicycle connections

Calgary Street is a block-long two-way north-south street between Velasco Street and Geneva Avenue. North of Velasco Avenue, Calgary Street extends to Raymond Avenue as Sawyer Street. Calgary Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 34 feet wide.

Hahn Street is a two-way north-south street that extends from Leland Avenue to Sunrise Way. Hahn Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 45 feet wide. The *San Francisco General Plan* identifies Hahn Street as a Transit Preferential Street and a Neighborhood Commercial Street between Sunnydale Avenue and Visitacion Avenue.

Pueblo Street is a block-long two way street between Velasco Avenue and Geneva Avenue. Pueblo Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 35 feet wide.

Castillo Street is a block-long two-way street between Velasco Avenue and Geneva Avenue. Castillo Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 35 feet wide.

Pasadena Street is a two-way street which extends from Geneva Avenue to the cul-de-sac, approximately 435 feet north. Pasadena Street is a two lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 34 feet wide.

Santos Street is a two-way north-south street between Sunnydale Avenue and Geneva Avenue. Santos Street is a two-lane roadway with one lane in each direction and on-street parking on both sides of the street. The street is approximately 40 feet wide. The *San Francisco General Plan* identifies Santos Street as a Transit Preferential Street and a Neighborhood Commercial Street between Geneva Avenue and Sunnydale Avenue.

Carrizal Street is a block-long two-way street between Velasco Avenue and Geneva Avenue. Carrizal Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 35 feet wide including curbside parking.

Esquina Street is a southbound one-way street from Parque Drive to Geneva Avenue. Carrizal Street has one lane and on-street parking on both sides of the street. The street is approximately 25 feet wide.

Cieleto Drive is a northbound one-way residential street from Geneva Avenue to Parque Drive. Cieleto Drive has one lane and on-street parking on both sides of the street. The street is approximately 25 feet wide.

Parque Drive is a south-west bound one-way residential street from Carrizal Street to Geneva Avenue. Parque Drive has one lane and on-street parking on both sides of the street. The street is approximately 25 feet wide.

Brookdale Avenue is a two-way street that extends from Geneva Avenue to Santos Street. Brookdale Avenue is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 33 feet wide including curbside parking.

Geneva Avenue is a major east-west roadway that extends between Phelan Avenue and Bayshore Boulevard. West of Phelan Avenue, Geneva Avenue continues to Highway 1 as Ocean Avenue. East of Bayshore Boulevard, Geneva Avenue is an unpaved dead-end roadway. Geneva Avenue is generally a

four-lane roadway with two lanes in each direction. In the vicinity of the project area, Geneva Avenue is approximately 86-foot wide and has on-street parking on both sides of the street. The *San Francisco General Plan* designates Geneva Avenue as a Major Arterial Street, part of MTS and CMP Networks, and as a Transit Preferential Street and Neighborhood Commercial Street between Phelan Avenue and Santos Street. In the vicinity of the project site, the segment east of Santos Street is under the jurisdiction of Daly City.

Velasco Street is a two-way east-west street between Carrizal Street and Schwerin Street. Velasco Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 34 feet wide.

Sunrise Way is a two-way east-west street between Hahn Street and Sawyer Street which forms cul-de-sacs at both ends of the street. Sunrise Street is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 36 feet wide.

Blythedale Avenue is a two-way east-west street between Brookdale Avenue and Hahn Street. Blythedale Avenue is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 35 feet wide including curbside parking.

Sunnydale Avenue is a two-way east-west street between Persia Avenue and Bayshore Boulevard. East of Bayshore Boulevard, Sunnydale Avenue continues approximately 260 feet to a dead-end. Sunnydale Avenue is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 36 feet wide including curbside parking. Currently, there are concrete blocks installed in the southwest and southeast corners of the stop-controlled 'Y' intersection with Santos Street for traffic calming purposes. The *San Francisco General Plan* identifies Sunnydale Avenue as a Transit Preferential Street and a Neighborhood Commercial Street between Santos Street and Hahn Street.

Visitacion Avenue is a two-way street between Mansell Street and Bayshore Boulevard. Visitacion Avenue runs in the north-south direction between Mansell Street and Hahn Street and in the east-west direction between Hahn Street and Bayshore Boulevard. Visitacion Avenue is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 38 feet wide. The *San Francisco General Plan* designates Visitacion Avenue as a Transit Preferential Street and Neighborhood Commercial Street between Hahn Street and Bayshore Boulevard.

Persia Avenue is a two-way east-west street between Sunnydale Avenue and Ocean Avenue. Persia Avenue is a two-lane roadway with one lane in each direction and has on-street parking on both sides of the street. The street is approximately 36 feet wide.

2.1.2 Regional Access

Two freeways serve the study area: U.S. Highway 101 and Interstate 280. These are all limited access, divided facilities. A description of each facility is provided below.

U.S. Highway 101 (U.S. 101) is a north-south freeway spanning much of the length of California. It extends north across the Golden Gate Bridge to Marin County and the Pacific Northwest. It extends south to San Jose and Los Angeles. It is primarily an eight-lane freeway south of Interstate 80 and along the Peninsula. Access to the project site from the U.S. southbound is provided via an off-ramp at Bayshore Boulevard located approximately 1.5 miles east of the project site, and the access from U.S. 101 northbound is provided via an off-ramp at Lagoon Road located approximately 3 miles southeast of the

project site. Access from the project site to U.S. 101 northbound is provided via an on-ramp off of Bayshore Boulevard, and the access to the U.S. 101 southbound is provided via an on-ramp off of Lagoon Road.

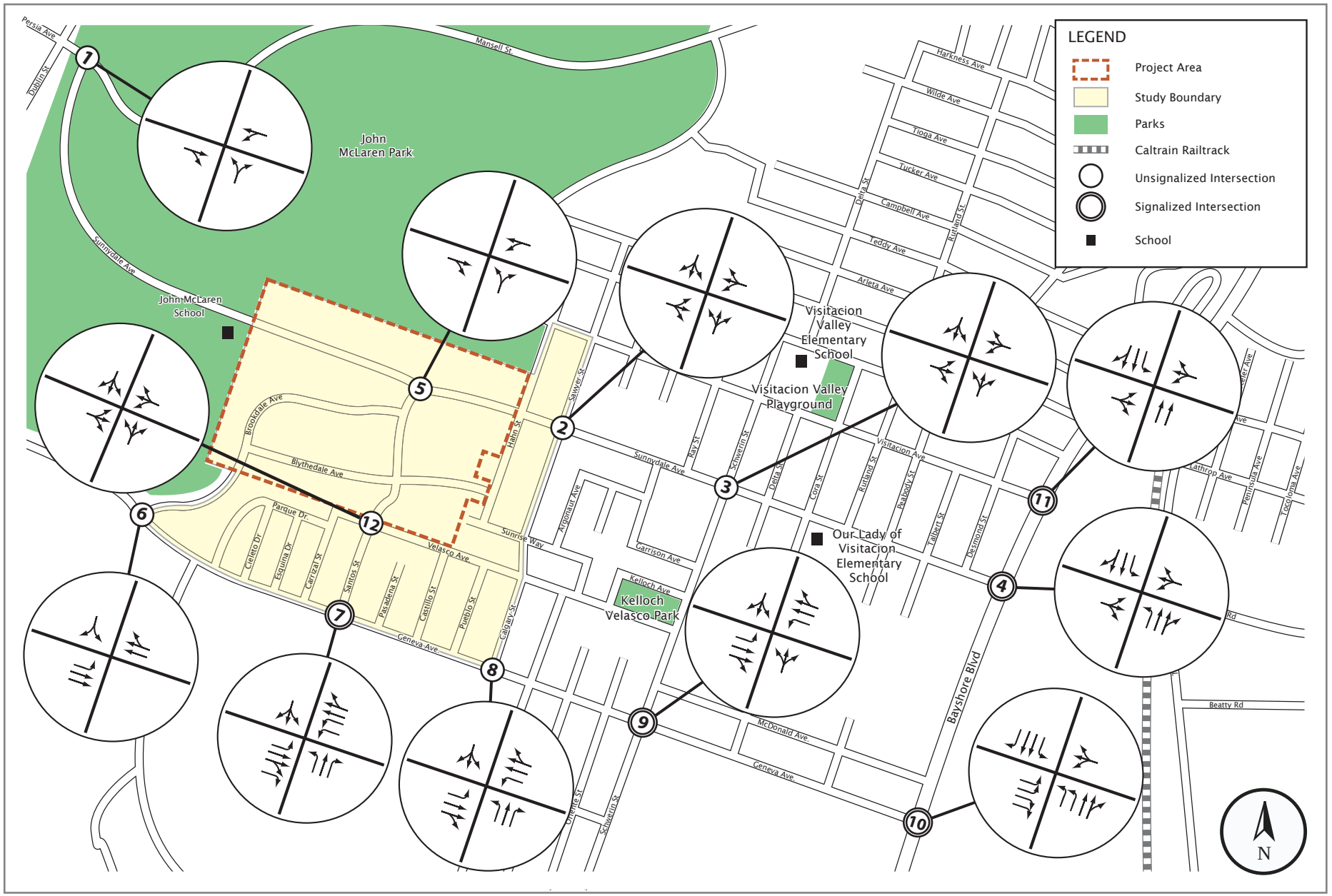
Interstate 280 (I-280) is a north-south freeway that extends between San Francisco and San Jose. In the vicinity of the project area, it is an eight-lane freeway with four lanes in each direction. Access from and to the I-280 northbound and southbound are provided via on- and off-ramps at Geneva Avenue located approximately 2 miles west of the project site.

2.2 Intersection Levels of Service

Existing traffic conditions were evaluated for the peak-hour within the weekday PM peak period (4:00 p.m. to 6:00 p.m.). Peak-hours for each intersection differ from each other. Intersection LOS for each intersection was analyzed for a 60-minute period when the highest traffic volume was recorded at each intersection during the PM peak period. For example, the intersection LOS for Sunnydale Avenue and Santos Street was analyzed for a 60-minute period between 4:15 p.m. and 5:15 p.m., whereas the intersection LOS for Sunnydale Avenue and Schwerin Street, Sunnydale Avenue and Bayshore Boulevard, and Visitacion Avenue and Bayshore Boulevard were analyzed between 4:45 p.m. and 5:45 p.m. All the other intersections were analyzed between 5:00 p.m. and 6:00 p.m. Traffic counts for all the study intersections were conducted on Tuesday, August 31, 2010 during the PM peak period (4:00 p.m. to 6:00 p.m.). The intersection turning movement counts are included in **Appendix E**. **Figures 6 and 7** show the existing lane configuration and turning movements for the study intersections, respectively.

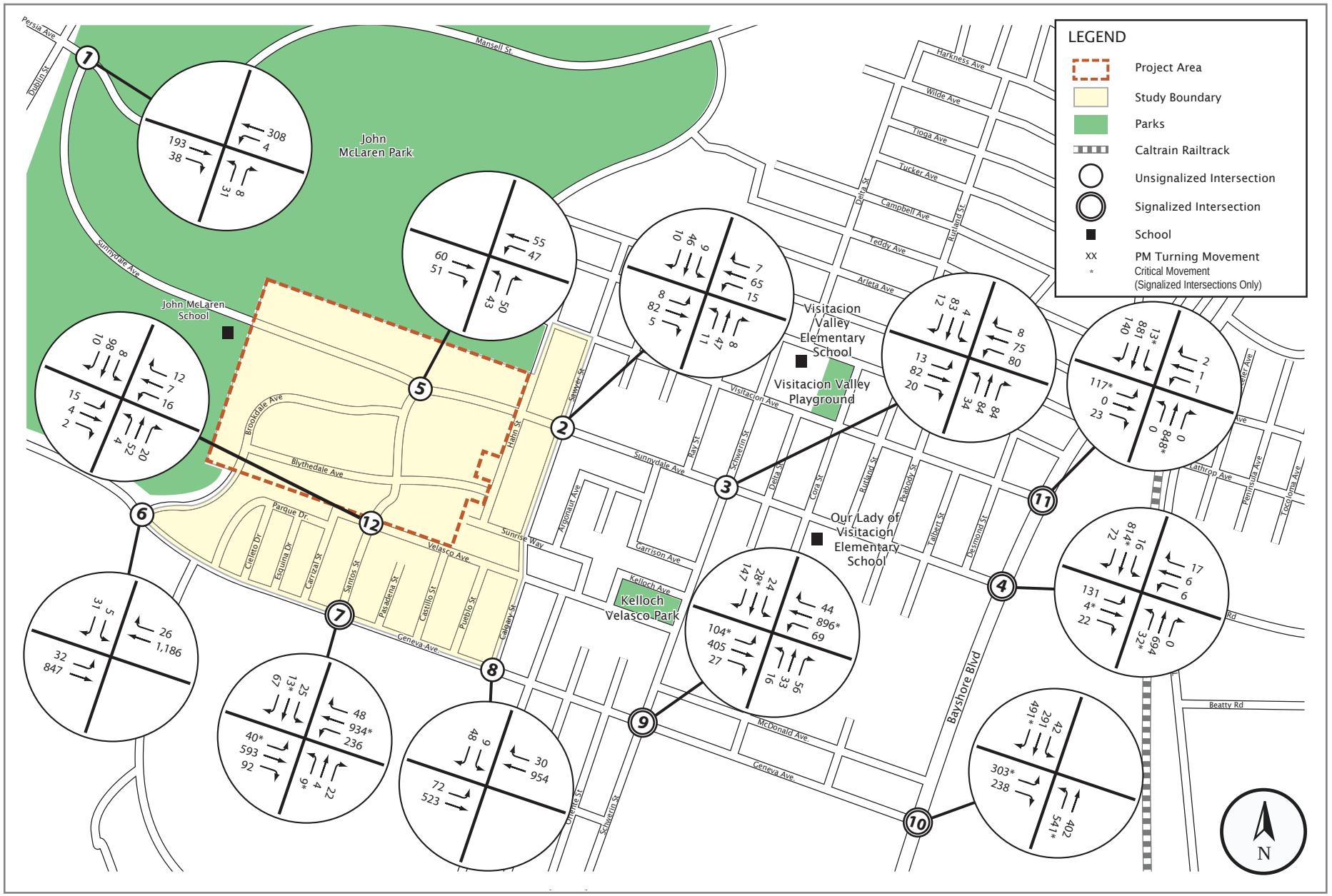
Traffic operating characteristics of intersections are described by the concept of level of service (LOS). LOS is a qualitative description of an intersection's performance based on the average delay per vehicle. Intersection LOS ranges from A, which indicates free flow or excellent conditions with short delays, to F, which indicates congested or overloaded conditions with extremely long delays. LOS A, B, C, and D are considered excellent to satisfactory service levels, while LOS E is undesirable and LOS F is unacceptable. A project resulting in LOS E or F is considered to have a significant adverse impact. **Appendix F** presents the LOS descriptions for signalized and unsignalized intersections.

The intersections were evaluated using the *2000 Highway Capacity Manual* operations methodology. This method determines the capacity for each lane group approaching the intersection. LOS is then based on the average stopped delay per vehicle (seconds per vehicle) for the various movements within the intersection. **Table 4** presents the LOS and delay data for the study intersections under the existing conditions. It shows that all of the study intersections currently operate satisfactorily at LOS C or better.



CHS Consulting Group

Figure 6
Existing Lane (2010) Configuration



Sunnydale-Velasco HOPE SF Administrative Draft EIR/EIS

CHS Consulting Group

Figure 7
Existing (2010) Intersection PM Peak-Hour Turning Movement Volumes

Table 4 – Intersection Level of Service: Existing Weekday PM Peak-Hour

Intersection	Type[1,2]	Existing (2010)	
		Delay	LOS[3]
1 Sunnydale Avenue/ Persia Street	TWSC	13.2	B (Northbound)
2 Sunnydale Avenue/ Sawyer Street	FWSC	8.2	A (Eastbound)
3 Sunnydale Avenue/ Schwerin Street	FWSC	9.9	A (Westbound)
4 Sunnydale Avenue/ Bayshore Boulevard	Signalized	20.2	C
5 Sunnydale Avenue/ Santos Street	FWSC	8.3	A (Westbound)
6 Geneva Avenue/ Brookdale Avenue	TWSC	21.9	C (Southbound)
7 Geneva Avenue/ Santos Street	Signalized	19.9	B
8 Geneva Avenue/ Calgary Street	TWSC	22.3	C (Southbound)
9 Geneva Avenue/ Schwerin Street	Signalized	16.6	B
10 Geneva Avenue/ Bayshore Boulevard	Signalized	23.2	C
11 Visitacion Avenue/ Bayshore Boulevard	Signalized	14.0	B
12 Velasco Avenue/ Santos Street	FWSC	7.9	A (Southbound)

Source: CHS Consulting Group, 2010
Notes:
1. TWSC indicates a two-way stop-controlled intersection; delay is presented as the worst approach delay.
2. FWSC indicates a four-way stop-controlled intersection; delay is presented as the worst approach delay.
3. Worst approach is indicated in parenthesis.

2.2.1 Roadway Improvement Projects

SFCTA, in partnership with several government agencies from the City and County of San Francisco and the County of San Mateo, is undertaking a Bi-County Transportation Study (the Bi-County Study) to assess transportation impacts and transportation infrastructure improvements needed to accommodate the proposed land uses in the vicinity of the San Francisco-San Mateo County border. A key recommendation of the Bi-County Study is the extension of Geneva Avenue from the intersection of Geneva Avenue and Bayshore Boulevard to U.S. 101 with a connection to Harney Way and improvements to U.S. 101 interchange at Harney Way which is under the jurisdiction of the City of Brisbane. This improvement is further discussed in **Section 5.1** Future Cumulative conditions.

2.3 Transit Network

This section describes the existing transit network in the study area. Primary public transit service to the study area is provided by the San Francisco Municipal Railway (Muni). In addition, the San Mateo County Transit District (SamTrans) and Caltrain provide a bus and a heavy rail service in the area, respectively. These transit services are illustrated in **Figure 8**.

2.3.1 San Francisco Municipal Railway

Muni operates buses, cable cars, and light rail services within the City and County of San Francisco. There are four Muni bus routes that traverse the project site and one light rail service which has a stop approximately 0.8 mile east of the project site and can be accessed via bus (Routes 8X, 8BX, and 56) or walking. These routes are listed in **Table 5**.

Table 5 – Muni Routes Serving the Study Area

Route[1]	Direction	Headway (min)		Nearest Stop Location	Distance[2,3]
		AM	PM		
9 San Bruno	Inbound	12	12	Sunnydale Ave/ Santos St	280 ft
	Outbound	12	12	Sunnydale Ave/ Santos St	280 ft
8X Bayshore Express	Inbound	-	8	Sunnydale Ave/ Santos St	280 ft
	Outbound	8	-	Sunnydale Ave/ Santos St	280 ft
8BX Bayshore "B" Express	Inbound	8	-	Sunnydale Ave/ Santos St	280 ft
	Outbound	-	8	Sunnydale Ave/ Santos St	280 ft
56 Rutland	Inbound	30	30	Visitacion Ave/ Sawyer St	1,500 ft
	Outbound	30	30	Sunnydale Ave/ Hahn St	980 ft
T Third	Inbound	10	9	Sunnydale Ave/ Bayshore Blvd	0.8 mi
	Outbound	10	9	Sunnydale Ave/ Bayshore Blvd	0.8 mi

Source: SFMTA, 2010
Note:
1. Routes 9L and 8AX are shown in Figure 7 but are not included in the analysis because these lines do not serve the study area directly.
2. Distance to bus stop is measured from the intersection of Brookdale Avenue and Sunnydale Avenue.
3. ft indicates feet, and mi indicates mile.

In the descriptions of each line below, the Muni daily boarding data were obtained from the counts collected for the Muni Transit Effectiveness Project (TEP) data.[7]

9 San Bruno connects downtown San Francisco and the Visitacion Valley area via Bayshore Boulevard, Potrero Avenue, 11th Street, and Market Street. The outbound service terminates west of John McLaren School. Service is provided from 6:00 a.m. to 12:00 p.m. operating at 12-minute headways throughout the day. This line has a daily boarding of 15,059 passengers, of which approximately 541 passengers board within the study area. During the PM peak hour, the maximum passenger load within

[7] http://www.sfmta.com/cms/rtep/tepdataindx.htm, accessed September 27, 2010.



Figure 8
Existing Public Transit Network

the study area is approximately 98 passengers in the inbound direction and 8 passengers in the outbound direction.

8X Bayshore Express connects the downtown San Francisco, Fisherman's Wharf, and the City College via Visitacion Valley. During the commute hours, 8X operates in reverse-commute direction. The inbound service is provided from 5:00 a.m. to 7:00 a.m. and from 9:00 a.m. to 12:30 a.m., and the outbound service is provided from 5:30 a.m. to 4:30 p.m. and from 8:00 p.m. to 12:30 a.m. The inbound service operates at 8-minute headway during the PM peak hour, and the outbound service operates at 8-minute headway during the AM peak hour. This line has a daily boarding of 19,983 passengers, of which approximately 1,736 passengers board within the study area. During the PM peak hour, the maximum passenger load within the study area is approximately 410 passengers.

8BX Bayshore "B" Express connects the downtown San Francisco and the Visitacion Valley area. 8BX operates in peak-direction during peak hours only. The inbound service is provided from 6:30 a.m. to 9:00 a.m. at 8-minute headway, and the outbound service is provided from 3:30 a.m. to 6:45 p.m. at 8-minute headway. This line has a daily boarding of 3,985 passengers, of which approximately 410 passengers board within the study area. During the PM peak hour, the maximum passenger load within the study area is approximately 213 passengers.

56 Rutland is a community route that serves the Visitacion Valley area. This route operates between Thomas Mellon Drive and Executive Park Boulevard, and Visitacion Valley Middle School via Blanken Street, Bayshore Boulevard, Wilde, Rutland, Raymond, and Visitacion Avenue. This line has a daily boarding of 218 passengers, of which approximately 21 passengers board within the study area. During the PM peak hour, the maximum passenger load within the study area is approximately 4 to 7 passengers.

T Third is a light rail service that provides service to the downtown San Francisco and the 3rd Street commercial corridor. It operates along Bayshore Boulevard and terminates at the intersection of Bayshore Boulevard and Sunnydale Avenue, approximately 0.8 mile east of the project site. The service is provided from 4:45 a.m. to 12:00 a.m. at 9- to 10-minute headways throughout the day. This line has a daily boarding of 32,746 passengers, of which approximately 1,013 passengers board at the Sunnydale Station. During the PM peak hour, the maximum passenger load at the Sunnydale Station is approximately 34 passengers.

Capacity Utilization by Line

Load factor, defined as the number of passengers on board a transit vehicle relative to the total capacity, is used to determine capacity utilization of a transit line. Muni Short-Range Transit Plan defines a maximum capacity as the total number of passengers allowed including the number of seats and a set number of standees for each vehicle type. Muni also has a policy that its vehicles should operate at 85 percent or less of the load factor at the maximum load point (MLP) during the peak period. The ridership data for this analysis was obtained from the TEP data. **Table 6** presents the AM and PM peak-hour ridership and the capacity utilization at MLP for each line. As shown, T Third light rail has a load at the MLP that exceeds Muni's standard of 85 percent capacity utilization during the AM and PM peak hours, and all others operate below the 85 percent standard during the AM and PM peak-hours.

Table 6 – Muni Route Capacity Utilization: Existing Weekday AM and PM Peak-Hours

Route[1]	Direction	Vehicle Type[2]	Peak-Hour	Peak Passenger Load at MLP[3]	Peak Hour Capacity	Capacity Utili-zation[4]	Maximum Load Point (MLP)
AM Peak-Hour							
9 San Bruno	Inbound	MCA	7-8	225	318	71%	Bayshore Ave/ Silver Ave
	Outbound	MCA	7-8	175	318	55%	11th St / Howard St
8X Bayshore Express[1]	Inbound	MCA	N/A	N/A	N/A	N/A	N/A
	Outbound	MCA	8-9	504	753	67%	Geneva Ave/ Cayuga Ave
8BX Bayshore "B" Express[1]	Inbound	MCA	7-8	488	706	69%	Kearny St/ Bush St
	Outbound	MCA	N/A	N/A	N/A	N/A	N/A
56 Rutland	Inbound	MCS	7-8	5	90	6%	Visitacion Valley M.S
	Outbound	MCS	8-9	11	90	12%	Sawyer St/ Visitacion Ave
T Third	Inbound	MCS	7-8	696	714	97%	Church St Station
	Outbound	MCS	7-8	525	833	63%	Third St/Hudson Ave
PM Peak-Hour							
9 San Bruno	Inbound	MCA	3-4	180	318	57%	Potrero Ave/ 18th St
	Outbound	MCA	4-5	215	318	68%	Potrero Ave/ 16th St
8X Bayshore Express[1]	Inbound	MCA	4-5	408	753	54%	Geneva Ave/ Delano Ave
	Outbound	MCA	N/A	N/A	N/A	N/A	N/A
8BX Bayshore "B" Express[1]	Inbound	MCA	N/A	N/A	N/A	N/A	N/A
	Outbound	MCA	4-5	568	753	75%	Stockton St/ Sacramento St
56 Rutland	Inbound	MCS	3-4	11	90	12%	Visitacion Valley M.S
	Outbound	MCS	4-5	12	90	13%	San Bruno Ave/ Arleta Ave
T Third	Inbound	MCS	5-6	554	714	78%	Embarcadero/ Folsom St
	Outbound	MCS	5-6	750	833	90%	Van Ness St Station

Source: SFMTA TEP, 2008, 2011; CHS Consulting Group, 2011

Notes:

1. Peak passenger load and the carrying capacity for Routes 9, 8X and 8BX are obtained from data collected in August and September, 2011, provided by SFMTA via memo on January 5, 2012.
2. MCA indicates Motor Coach Articulated; MCS indicates Motor Coach Small; LRV indicates Light Rail Vehicle.
3. Ridership and number of buses during the peak hour of PM peak period are obtained from Muni TEP data, 2008.
4. Capacity utilization above Muni's 85 percent standard is noted in shade.

Capacity Utilization by Direction

Transit riders typically have multiple transit options to reach the project site and will choose a route based on several factors including reliability, headways, travel time, type of transit, comfort and convenience. Based on this understanding, four screenlines (i.e., Northeast, Northwest, Southeast, and Southwest) have been established to evaluate Muni operations into and out of the greater Downtown area, roughly corresponding to Superdistricts 1, 2, 3, and 4, respectively. **Appendix G** presents the location of each downtown screenline. Among the four screenlines, the majority of the project trips are expected to cross the Southeast screenline. The existing capacity utilization for each screenline is summarized in **Table 7**. All screenlines currently operate below Muni's 85 percent standard during the weekday AM and PM peak hours, with the southwest screenline being the most crowded.

Table 7 – Muni Screenline Capacity Utilization: Existing Weekday AM and PM Peak-Hours

	Ridership		Capacity		Utilization	
Screenline	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Northeast	1,882	1,886	3,781	3,599	50%	52%
Northwest	7,434	6,621	11,437	10,123	65%	65%
Southeast	4,248	4,688	6,301	7,028	67%	66%
Southwest	6,627	7,434	8,699	9,623	76%	77%
Total	20,191	20,609	30,218	30,373	67%	68%

Source: SFMTA, 2008; AECOM, 2009.

Muni Transit Effectiveness Project

The San Francisco Municipal Transportation Agency (SFMTA) and the City of San Francisco Controller's Office are in the process of implementing the Transit Effectiveness Project (TEP), a review of the City's public transit system with recommendations designed to make Muni service more reliable, quicker and more frequent. SFMTA recently published a TEP Implementation Strategy (April 5, 2011). The TEP Implementation Strategy anticipates that many of the service improvements would be implemented sometime between the end of Fiscal Year (FY) 2013 and FY 2015 and that the remainder of the service improvements would occur in FY 2016.[8] The TEP proposed the following potential changes to transit lines within the study area:

9 San Bruno

- Travel time reduction proposal (TTRP) improvements[9] along Silver Avenue, San Bruno Avenue, 11th Street, Potrero Avenue, and Bayshore Boulevard would improve travel time and reliability for customers and contribute to increasing the operating speed of the network. These improvements would include transit signal priority or optimized signal timing, stop spacing optimization, bus bulbs, dedicated transit lane, ticket vending machines, all door boarding, and customer amenities.
- Would make all local stops from 24th Street to downtown

8X Bayshore Express

- TTRP improvements along Stockton Street, Kearny Street, San Bruno Avenue, Silver Street, and Geneva Avenue would improve travel time and reliability for customers and contribute to increasing the operating speed of the network. These improvements would include transit signal priority or optimized signal timing, stop spacing optimization, bus bulbs, dedicated transit lane, ticket vending machines, all door boarding, and customer amenities.
- More frequent service would shorten wait times and reduce crowding
- Revised freeway access would provide stronger connection with 44-line at Silver Street and improve northbound travel time (southbound travel time would be slightly longer)
- Segment north of Broadway would be eliminated and be replaced by 11 - Downtown Connector.

8BX Bayshore "A" Express

- TTRP improvements along Stockton Street, Kearny Street, San Bruno Avenue, Silver Street, and Geneva Avenue would improve travel time and reliability for customers and contribute to increasing the operating speed of the network. These improvements would include transit signal

[8] SFMTA, Draft Transit Effectiveness Project Implementation Strategy, April 5, 2011, page 3-5.
[9] TTRP improvements include traffic engineering changes, stop spacing optimization and customer amenity improvements along corridor segments of the TEP-recommended rapid route network.

priority or optimized signal timing, stop spacing optimization, bus bulbs, dedicated transit lane, ticket vending machines, all door boarding, and customer amenities.
- Revised freeway access would provide stronger connection with 44-line at Silver Street and improve northbound travel time (southbound travel time would be slightly longer)
- Segment north of Broadway would be eliminated and be replaced by 11-Downtown Connector

56 Rutland
- Recommended for van service to better match passenger loads and road geometry
- Route shortened to enable improved frequencies from 30 minutes to 20 minutes
- Segment in Executive Park and along Visitacion Avenue would be discontinued
- Would run on Leland Street, rather than Sunnydale Avenue between Sawyer Street and Bayshore Boulevard

2.3.2 Regional Transit System

While the local transit service to and from the project site is provided by Muni bus routes, these services can be used to access regional transit operators including the San Mateo County Transit District (SamTrans), Bay Area Rapid Transit (BART) and Caltrain.

San Mateo County Transit District (SamTrans) provides bus service within San Mateo County, as well as between San Mateo County and parts of San Francisco and Palo Alto. SamTrans operates one bus route in the vicinity of the project site. Route 24 connects Daly City and Brisbane via Geneva Avenue and Bayshore Boulevard (south of Geneva Avenue). The nearest bus stop is located at the intersection of Geneva Avenue and Santos Street, one block south from the southern border of the project site. Service is provided twice a day, each in the AM and PM peak periods.

The Bay Area Rapid Transit District (BART) operates regional rail transit service between the East Bay (from Pittsburg/Bay Point, Richmond, Dublin/Pleasanton, and Fremont) and San Francisco, and between northern San Mateo County (Daly City and Colma) and San Francisco. During the PM peak period, headways are generally 5 to 15 minutes for each line. The closest station is the Balboa Park Station on Geneva Avenue, located approximately two miles west from the project site. Connection to the BART station from the project site is provided by Muni bus routes 8X and 8BX. BART has a daily boarding of 338,800 passengers system wide, of which approximately 12,000 use the Balboa Park Station.[10]

Caltrain provides rail passenger service on the Peninsula between Gilroy and San Francisco. The Peninsula Corridor Joint Powers Board (JPB), a joint powers agency consisting of San Francisco, San Mateo, and Santa Clara Counties, operates the service. The closest station is Bayshore Station located on Tunnel Avenue approximately one mile east of the project site. Caltrain currently operates local train service to the Bayshore Station at approximately 1-hour headway during the AM and PM peak periods. There is a limited local transit connection from the project site to the Bayshore Station. The closest local transit stop to the station is served by Muni bus route 56-Rutland at the intersection of Blanken Street and Tunnel Street, approximately 900 feet north of the station. Caltrain has a daily boarding of 36,800 passengers system wide, of which 140 passengers use the Bayshore Station.[11] It should be noted that in response to a fiscal emergency, service is proposed to be suspended at the Bayshore Caltrain Station.

[10] BART Monthly Ridership Report for August, 2010 (http://www.bart.gov/about/reports/ridership.aspx), accessed September 28, 2010.
[11] Caltrain Annual Passenger Counts for February, 2010 (http://www.caltrain.com/about/statsandreports/Ridership.html), accessed September 28, 2010.

Regional Screenline Analysis

Three screenlines (East Bay, North Bay, and South Bay) have been established to evaluate regional transit operations into and out of San Francisco. The East Bay screenline is operated by BART, AC Transit and ferries (i.e., Alameda/Oakland ferry, Harbor Bay ferry, Vallejo Baylink), the North Bay screenline is operated by Golden Gate Transit Bus and ferries (i.e., Golden Gate ferry, Tiburon ferry), and the South Bay screenline is operated by BART, Caltrain, and SamTrans. **Appendix G** shows the location of each regional screenline. The resulting regional peak hour screenline operations are summarized in **Table 8**. It shows that regional transit service between San Francisco and East Bay currently operates above 100 percent of its seated capacity. This would be under the BART's one-hour capacity utilization standard of 135 percent and above the utilization standard of 100 percent for the rest of transit operators serving the East Bay.

Table 8 – Regional Screenline Capacity Utilization: Existing Weekday AM and PM Peak-hours

	Ridership		Capacity		Utilization	
Screenline (Transit Operator)	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
East Bay (BART, AC Transit, Ferries)	20,401	20,204	18,944	19,852	108%	102%
North Bay (Golden Gate Transit Bus, Ferries)	2,459	2,303	4,355	3,905	56%	59%
South Bay (BART, Caltrain, SamTrans)	13,999	12,106	14,950	14,550	94%	83%

Source: SFMTA, 2008; AECOM, 2009.

2.3.3 Transit Improvement Projects

There are several transit improvement projects planned in the vicinity of the project site, as described below.

Relocation of Bayshore Station – As part of the Bi-County Study, SFCTA is evaluating the potential of relocating all or portions of the Bayshore Station to connect with Muni's proposed light rail and bus rapid transit near the intersection of Tunnel Road and Geneva Avenue. The project is currently undergoing a Feasibility Study.

T Third Extension – The Muni T Third light rail service, which connects the Visitacion Valley to downtown San Francisco, currently terminates at the intersection of Bayshore Boulevard and Sunnydale Avenue. Muni has a plan to extend the T Third to the east of Bayshore Boulevard with a new terminus adjacent to the current Caltrain Bayshore Station. The project is currently undergoing a Feasibility Study and will be implemented in conjunction with the Bayshore Station relocation project.

Geneva Avenue BRT – Muni is planning for the development of a new Bus Rapid Transit (BRT) line that will provide a transit connection in the east-west direction between the Balboa BART Station and the proposed developments in the Hunters Point Shipyard and Candlestick Point. The proposed BRT will primarily travel along the existing Geneva Avenue and extends eastward to Harney Way on the east side of U.S. 101. The project will be implemented as part of the Candlestick Point – Shipyard Point Phase II Development Plan.

Muni Express and Local Buses – Muni currently operates several local bus lines (e.g., 8X, 8BX, 9, 56) along Bayshore Boulevard. These bus lines would be rerouted in the future to connect with the future Bayshore Intermodal Station; however, no rerouting plan is currently available.

2.4 Pedestrian Conditions

Sidewalks are generally six to nine feet in width, and all streets within the study area have sidewalks. Field observation shows that pedestrian traffic in the study area is generally light to moderate and is easily accommodated by the sidewalks and crosswalks in the area. Pedestrian traffic mainly occurred near the intersection of Hahn Street and Sunnydale Avenue where bus stops and a neighborhood grocery store are located. Although there are crosswalks in the majority of intersections, pedestrians were often observed to be jaywalking or crossing the intersection diagonally instead of using crosswalks when traffic volumes are low. According to the SFMTA's Traffic Collision History Report for the past 10 years, a pedestrian was injured in an accident at the intersection of Geneva and Brookdale Avenues in September, 2011. The collision occurred due to the right-of-way violation by the pedestrian.

Pedestrian volume in the vicinity of John McLaren School, located immediately west of the northwestern project border, was relatively low during the day. The majority of students were either picked up or dropped off by their parents, or they took a school bus. The pick-up and drop-off activities occurred at the on-street white passenger loading zone in front of the school. Overall, no significant school children traffic was observed in the vicinity of the school or in the study area.

2.5 Bicycle Conditions

On-street bicycle facilities include city-designated routes that are part of the San Francisco Bicycle Network. These on-street bicycle facilities are grouped into three categories:

- Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists or pedestrians;
- Class II bikeways are bike lanes striped within the paved areas of roadways and established for the preferential use of bicycles; and
- Class III bikeways are signed bike routes that allow bicycles to share travel lanes with vehicles**.**

Currently, there are no designated bicycle routes or lanes adjoining the project site. The closest routes are Route 90 on Geneva Avenue and Route 5 on Bayshore Boulevard. They are presented in **Figure 9** and are described below. During the field surveys on weekday and weekend midday periods, bicycle volumes were observed to be generally low in the vicinity of the study area. There is no bicycle parking available in the project site, thus the existing tenants often stored their bicycles in the front or back porch of their units.

Route 5 connects Visitacion Valley and North Beach, primarily as a Class III facility along Bayshore Boulevard, Third Street, and Illinois Street, and as a Class II facility along the Embarcadero and San Bruno Avenue. In the vicinity of the project, there are Class II bike lanes on southbound Bayshore Boulevard and Class III bike routes south of Geneva Avenue where bicyclists share the road with vehicles.

Route 25 connects Visitacion Valley and Russian Hill as a Class II or Class III facility. In the vicinity of the project site, Route 25 runs as a Class III facility along San Bruno Avenue between Mansell and Campbell Avenues and as a Class II facility between Campbell and Tunnel Avenues.

Route 90 is an east-west bikeway which connects between San Francisco State University and Visitacion Valley, primarily as a Class III facility along Holloway Street and Geneva Avenue, and as a Class II facility between Brookdale Avenue and Castillo Street. It terminates at Bayshore Boulevard.

Route 705 is a Class II bikeway which runs east-west along Mansell Street between Visitacion Avenue and San Bruno Avenue.

Route 905 is a Class III bikeway which runs north-south along Tunnel Avenue.

The San Francisco San Francisco Municipal Transportation Agency (SFMTA) has plans for long-term and minor bicycle improvements in the vicinity of the project site. Long-term improvements are proposed for Route 705 on Mansell Street. This route currently ends at the intersection with Visitacion Avenue, but the long-term improvements would extend the route to Alemany Street in the west. In addition, minor improvements are proposed for Route 90 on Geneva Avenue between Moscow Street and Brookdale Avenue and for Route 25 on San Bruno Avenue between Bayshore Boulevard and Caro Street. Minor improvements would address gaps and deficiencies in the bicycle route network. Specific designs for long-term and minor improvements have not been developed yet.



Figure 9
Existing Bicycle Network

2.6 Parking Conditions

This section describes the results of a survey of existing supply and occupancy of on-street parking spaces in the study area. No off-street parking facilities were identified in the study area except for the shared parking lots in between residential buildings and a small parking lot located behind the community center. These parking lots provide total 430 off-street parking spaces in the project site.

2.6.1 On-Street Parking Inventory and Occupancy

The on-street parking supply and occupancy survey was performed by CHS Consulting Group on Tuesday August 31, 2010 during the midday period from 1:30 p.m. to 3:00 p.m., and during the evening period from 6:30 p.m. to 8:00 p.m. **Table 9** shows the average parking supply and occupancy for each street in the study area. It shows that during the midday period, on-street parking spaces in the study area are occupied at approximately 54 percent in average, with higher occupancy along Cielito Drive and Pueblo Street at 93 and 97 percents, respectively. The on-street parking occupancy rate increased to nearly 74 percent on average during the evening period when the residents return from work, with higher occupancy along Pasadena Street, Castillo Street, and Pueblo Street at or above 100 percent. These streets are outside of the project boundary, and some cars were observed to be double-parked. No double parking occurred within the project site. Detailed inventory of on-street parking supply and occupancy on a block-by-block basis is included in **Appendix H**.

Table 9 – On-Street Parking Supply and Demand: Existing Weekday Midday and Evening Periods

			Weekday Midday (1:30 p.m. - 3:30 p.m.)		Weekday Evening (6:30 p.m. - 8:00 p.m.)	
No.	**Street**	**Total Supply**	**Total Occupied**	**Occupancy Rate**	**Total Occupied**	**Occupancy Rate[1]**
1	Sunnydale Avenue	151	81	54%	85	56%
2	Brookdale Avenue	161	63	39%	98	61%
3	Blythedale Avenue	134	54	40%	69	51%
4	Geneva Avenue	131	63	48%	115	88%
5	Parque Drive	72	44	61%	65	90%
6	Cielito Drive	29	27	93%	26	90%
7	Esquina Drive	29	20	69%	26	90%
8	Carrizal Street	121	81	67%	103	85%
9	Santos Street	85	46	54%	70	82%
10	Pasadena Street	33	25	76%	36	109%
11	Castillo Street	26	23	88%	29	112%
12	Pueblo Street	32	31	97%	32	100%
13	Calgary Street	146	90	62%	110	75%
14	Hahn Street	116	47	41%	84	72%
15	Sunrise Way	37	10	27%	21	57%
Total		**1,303**	**705**	**54%**	**969**	**74%**

Notes:
1. Parking occupancy above 100 percent indicates illegal double parking conditions.

3.0 PROJECT TRAVEL DEMAND ANALYSIS

This section provides an estimate of the new travel demand generated by the Proposed Project, Variant Scenario, and Alternatives 1, 2, and 3.

3.1 Trip Generation

The daily and PM peak-hour person trips for the residential and retail uses were based on the trip generation rates and the peak-hour factors provided in the *San Francisco Guidelines*. Trip generation for the community service center was based on the ITE trip rate for Recreational Community Center (Land Use 495). **Table 10** summarizes these rates.

Table 10 – Project Trip Generation Rates

Land Use	Daily Trip Rate	PM Peak-Hour (Percent of Daily)	PM Peak-Hour Trip Rate
Residential			
2+ bedrooms	10.0/unit	17.3%	1.7/unit
1 bedroom/Studio	7.5/unit	17.3%	1.3/unit
Senior Housing	5.0/unit	6%	0.3/unit
Retail	150/1,000 gsf	9%	13.5/1,000 gsf
Recreation/Community Center	23/1,000 gsf	N/A	1.5/1,000 gsf

Source: *San Francisco Guidelines*, October 2002, Appendix C - Table C-1 for residential and retail uses; ITE Trip Generation 8th Edition (Code 495) for recreational and daycare community uses.

Proposed Project and Variant Scenario – As presented in the Project Description, the Proposed Project would construct 1,700 dwelling units, 16,200 gsf of retail space, and 72,500 gsf of recreation/community center. The Variant Scenario would construct 1,638 dwelling units, 16,200 gsf of retail space, and 72,500 gsf of recreation/community center. Based on the above rates, it is estimated that the Proposed Project would generate a total of 19,167 daily person trips and 2,805 PM peak-hour person trips, while the Variant Scenario would generate a total of 19,159 daily person trips and 2,804 PM peak-hour person trips. The difference in trip generation between the two scenarios would not be substantial since the Proposed Project would generate approximately eight additional person trips on a daily basis or one additional person trip during the PM peak-hour than the Variant Scenario.

Alternative 1 –Alternative 1 would construct 1,372 dwelling units, 16,200 gsf of retail space, and 72,500 gsf of recreation/community center. Alternative 1 would generate a total of 16,434 daily person trips and 2,340 PM peak-hour person trips. As a result, daily person trips and PM peak-hour person trips would reduce by 2,733 and 465, respectively, compared to the Proposed Project. **Table 11** summarizes the estimated daily and PM peak-hour person trips generated by the Proposed Project, Variant Scenario, and Alternative 1.

Alternatives 2 and 3 – Under Alternatives 2 and 3, the size and type of land uses would remain the same as the existing conditions, thus no net new trips would be generated.

Table 11 – Project Trip Generation

Land Use	Size	Daily Person Trips[1]	PM Peak-Hour Person Trips		
			Total	In	Out
Proposed Project					
Residential	1,700 units				
2+ bedrooms	1,081 units	10,810	1,838	1,222	616
1 bedroom/Studio	469 units	3,518	598	398	200
Senior Housing	150 units	750	45	30	15
Retail	16,200 gsf	2,430	219	105	114
Recreation/Community Center	72,500 gsf	1,659	105	39	66
Total		**19,167**	**2,805**	**1,794**	**1,011**
Variant Scenario					
Residential	1,638 units				
2+ bedrooms	1,264 units	12,640	2,149	1,429	720
1 bedroom/Studio	224 units	1,680	286	190	96
Senior Housing	150 units	750	45	30	15
Retail	16,200 gsf	2,430	219	105	114
Recreation/Community Center	72,500 gsf	1,659	105	39	66
Total		**19,159**	**2,804**	**1,793**	**1,011**
Difference from Proposed Project		**-8**	**-1**	**-1**	**0**
Alternative 1					
Residential	1,372 units				
2+ bedrooms	972 units	9,720	1,652	1,099	554
1 bedroom/Studio	250 units	1,875	319	212	107
Senior Housing	150 units	750	45	30	15
Retail	16,200 gsf	2,430	219	105	114
Recreation/Community Center	72,500 gsf	1,659	105	39	66
Total		**16,434**	**2,340**	**1,485**	**856**
Difference from Proposed Project		**-2,733**	**-465**	**-309**	**-155**

Note:
1. The existing residential units are occupied at approximately 95 percent (670 out of 700 units). For the purpose of trip generation analysis, it is assumed that all of the existing dwelling units (785 units) and future dwelling units (1,700 units) are occupied.

Because the Proposed Project, Variant Scenario, and Alternative 1 would demolish the existing 785 dwelling units and 29,276 gsf of daycare/community center, the trip generation process involved taking the total estimated trip generation based on the proposed land use plans and subtracting the trips associated with the existing uses in order to account for the net increase in trips due to the Proposed Project, Variant Scenario, and Alternative 1.

Proposed Project and Variant Scenario – Since the difference in trip generation between the Proposed Project and Variant Scenario is minimal (one fewer person trip or less than one vehicle trip during the PM peak-hour for the Variant Scenario), the Proposed Project trip generation is used to analyze the potential traffic impacts under both scenarios. **Table 12** summarizes the net new daily and PM peak-hour person trips generated by the Proposed Project. For the purpose of transportation analysis, it is assumed that the

total AM peak-hour trip generation would be the same as the PM peak-hour trip generation.[12] **Appendix I** includes detailed trip calculation worksheets.

Table 12 – Proposed Project and Variant Scenario: Net New Trip Generation

Land Use	Size	Daily Person Trips1	PM Peak-Hour Person Trips		
			Total	In	Out
Land Uses and Person Trips Generated by Proposed Project and Variant Scenario					
Residential	2,184,560 gsf				
2+ bedrooms	1,081 units	10,810	1,838	1,222	616
1 bedroom/Studio	469 units	3,518	598	398	200
Senior Housing	150 units	750	45	30	15
Retail	16,200 gsf	2,430	219	105	114
Recreation/Community Center	72,500 gsf	1,659	105	39	66
Total	**2,273,260 gsf**	**19,167**	**2,805**	**1,794**	**1,011**
Existing Uses and Person Trips Removed					
Residential	764,892 gsf				
2+ bedrooms	696 units	6,960	1,183	787	396
1 bedroom/Studio	71 units	533	91	61	30
Senior Housing	18 units	90	6	4	2
Daycare/Community Center	29,276 gsf	670	42	15	27
Total	**794,168 gsf**	**8,253**	**1,322**	**867**	**455**
Net Person Trips Generated by Proposed Project and Variant Scenario					
Residential	1,419,668 gsf				
2+ bedrooms	385 units	3,850	654	435	219
1 bedroom/Studio	398 units	2,985	507	337	170
Senior Housing	132 units	660	40	27	13
Retail	16,200	2,430	219	105	114
Recreation/Community Center	43,224	989	63	23	40
Total	**1,479,092 gsf**	**10,914**	**1,483**	**927**	**556**

Source: *San Francisco Guidelines*, October 2002, Appendix C - Table C-1 for residential and retail uses; ITE Trip Generation 8th Edition (Code 495) for recreational and daycare community uses.
Note:
1. The existing residential units are occupied at approximately 95 percent (670 out of 700 units). For the purpose of trip generation analysis, it is assumed that all of the existing dwelling units (785 units) and future dwelling units (1,700 units) are occupied.

[12] Assuming the same level of trip generation as the PM peak provides a conservative analysis for AM peak hours. The *San Francisco Guidelines* do not provide trip generation rates for the AM peak hour; however, according to the ITE Trip Generation, trip generation rates for Mid-Rise Apartment (Code 223), Rental Townhouse (Code 224), Residential Condo/Townhouses (Code 230), and Multipurpose Recreational Facility (Code 495) show lower trip generation rates for the AM peak hour than the PM peak hour.

Alternative 1 – Table 13 summarizes the net new daily and PM peak-hour person trips generated by Alternative 1. It shows that Alternative 1 would have 465 fewer net new person trips during the PM peak-hour than that of the Proposed Project and Variant Scenario. Similar to the analysis for the Proposed Project and Variant Scenario, it is assumed that the total AM peak-hour trip generation would be the same as the PM peak-hour trip generation under Alternative 1. **Appendix I** includes detailed trip calculation worksheets.

Table 13 – Alternative 1: Net New Trip Generation

Land Use	Size	Daily Person Trips[1]	PM Peak-Hour Person Trips		
			Total	In	Out
Land Uses and Person Trips Generated by Alternative 1					
Residential	1,382,898 gsf				
2+ bedrooms	972 units	9,720	1,652	1,099	554
1 bedroom/Studio	250 units	1,875	319	212	107
Senior Housing	150 units	750	45	30	15
Retail	16,200 gsf	2,430	219	105	114
Recreation/Community Center	72,500 gsf	1,659	105	39	66
Total	**1,471,598 gsf**	**16,434**	**2,340**	**1,485**	**855**
Existing Uses and Person Trips Removed					
Residential	764,892 gsf				
2+ bedrooms	696 units	6,960	1,183	787	396
1 bedroom/Studio	71 units	533	91	61	30
Senior Housing	18 units	90	6	4	2
Daycare/Community Center	29,276 gsf	670	42	15	27
Total	**794,168 gsf**	**8,253**	**1,322**	**867**	**455**
Net Person Trips Generated by Alternative 1					
Residential	618,006 gsf				
2+ bedrooms	276 units	2,760	469	312	158
1 bedroom/Studio	179 units	1,342	228	152	76
Senior Housing	132 units	660	39	26	13
Retail	16,200	2,430	219	105	114
Recreation/Community Center	43,224	989	63	23	39
Total	**678,017 gsf**	**8,181**	**1,018**	**618**	**400**

Source: *San Francisco Guidelines*, October 2002, Appendix C - Table C-1 for residential and retail uses; ITE Trip Generation 8th Edition (Code 495) for recreational and daycare community uses.
Note:
1. The existing residential units are occupied at approximately 95 percent (670 out of 700 units). For the purpose of trip generation analysis, it is assumed that all of the existing dwelling units (785 units) and future dwelling units (1,700 units) are occupied.

Alternatives 2 and 3 – There would be no net new trips generated under Alternatives 2 and 3 since the size and layout of development would remain the same as the current conditions. Therefore, no trip generation analysis is presented.

Mode Split

Proposed Project and Variant Scenario – The estimated net new person trips (**Tables 12 and 13**) were assigned to different transportation modes to determine the number of auto-person, transit, and other trips to and from the site. Mode split rates for the residential use were obtained from the *2000 US Census* for Census Tract 605.02. The modal split rates for the retail and community center uses were based on the information contained in the *San Francisco Guidelines* for Superdistrict 3. The mode split results are summarized in **Table 14**. The Proposed Project and Variant Scenario would generate approximately 6,086 auto person trips, 3,749 transit trips, 748 walking trips, and 331 other trips (bike, etc) on a typical day. During the PM peak hour, the Proposed Project and Variant Scenario would generate 812 auto person trips, 562 transit trips, 67 walking trips, and 42 other mode trips.

Table 14 – Proposed Project and Variant Scenario: Net New Person Trips by Mode

Land Use	Auto	Transit	Walk	Other	Total
Proposed Project and Variant Scenario: Daily					
Residential	3,967	3,271	55	202	7,495
Retail	1,564	292	528	46	2,430
Recreation/Community Center	555	186	165	83	989
Total	**6,086**	**3,749**	**748**	**331**	**10,914**
Proposed Project and Variant Scenario: PM Peak-Hour					
Residential	636	524	9	32	1,201
Retail	141	26	48	4	219
Recreation/Community Center	35	12	10	6	63
Total	**812**	**562**	**67**	**42**	**1,483**

Source: *San Francisco Guidelines*, October 2002, Appendix E – Tables E-5, E-14, and E-15.

In order to estimate the net new vehicle trips generated by the Proposed Project, vehicle trips were calculated by dividing the auto person trips (**Table 14**) by the vehicle occupancy rates. The vehicle occupancy rates for the residential development were obtained from the *2000 US Census* for Census Tract 605.02, and the vehicle occupancy rates for retail and community center uses were based on the information contained in the *San Francisco Guidelines* for Superdistrict 3. **Table 15** shows the estimated net new daily and PM peak-hour vehicle trips. The table shows that the Proposed Project would generate approximately 4,425 daily vehicle trips and 621 PM peak-hour vehicle trips. Under the Proposed Project, approximately 394 trips (63 percent) would occur in the inbound direction, and 227 trips (37 percent) would occur in the outbound direction during the PM peak hour. These trips were assigned to the roadway network to determine traffic impacts as presented in **Chapter 4**.

The Variant Scenario would have the same number of net new person trips for each mode and net new vehicle trips as the Proposed Project.

Table 15 – Proposed Project and Variant Scenario: Net New Vehicle Trips

Land Use	V.O.R.[1]	Daily	PM Peak-hour		
		Vehicle Trips	Vehicle Trips	Inbound	Outbound
Proposed Project and Variant Scenario					
Residential	1.2	3,340	530	352	178
Retail	1.9	839	75	36	39
Recreation/Community Center	2.3	246	16	6	10
Total		**4,425**	**621**	**394**	**227**

Source: *San Francisco Guidelines*, October 2002, Appendix E – Tables E-5, E-14, and E-15; 2000 US Census.
Notes:
1. V.O.R. indicates vehicle occupancy rate.

Alternative 1 –Alternative 1 would generate approximately 4,639 auto person trips, 2,556 transit trips, 728 walk trips, and 258 bike or walking trips on a typical day. During the PM peak hour, Alternative 1 would generate 566 auto person trips, 360 transit trips, 63 walking trips, and 29 other mode trips (see **Table 16**).

Table 16 –Alternative 1: Net New Person Trips by Mode

Land Use	Auto	Transit	Walk	Other	Total
Alternative 1: Daily					
Residential	2,521	2,078	35	128	4,762
Retail	1,564	292	528	46	2,430
Recreation/Community Center	554	186	165	84	989
Total	**4,639**	**2,556**	**728**	**258**	**8,181**
Alternative 1: PM Peak-Hour					
Residential	390	322	5	20	737
Retail	141	26	48	4	219
Recreation/Community Center	35	12	10	5	62
Total	**566**	**360**	**63**	**29**	**1,018**

Source: *San Francisco Guidelines*, October 2002, Appendix E – Tables E-5, E-14, and E-15.

Alternative 1 would generate approximately 3,183 daily vehicle trips and 415 PM peak-hour vehicle trips. Approximately 257 trips (62 percent) would occur in the inbound direction, and 158 trips (38 percent) would occur in the outbound direction during the PM peak hour (see **Table 17**).

Table 17 –Alternative 1: Net New Vehicle Trips

Land Use	V.O.R.[1]	Daily	PM Peak-hour		
		Vehicle Trips	Vehicle Trips	Inbound	Outbound
Alternative 1					
Residential	1.2	2,098	324	215	109
Retail	1.9	839	75	36	39
Recreation/Community Center	2.3	246	16	6	10
Total		**3,183**	**415**	**257**	**158**

Source: *San Francisco Guidelines*, October 2002, Appendix E – Tables E-5, E-14, and E-15; 2000 US Census.
Notes:

1. V.O.R. indicates vehicle occupancy rate.

Alternative 2 and 3 – There would be no net new trips generated under Alternatives 2 and 3 since the size and layout of development would remain the same as the current conditions. Therefore, no trip generation analysis is presented.

3.2 Trip Distribution

Proposed Project, Variant Scenario, and Alternative 1 – The project-generated person trips are assigned to general regional destinations and origins, including four San Francisco Superdistricts (northeast, northwest, southeast, and southwest San Francisco), the East Bay, the North Bay, the South Bay, and areas outside the region. **Appendix J** presents the map of San Francisco Superdistricts. Trip distribution percentages for the residential use were based on the *2000 US Census* for Census Tract 605.02.[13] Trip distribution percentages for the retail and community uses were based on the information contained in the *San Francisco Guidelines* for Superdistrict 3. **Table 18** presents the person trip distribution patterns used for each land use.

Table 18 – Project Trip Distribution Patterns

Origin/Destination	Retail		Residents	Recreation/ Community Center
	Work Trips	Non-Work Trips		
Superdistrict 1 (Northeast)	8.3%	6%	72.2%	13%
Superdistrict 2 (Northwest)	10.6%	9%	5.8%	14%
Superdistrict 3 (Southeast)	23.9%	61%	5.8%	44%
Superdistrict 4 (Southwest)	7.9%	5%	5.8%	7%
East Bay	14.3%	3%	3.5%	9%
North Bay	5.6%	2%	3.5%	1%
South Bay	26.9%	9%	3.5%	9%
Other	2.5%	5%	0.0%	3%
Total	100%	100%	100%	100%

Source: *San Francisco Guidelines*, October 2002, Appendix E – Tables E-5, E-14, and E-15; 2000 US Census

Based on the person trip distribution patterns, weekday PM peak-hour vehicle trips (**Tables 15 and 17**) were extracted for each origin by multiplying work and non-work trips and by distribution percentages for each origin. Percentages for inbound and outbound trips for residential and retail uses were obtained from the information contained in the *San Francisco Guidelines*. It assumes that for residential uses, 100 percent of all work trips and 33 percent of non-work trips are inbound trips during the PM peak period; for retail uses, 100 percent of work trips and 50 percent of non-work trips are outbound trips during the PM peak period. For recreation and community center, directional split is based on the *ITE Trip Generation*, which assumes 37 percent of trips in the inbound direction and 63 percent of trips in the outbound direction during the PM peak period. **Table 19** summarizes the PM peak-hour vehicle trips from each origin. It indicates that the majority (approximately 58 to 65 percent) of inbound and outbound

[13] In order to ensure the representativeness of data obtained from Census Tract 605.02 for the Proposed Project, the trip distribution patterns of surrounding tracts (i.e., Census Tracts 264.01 and 264.02) were also examined. These tracts showed similar trip distribution patterns (see **Appendix I**).

trips would be coming from and going to Superdistrict 1, the northeast of San Francisco. **Figures 10 and 11** illustrate the inbound and outbound trip assignments, respectively.

Table 19 – Project Weekday PM Peak-Hour Vehicle Trips by Origin

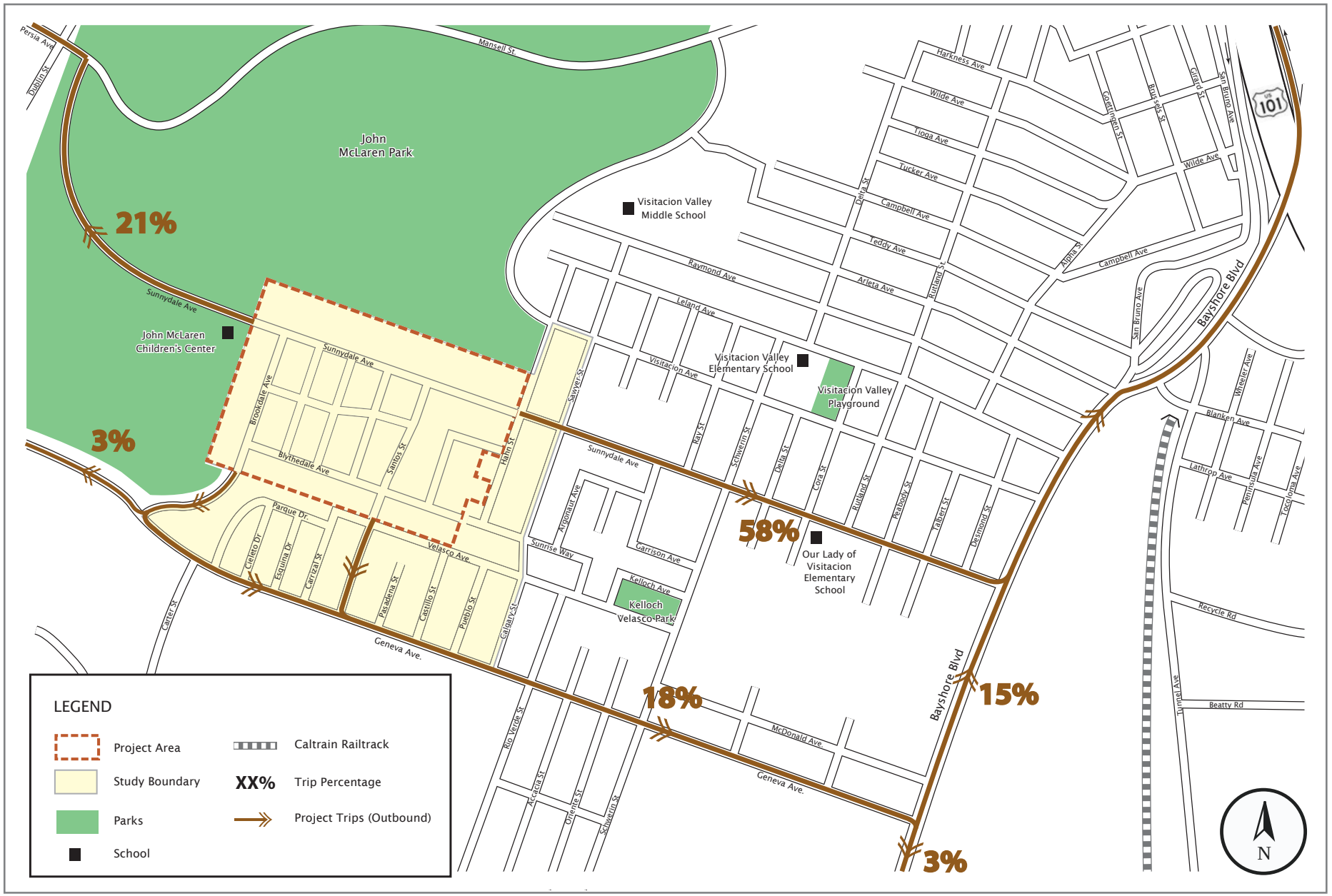
Origin/Destination	Retail		Residential		Recreation/ Community Center	Total	
	Work	Non-Work	Work	Non-Work		In	Out
Proposed Project and Variant Scenario							
Superdistrict 1 (Northeast)	0	4	192	192	2	258	132
Superdistrict 2 (Northwest)	0	6	16	16	2	25	15
Superdistrict 3 (Southeast)	1	44	15	15	7	45	37
Superdistrict 4 (Southwest)	0	4	15	15	1	22	13
East Bay	0	2	9	9	1	13	8
North Bay	1	1	9	9	1	13	8
South Bay	1	7	9	9	1	16	11
Other	0	4	0	0	1	2	3
Total	**3**	**72**	**265**	**265**	**16**	**394**	**227**
Alternative 1							
Superdistrict 1 (Northeast)	0	4	117	117	2	158	82
Superdistrict 2 (Northwest)	0	6	9	9	2	16	10
Superdistrict 3 (Southeast)	1	44	9	9	7	37	33
Superdistrict 4 (Southwest)	0	4	9	9	1	14	9
East Bay	0	2	6	6	1	9	6
North Bay	1	1	6	6	1	9	6
South Bay	1	7	6	6	1	12	9
Other	0	4	0	0	1	2	3
Total	**3**	**72**	**162**	**162**	**16**	**257**	**158**

Source: *San Francisco Guidelines*, October 2002, Appendix C Tables C-2; ITE Trip Generation 8th Edition.



CHS Consulting Group

Figure 10
Inbound PM Peak-Hour Project Trip Assignment in Year 2010



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Figure 11
Outbound PM Peak-Hour Project Trip Assignment in Year 2010

Based on the person trip distribution patterns (**Table 18**), weekday PM peak-hour transit trips were extracted for each origin by multiplying work and non-work trips by distribution percentages for each origin. Percentages for inbound and outbound trips were obtained from the information contained in the *San Francisco Guidelines*. For recreation and community center, directional split is based on the *ITE Trip Generation*, which assumes 37 percent inbound and 63 percent outbound trips direction during the PM peak period. **Table 20** summarizes the PM peak-hour transit person trips from each origin. It indicates that the majority of inbound and outbound trips would be coming from and going to Superdistricts 1 and 3 (approximately 75 percent), the northeast and the southeastern part of San Francisco.

Table 20 – Project Weekday PM Peak-hour Transit Person Trips by Origin

Origin/Destination	Retail		Residential		Recreation/ Community Center	Total	
	Work	Non-Work	Work	Non-Work		In	Out
Proposed Project and Variant Scenario							
Superdistrict 1 (Northeast)	0	2	189	189	2	253	129
Superdistrict 2 (Northwest)	0	2	15	15	2	22	12
Superdistrict 3 (Southeast)	0	15	16	15	5	30	21
Superdistrict 4 (Southwest)	0	1	15	15	1	21	11
East Bay	0	1	9	9	1	13	7
North Bay	0	1	9	9	0	12	7
South Bay	1	2	9	10	1	14	9
Other	0	1	0	0	0	1	0
Total	**1**	**25**	**262**	**262**	**12**	**366**	**196**
Alternative 1							
Superdistrict 1 (Northeast)	0	2	116	116	2	156	80
Superdistrict 2 (Northwest)	0	2	9	9	2	14	9
Superdistrict 3 (Southeast)	0	15	9	9	5	22	17
Superdistrict 4 (Southwest)	0	1	9	9	1	13	7
East Bay	0	1	6	6	1	8	5
North Bay	0	1	6	6	0	8	4
South Bay	1	2	6	6	1	9	6
Other	0	1	0	0	0	1	1
Total	**1**	**25**	**161**	**161**	**12**	**231**	**129**

Source: *San Francisco Guidelines*, October 2002, Appendix C Tables C-2; ITE Trip Generation 8th Edition.

Alternatives 2 and 3 – There would be no net new trips generated under Alternatives 2 and 3 since the land uses would remain the same as the current conditions. Therefore, no trip distribution analysis is presented.

3.3 Loading Demand

Proposed Project, Variant Scenario, and Alternative 1 – The peak loading demand was calculated based on the methodology outlined in the *San Francisco Guidelines* Appendix H. **Table 21** presents the loading demand of the Proposed Project. The Proposed Project would generate approximately 77 daily truck trips, which correspond to a demand for 3.5 (less than four) spaces during the average loading hour or 4.4 (less than five) spaces during the peak loading hour. The Variant Scenario would have the same level of truck loading demand as the Proposed Project. Alternative 1 would generate approximately 53 daily truck trips, which correspond to a demand for 2.4 (less than three) spaces during the average loading hour or three spaces during the peak loading hour.

Alternatives 2 and 3 –For Alternatives 2 and 3, since land uses would not change, no new loading demand would be generated.

Table 21 – Proposed Project, Variant Scenario, and Alternative 1 Loading Demand

Land Use	Size	Daily Truck Trip Rate	Daily Truck Trips	Average Hour Loading Space Demand	Peak-hour Loading Space Demand
Proposed Project and Variant Scenario					
Residential	2,184,560 gsf	0.03/1,000 gsf	66	3.0	3.8
Retail	16,200 gsf	0.22/1,000 gsf	4	0.2	0.2
Recreation/ Community Center[1]	72,500 gsf	0.10/1,000 gsf	7	0.3	0.4
Total	**2,273,260 gsf**		**77**	**Less than 4**	**Less than 5**
Alternative 1					
Residential	1,382,898 gsf	0.03/1,000 gsf	41	1.9	2.4
Retail	16,200 gsf	0.22/1,000 gsf	4	0.2	0.2
Recreation/ Community Center[1]	72,500 gsf	0.10/1,000 gsf	7	0.3	0.4
Total	**1,471,598 gsf**		**53**	**Less than 3**	**3**

Source: *San Francisco Guidelines*, October 2002, Appendix H.
Notes:
1. Based on the rate for Institution.

3.4 Parking Demand

Proposed Project, Variant Scenario, and Alternative 1 – The peak parking demand analysis was performed for each land use based on the rates and the methodology outlined in the *San Francisco Guidelines* Appendix G. Long-term parking demand is generally defined as resident and employee parking, while short-term parking demand is associated with visitor and patron parking. For long-term retail parking demand, the total number of employees derived from retail density was multiplied by the percent of employees who drive; for short-term parking demand estimate, non-work trips were divided by a daily turnover rate of 5.5 vehicles per space. The parking demand for recreation and community center was estimated by dividing total (one-way) vehicle trips by a daily turnover rate of 5.5 vehicles per space.

Table 22 presents the estimated parking demand for the Proposed Project, Variant Scenario, and Alternative 1 by proposed land uses. The Proposed Project would generate a total parking demand of 1,810 spaces including 1,699 long-term and 111 short-term parking spaces. Variant Scenario would generate a total parking demand of 1,814 spaces including 1,703 long-term and 111 short-term parking spaces. Alternative 1 would generate a total parking demand of 1,492 spaces including 1,381 long-term and 111 short-term parking spaces.

Alternatives 2 and 3 –For Alternatives 2 and 3, since land uses would not change, no new parking demand would be generated.

Table 22 – Proposed Project, Variant Scenario and Alternative 1 Parking Demand

Land Use	Size	Parking Demand Rate	Parking Demand		Total
			Long Term	Short Term	
Proposed Project					
Residential					
Market Rate 2+ Bedrooms	309 units	1.50 spaces/unit	464	0	464
Market Rate 1 Bedroom/Studio	385 units	1.10 spaces/unit	424	0	424
Affordable Rental 2+ Bedrooms	772 units	0.92 spaces/unit	710	0	710
Affordable Rental 1 Bedroom/Studio	84 units	0.45 spaces/unit	38	0	38
Senior Housing	150 units	0.20 spaces/unit	30	0	30
Retail	16,200 gsf	-	33	73	106
Recreation/Community Center	72,500 gsf	-	0	38	38
Total			**1,699**	**111**	**1,810**
Variant Scenario					
Residential					
Market Rate 2+ Bedrooms	492 units	1.50 spaces/unit	738	0	738
Market Rate 1 Bedroom/Studio	140 units	1.10 spaces/unit	154	0	154
Affordable Rental 2+ Bedrooms	772 units	0.92 spaces/unit	710	0	710
Affordable Rental 1 Bedroom/Studio	84 units	0.45 spaces/unit	38	0	38
Senior Housing	150 units	0.20 spaces/unit	30	0	30
Retail	16,200 gsf	-	33	73	106
Recreation/Community Center	72,500 gsf	-	0	38	38
Total			**1,703**	**111**	**1,814**
Alternative 1					
Residential					
Market Rate 2+ Bedrooms	382 units	1.50 spaces/unit	573	0	573
Market Rate 1 Bedroom/Studio	138 units	1.10 spaces/unit	152	0	152
Affordable Rental 2+ Bedrooms	590 units	0.92 spaces/unit	543	0	543
Affordable Rental 1 Bedroom/Studio	112 units	0.45 spaces/unit	50	0	50
Senior Housing	150 units	0.20 spaces/unit	30	0	30
Retail	16,200 gsf	-	33	73	106
Recreation/Community Center	72,500 gsf	-	0	38	38
Total			**1,381**	**111**	**1,492**

Source: *San Francisco Guidelines*, October 2002, Appendix G.

4.0 PROJECT TRANSPORTATION IMPACT ANALYSIS

This chapter presents the potential transportation impacts generated by the Proposed Project, the Variant Scenario, and the Alternatives, including the following:

- Circulation impacts in terms of Intersection Level of Service (LOS);
- Transit impacts in terms of capacity utilization and transit delay;
- Pedestrian impacts;
- Bicycle impacts;
- Loading impacts;
- Emergency access impacts;
- Parking conditions, for information purposes
- Construction impacts; and

4.1 Significance Criteria

4.1.1 Traffic

The operational impact on signalized intersections is considered significant when project-related traffic causes the intersection level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. The operational impacts on unsignalized intersections are considered potentially significant if project-related traffic causes the level of service at the worst approach to deteriorate from LOS D or better to LOS E or F and signal warrants[14] would be met, or would cause signal warrants to be met when the worst approach is already operating at LOS E or F. The project may result in significant adverse impacts at intersections that operate at LOS E or F under existing conditions depending upon the magnitude of the project's contribution to the worsening of the average delay per vehicle. In addition, the project would have a significant adverse impact if it would cause major traffic hazards or contribute considerably to cumulative traffic increases that would cause deterioration in levels of service to unacceptable levels.

4.1.2 Transit

The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. With the Muni and regional transit screenlines analyses, the project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the PM peak hour.

4.1.3 Pedestrians

The project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

[14] California Traffic Signal Warrants

4.1.4 Bicycles

The project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

4.1.5 Loading

A project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and created potentially hazardous conditions or significant delays affecting traffic, transit, bicycles or pedestrians.

4.1.6 Emergency Access

The project would have a significant effect on the environment if it would result in inadequate emergency access.

4.1.7 Construction

Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

4.2 Existing Plus Project Traffic Impacts

Vehicle trips from the Proposed Project, the Variant Scenario, and Alternative 1 were assigned to the existing roadway network using the "TRAFFIX" computer software in accordance with the trip distribution patterns described in **Section 3.2** and were added to the existing traffic on study area roadways.

4.2.1 Existing Plus Project Intersection LOS

Table 23 presents the results of the intersection LOS analysis for the Existing (2010) and the Existing Plus Project conditions for the Proposed Project and Alternative 1 during the PM peak period. Since the difference in trip generation between the Proposed Project and the Variant Scenario is insubstantial (one fewer person trip for the Variant Scenario), the Proposed Project trip generation is used to analyze the potential traffic impacts under both the Proposed Project and the Variant Scenario. Since Alternatives 2 and 3 would remain the same as the existing conditions, it would not result in any additional project-related trips. Thus, all transportation operations under Alternative 2 and 3 are assumed to be the same as the existing conditions.

Proposed Project and Variant Scenario – With the addition of project trips, six of 12 study intersections would remain at the same LOS as the existing conditions, and six study intersections (i.e., Sunnydale Avenue/Persia Street, Sunnydale Avenue/Sawyer Street, Sunnydale Avenue/Schwerin Street, Sunnydale Avenue/Santos Street, Geneva Avenue/Santos Street, and Geneva Avenue/Calgary Street) would worsen in operation. However, all of the 12 study intersections would continue to operate satisfactorily at LOS D or better under the Existing Plus Proposed Project and Existing Plus Variant conditions. Therefore, both the Proposed Project and Variant Scenario would not result in significant traffic impacts. **Appendix L** contains the detailed calculations of the intersection LOS analysis. **Figure**

12 shows the intersection turning movement volumes under the Existing Plus Proposed Project and the Existing Plus Variant conditions.

Alternative 1 – With the addition of trips generated by Alternative 1, eight of 12 study intersections would remain the same as the existing conditions, and four study intersections (i.e. Sunnydale Avenue/ Persia Street, Sunnydale Avenue/ Schwerin Street, Geneva Avenue/ Santos Street, and Geneva Avenue/ Calgary Street) would worsen in operation. However, similar to the Proposed Project all of the 12 study intersections would continue to operate satisfactorily at LOS D or better. Thus, Alternative 1 would not result in significant traffic impacts. **Appendix L** contains the detailed calculations of the intersection LOS analysis. **Figure 13** shows the intersection turning movement volumes under the Existing Plus Alternative 1 conditions.

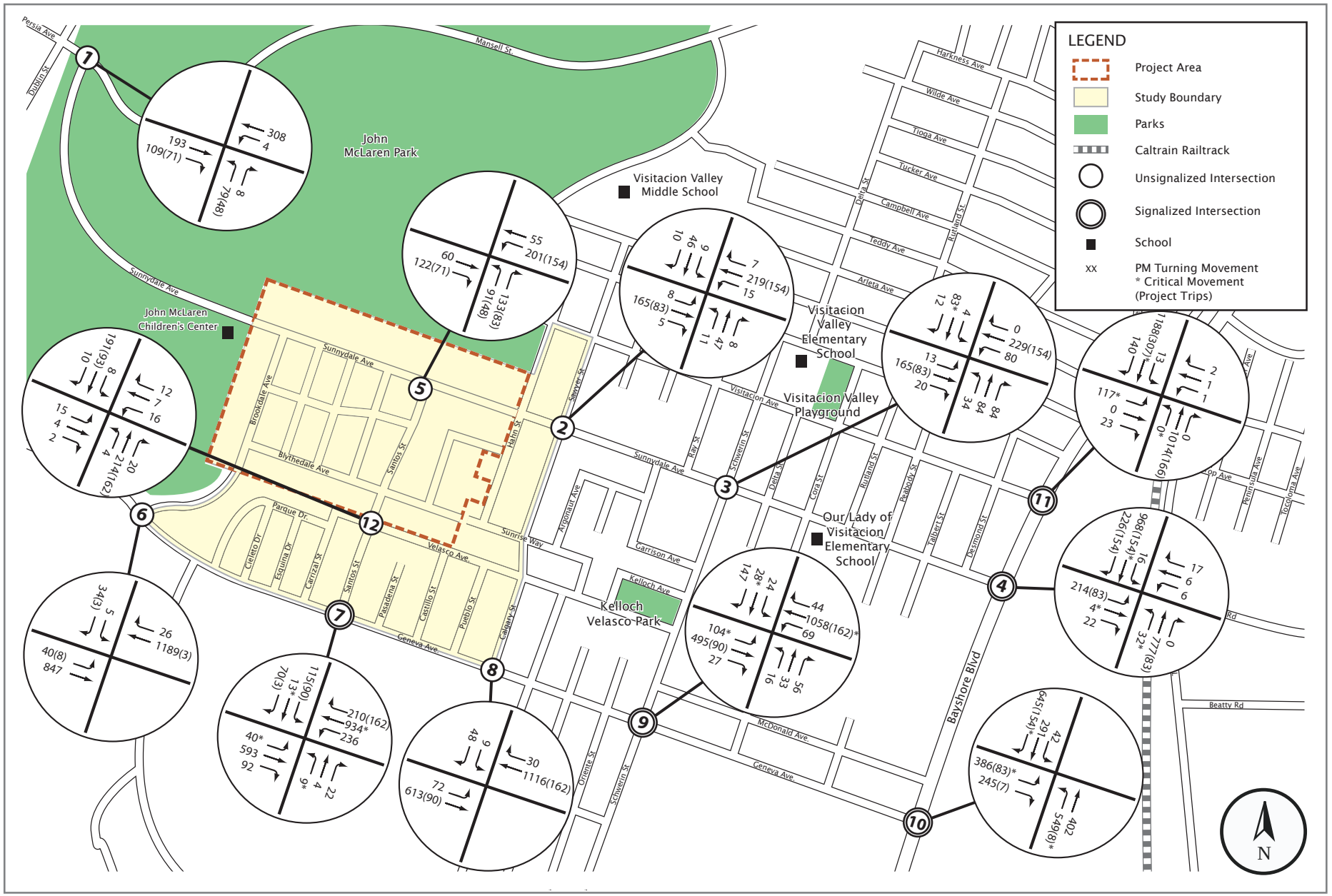
Table 23 – Existing Plus Project: Intersection Level of Service during Weekday PM Peak-Hour

	Intersection	Type[2]	Existing[1] (2010)		Existing Plus Proposed Project or Variant Scenario (2010)		Existing Plus Alternative 1 (2010)	
			Delay	LOS[3]	Delay	LOS[3]	Delay	LOS[3]
1	Sunnydale Avenue/ Persia Street	TWSC	13.2	B (NB)	16.5	C (NB)	15.3	C (NB)
2	Sunnydale Avenue/ Sawyer Street	FWSC	8.2	A (EB)	10.9	B (WB)	9.7	A (WB)
3	Sunnydale Avenue/ Schwerin Street	FWSC	9.9	A (WB)	14.7	B (WB)	12.5	B (WB)
4	Sunnydale Avenue/ Bayshore Boulevard	Signalized	20.2	C	24.4	C	23.0	C
5	Sunnydale Avenue/ Santos Street	FWSC	8.3	A (WB)	12.8	B (WB)	10.6	B (WB)
6	Geneva Avenue/ Brookdale Avenue	TWSC	21.9	C (SB)	22.0	C (SB)	21.9	C (SB)
7	Geneva Avenue/ Santos Street	Signalized	19.9	B	23.9	C	22.6	C
8	Geneva Avenue/ Calgary Street	TWSC	22.3	C (SB)	30.4	D (SB)	27.1	D (SB)
9	Geneva Avenue/ Schwerin Street	Signalized	16.6	B	15.9	B	16.1	B
10	Geneva Avenue/ Bayshore Boulevard	Signalized	23.2	C	24.0	C	23.7	C
11	Visitacion Avenue/ Bayshore Boulevard	Signalized	14.0	B	13.1	B	13.5	B
12	Velasco Avenue/ Santos Street	FWSC	7.9	A (SB)	9.5	A (NB)	8.8	A (SB)

Source: CHS Consulting Group, 2010

Notes:

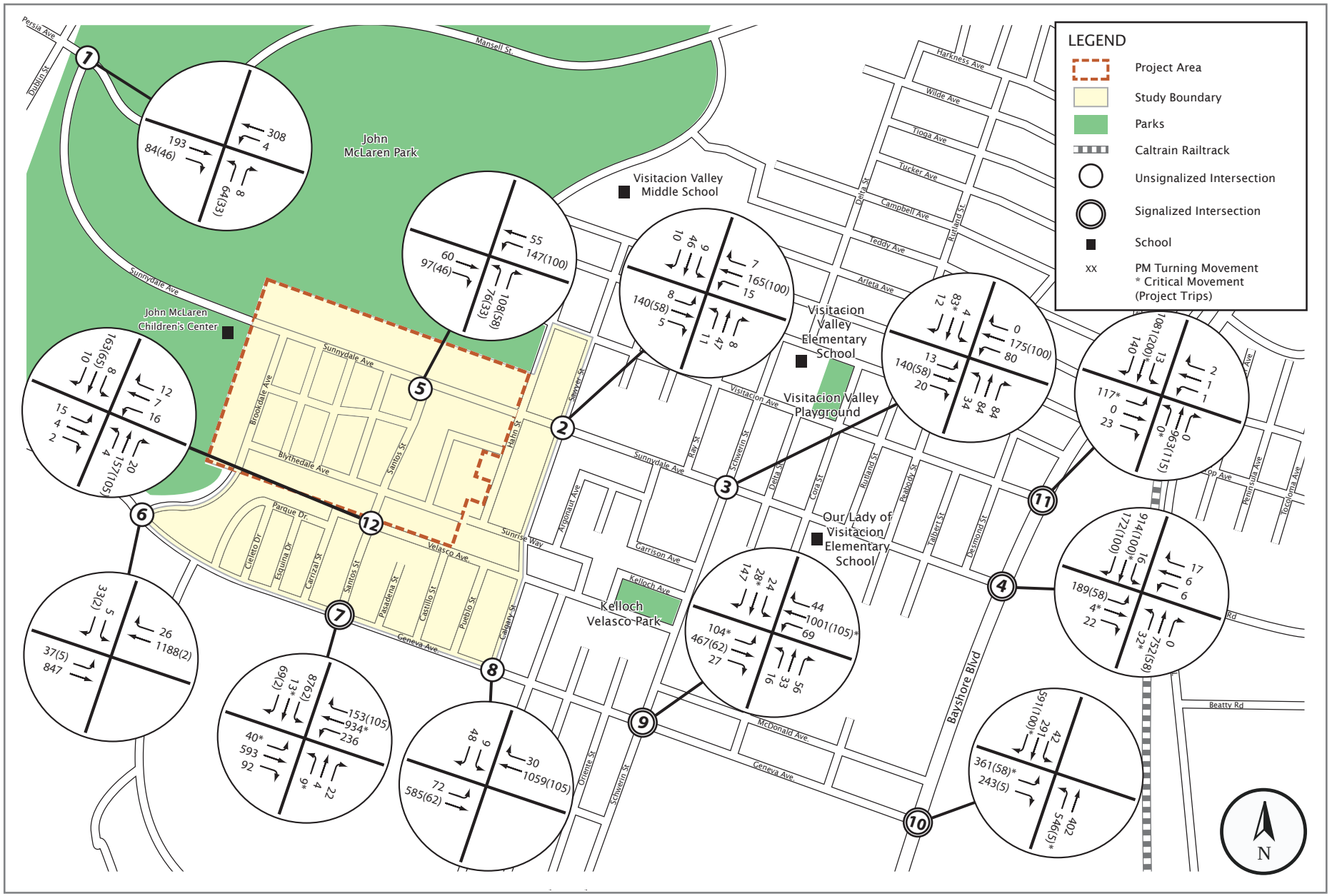
1. LOS for Alternatives 2 and 3 are the same as the existing condition.
2. TWSC indicates two-way stop-controlled intersection; delay is presented as the worst approach delay.
2. FWSC indicates four-way stop-controlled intersection; delay is presented as the worst approach delay.
3. Worst approach is indicated in parenthesis (NB=northbound; SB=southbound; WB=westbound; EB=eastbound).



CHS Consulting Group

Figure 12

Existing Plus Proposed Project/Variant Scenario (2010) Intersection PM Peak-Hour Turning Movement Volumes



CHS Consulting Group

Figure 13
Existing Plus Alternative I (2010) Intersection PM Peak-Hour Turning Movement Volumes

Improvement measures are proposed for the intersections operating at LOS C or D, except for the intersections of Sunnydale Avenue/Bayshore Boulevard, Geneva Avenue/Bayshore Boulevard, and Geneva Avenue/Calgary Street where no feasible improvement measures are identified due to right-of-way constraints and traffic, transit or pedestrian signal requirements.

Intersection #1: Sunnydale Avenue/Persia Street (Unsignalized)

The Proposed Project, the Variant Scenario, and Alternative 1 would cause the LOS to deteriorate from B to C, which is considered a less-than-significant impact.

> **Improvement Measure 1** – Given the sufficient width of Sunnydale Avenue (32 feet in the northbound approach) and Persia Avenue (41 feet in the eastbound approach), adding a left-turn pocket on the northbound approach on Sunnydale Avenue and a right-turn pocket on the eastbound approach on Persia Avenue would improve the intersection operating condition from LOS C to B. No parking spaces would be lost due to this change.

Intersection #6: Geneva Avenue/ Brookdale Avenue (Unsignalized)

With the addition of trips from the Proposed Project or Variant Scenario, the intersection would continue to operate at LOS C and the average vehicle delay would increase by 0.1 second from 21.9 seconds to 22.0 seconds. This is considered a less-than-significant impact.

> **Improvement Measure 2** – Given the sufficient width of Brookdale Avenue (51 feet in the southbound approach), adding a right-turn pocket on the southbound approach on Brookdale Avenue would reduce the vehicle delay to 20.4 seconds (LOS C). Approximately two on-street parking spaces would be lost due to this change.

Intersection #7: Geneva Avenue/ Santos Street (Signalized)

The Proposed Project, the Variant Scenario, and Alternative 1 would cause the LOS to deteriorate from LOS B to C, which is considered a less-than-significant impact.

> **Improvement Measure 3** – Given the sufficient width of Santos Street (48 feet in the southbound approach), adding a right-turn pocket on the southbound approach on Santos Street would not improve the LOS but would reduce the average vehicle delay by approximately three seconds from 23.9 to 20.6 seconds under the Existing Plus Proposed Project conditions. Under the Existing Plus Alternative 1, the LOS would improve from LOS C to LOS B with an average vehicle delay of 19.1 seconds.

Alternatives 2 and 3 – Alternatives 2 and 3 would neither add trips nor modify the circulation network; and as such, all study intersections would continue to operate at the same LOS as the existing conditions (LOS C or better) during the weekday PM peak-hour. Therefore, Alternatives 2 and 3 would not result in any significant traffic impacts at the study intersection, and no improvement measures are required.

4.3 Transit Impacts

As described in the Project Description, the Proposed Project, the Variant Scenario and Alternative 1 would realign the existing street network and relocate bus stops. In addition, they would cause an increase in transit travel time due to increased traffic and generate additional riders to the existing transit routes. Impacts associated the Proposed Project, the Variant Scenario and Alternative 1 are discussed in

this section. Alternatives 2 and 3 would not relocate bus stops, not increase traffic, and generate additional transit demand; thus they would have no impact on transit operation.

4.3.1 Transit Operations

Bus Routing

Existing bus routes serving the project site (i.e., Routes 9 San Bruno, 8X Bayshore Express, 8BX Bayshore "B" Express, and 56 Rutland) would continue to operate on Sunnydale Avenue and Santos Street under the Proposed Project, the Variant Scenario, and Alternative 1 conditions. Since the new street layout would realign curvilinear Santos Street and Sunnyvale Avenue into linear streets, it is expected to improve bus operation by reducing bus travel distance and time.

Bus Stop Relocation

There are currently two bus stops (in each direction) on Sunnydale Avenue west of Santos Street which serve Route 9. These bus stops – located approximately 350 feet apart from each other - would be consolidated into one stop (in each direction) at the intersection with "C" Street, resulting in increased walking distance to bus stops for some residents and reduced travel time for Route 9 by eliminating one stop. In addition, the inbound farside bus stops at the intersections of Hahn Street and Sunnydale Avenue and the intersection of Santos Street and Sunnydale Avenue serving Routes 8X and 8BX would be each relocated to nearside bus stops. Both stops would have a 55-foot bus bulb-out. The inbound and outbound bus stops at the intersection of Brookdale Avenue and Santos Street which currently serve Routes 9, 8X and 8BX would be removed; service currently provided at this stop would be provided by the nearby bus stop at the intersection of Sunnydale Avenue and Santos Street (300 feet north).

As a result, the total number of bus stops located within the project site would be reduced from eight to six, and the spacing for bus stops serving Route 9 would increase from approximately 450 feet to 1,270 feet, and the bus stop spacing for Routes 8X and 8BX would increase from approximately 300 to 1,001 feet. These are longer than the SFMTA's recommended stop spacing of 800 to 1,000 feet for bus stops serving motor- or trolley coaches on generally flat ground (less than 10% grade). While the proposed bus stop spacing could potentially inconvenience some residents by increasing their walking distance to a transit stop, it is expected to reduce bus travel time and to improve bus operations. The terminus for Route 9 would remain at the same location on Sunnydale Avenue as the existing condition, approximately 600 feet west of the project site.[15] The new bus stop locations are presented in **Figure 3.**

The bus stops located within the project site would be 55 feet long with 7-foot-wide bus bulbs as recommended by SFMTA. Muni stops located outside of the project site will remain the same and will not be impacted by the Proposed Project, the Variant Scenario, or Alternative 1.

Potential Conflicts with Proposed Bicycle Facilities

The Proposed Project, the Variant Scenario, and Alternative 1 would stripe 5-foot bike lanes on westbound Sunnydale Avenue and in both directions on Santos Street between Sunnydale Avenue and Velasco Avenue. Muni bus route 9 runs along Sunnydale Avenue and Santos Street with approximately five buses per hour during the AM and PM peak periods, and Muni bus routes 8X and 8BX run along Santos Street with approximately eight buses per hour during the AM and PM peak periods. The

[15] Per request of SFMTA, the terminus could be potentially moved to the southwest corner of Sunnydale Avenue and Brookdale Avenue; however, the final decision has not been made at this time.

installation of the proposed bike lanes would not affect roadway capacity and buses would continue to operate on 11-foot travel lanes. Since bicycles and transit would each have their own lanes, potential conflicts between bicyclists and buses would be minimal.

The Proposed Project, the Variant Scenario, and Alternative 1 would add sharrows on the remaining segments of Sunnydale Avenue and both sides of Blythedale Avenue and Brookdale Avenue within the project site. There are no Muni bus routes operating on Blythedale Avenue or Brookdale Avenue, and therefore no conflicts between bicycles and buses are anticipated along these streets. Eastbound Sunnydale Avenue between the western project border and Santos Street would have an 11-foot-wide travel lane with a sharrow, and Sunnydale Avenue east of Santos Street would have 14-foot-wide travel lanes with sharrows in both directions. The sharrows could potentially affect transit operation since buses traveling behind a bicyclist may experience somewhat slower speeds. However, bicycle volumes are generally low; therefore potential conflicts between bicyclists and buses would be minimal.

Four bus stop locations (i.e., on westbound Sunnydale Avenue west of Santos Street and on both sides of Santos Street) could be potentially affected by the proposed bike lanes. Westbound Sunnydale Avenue (west of Santos Street) would have a 12-foot travel lane, a 5-foot bike lane, and a 5-foot parking lane. Santos Street would have an 11-foot travel lane, a 5-foot bike lane, and a 5-foot parking lane (See **Figure 14**). The parking lanes would be replaced with a bus bulb-out, and potential conflicts between buses and bikes may occur because buses would have to cross the bike lane to pull to the curbside stop or to re-enter the travel lane. In this case, buses typically give a right-of-way to the cyclists so that the bus can safely maneuver between the stop and the travel lane. Both buses and bicyclists would have sufficient right-of-ways to travel comfortably alongside each other. Bicycle volumes are generally low; therefore interactions and potential for conflicts between bicyclists and buses would be minimal.

4.3.2 Existing Plus Project Transit Delay Impacts

Delay impacts to transit were measured in terms of increases to transit travel times due to traffic congestion delay. Traffic congestion associated with the increases in area traffic slows down transit vehicles and may result in increased transit travel times. However, delays at specific locations along a transit route may not cause the route headway/frequency to change, and the operation of the entire route should be considered. For general analysis, potential transit travel delays were examined using traffic operations data obtained from the intersection LOS calculations performed at study intersections along the corridor and summing the average vehicular delay (for each approach) at each intersection along the transit line's route within the study area.

The project was determined to potentially have a significant transit delay if it would generally increase travel times such that the project's travel time increases to a particular route would be greater than half of its existing headway. If this were found, a more detailed transit travel delay analysis would be undertaken for those routes.

Proposed Project and Variant Scenario – Table 24 presents the associated delay for the Existing Plus Project/Variant Scenario conditions during the PM peak period. Detailed calculations are included in **Appendix M**. As shown in the table, the increase in transit travel time due to the Proposed Project/Variant Scenario would be less than half of the route headway. Therefore, additional analyses were not warranted as the project's addition to delays would not be considered significant.

Alternative 1 – As shown in **Table 24**, the increase in transit travel time due to the Alternative 1 would be less than half of the route headway. Thus, additional analyses were not warranted as the Alternative 1's addition to delay would not be considered significant.

Table 24 – Existing Plus Project, Variant Scenario and Alternative 1: Transit Corridor Delay during Weekday PM Peak-hour

Route[1]	Headway (min)	Travel Time (min: sec)				
		Existing	Existing Plus Project/Variant	Project Increase	Existing Plus Alt 1[5]	Alt 1 Increase
Northbound/ Eastbound						
9 San Bruno[2]	12	3:36	4:02	0:26	3:46	0:10
8X Bayshore Express	8	3:48	4:41	0:53	4:22	0:34
8BX Bayshore "B" Express[3]	8	-	-	-	-	-
56 Rutland	30	1:09	1:26	0:16	1:14	0:05
Southbound/ Westbound						
9 San Bruno[2]	12	2:37	3:27	0:50	2:55	0:18
8X Bayshore Express	8	3:01	3:41	0:40	3:21	0:20
8BX Bayshore "B" Express	8	3:01	3:41	0:40	3:21	0:20
56 Rutland[4]	30	-	-	-	-	-

Source: CHS Consulting Group, 2013
Notes:
1. Light rail service T Third is not included in the transit delay analysis because it operates on a designated rail track thus is not affected by roadway traffic congestion.
2. Consolidation of bus stops from two to one (in each direction) on Sunnydale Avenue would potentially reduce bus travel time.
3. 8BX Bayshore "B' Express operates in the outbound (southbound) direction only during the PM period.
4. Southbound and westbound 56 Rutland operates along Wilde Avenue, Rutland Street, and Raymond Avenue which are not part of the study corridor.
5. Alt 1 indicates Alternative 1.

Alternative 2 and 3 – These two alternatives would not add net new transit trips, nor modify the bus circulation network; and as such, all transit travel time would remain the same as the existing conditions. Thus, Alternatives 2 and 3 would not result in any significant transit impacts under the Existing Plus Alternative 2 and the Existing Plus Alternative 3 conditions.

4.3.3 Existing Plus Project Transit Capacity Utilization

As shown in **Table 16**, the Proposed Project and Variant Scenario are expected to generate 3,749 net new daily transit trips and 562 net new PM peak-hour transit trips. Of the 562 transit trips in the PM peak-hour, approximately 366 trips would occur in the inbound direction and 196 trips would occur in the outbound direction based on the regional trip distribution pattern for the project area (see **Appendix J)**. Alternative 1 is anticipated to generate approximately 2,556 net new daily transit trips and 360 net new PM peak-hour transit trips. Of the 360 net new transit trips in the PM peak-hour, approximately 231 trips would occur in the inbound direction and 129 trips would occur in the outbound direction. These trips would be spread over different Muni bus lines as well as onto regional transit services with connections via local Muni bus lines. Since the difference in trip generation between the Proposed Project and the Variant Scenario is insubstantial (one fewer person trip for the Variant Scenario), the Proposed Project trip generation is used to analyze the potential transit capacity utilization under both scenarios. Alternatives 2 and 3 would remain identical to the existing conditions.

Local

In order to assess transit capacity utilization under the Existing Plus Project conditions, the project-generated transit trips were added to the existing transit ridership and then were compared to the hourly capacity. Project transit trips were assigned to each transit line depending on the origin and destination of

the trip and the availability of transit connections from and to the project site (see **Appendix J)**. For a conservative estimate, all transit trips in each peak direction are assumed to cross the maximum load point. **Table 25 and 26** presents the AM and PM peak-hour ridership and the capacity utilization at MLP for each line under the Existing Plus Project conditions. The Proposed Project would add passengers to Routes 9, 8BX, and T Third such that the loads at the MLPs exceed Muni's standard of 85 percent capacity utilization during the AM and PM peak hours. Under Alternative 1, T Third would have a load at the MLP that exceeds Muni's standard of 85 percent capacity utilization during the AM and PM peak hours, and Route 8BX would have a load at the MLP above Muni's 85 percent capacity utilization rate during the PM peak hour only.

Proposed Project and Variant Scenario – It is estimated that the project would add approximately 57 riders to the inbound Route 9 during the AM peak hour and to the outbound Route 9 during the PM peak hour, which constitute approximately 20 percent of the overall riders. The project would add approximately 139 riders to the inbound Route 8BX during the AM peak hour and to the outbound Route 8BX during the PM peak hour, which constitute approximately 22 and 20 percent of the overall riders, respectively. The project would also add approximately 15 riders to the outbound T Third during the PM peak hour and to the inbound T Third during the AM peak hour. These increases constitute approximately two percent of overall riders. With the addition of these project-generated transit trips, the service levels of these are expected to be worsened.

Table 25 – Existing Plus Project and Variant Scenario: Muni Route Capacity Utilization during Weekday AM and PM Peak-hours

Route[1]	Direction	Existing Peak Passenger Load	Project Transit Person Trips	Total Passenger Load	Peak Hour Capacity	Capacity Utilization at MLP[2]
Proposed Project and Variant Scenario: AM Peak-Hour						
9 San Bruno	Inbound	225	57	282	318	89%
	Outbound	175	31	206	318	65%
8X Bayshore Express	Inbound	N/A	N/A	N/A	N/A	N/A
	Outbound	504	127	631	753	84%
8BX Bayshore "B" Express	Inbound	488	139	627	706	89%
	Outbound	N/A	N/A	N/A	N/A	N/A
56 Rutland	Inbound	5	8	13	90	15%
	Outbound	11	14	25	90	27%
T Third	Inbound	696	15	711	714	100%
	Outbound	525	28	553	833	66%
Proposed Project and Variant Scenario: PM Peak-Hour						
9 San Bruno	Inbound	180	31	211	318	66%
	Outbound	215	57	272	318	86%
8X Bayshore Express	Inbound	408	127	535	753	71%
	Outbound	N/A	N/A	N/A	N/A	N/A
8BX Bayshore "B" Express	Inbound	N/A	N/A	N/A	N/A	N/A
	Outbound	568	139	707	753	94%
56 Rutland	Inbound	11	14	25	90	27%
	Outbound	12	8	20	90	22%
T Third	Inbound	554	28	582	714	82%
	Outbound	750	15	765	833	92%

Source: SFMTA TEP, 2008, 2011; CHS Consulting Group, 2011
Notes:
1. Peak passenger load and the carrying capacity for Routes 9, 8X and 8BX are obtained from data collected in August and September, 2011, provided by SFMTA on January 5, 2012 memo.
2. Capacity utilization above Muni's 85 percent standard is noted in shade.

Alternative 1 –Alternative 1 would add approximately 89 riders to the outbound Route 8BX during the PM peak hour which constitutes approximately 14 percent of the overall riders. The project would also add approximately 10 riders to the outbound T Third during the PM peak hour and to the inbound T Third during the AM peak hour. These increases constitute approximately one percent of overall riders. With the addition of these transit trips, the service levels of these are expected to worsen.

Table 26 – Existing Plus Alternative 1: Muni Route Capacity Utilization during Weekday AM and PM Peak-hours

Route[1]	Direction	Existing Peak Passenger Load	Project Transit Person Trips	Total Passenger Load	Peak Hour Capacity	Capacity Utilization at MLP[2]
Alternative 1: AM Peak-Hour						
9 San Bruno	Inbound	225	36	261	318	82%
	Outbound	175	20	195	318	61%
8X Bayshore Express	Inbound	N/A	N/A	N/A	N/A	N/A
	Outbound	504	79	583	753	77%
8BX Bayshore "B" Express	Inbound	488	89	577	706	82%
	Outbound	N/A	N/A	N/A	N/A	N/A
56 Rutland	Inbound	5	6	11	90	12%
	Outbound	11	9	20	90	22%
T Third	Inbound	696	10	706	714	99%
	Outbound	525	18	543	833	65%
Alternative 1: PM Peak-Hour						
9 San Bruno	Inbound	180	20	200	318	63%
	Outbound	215	36	251	318	79%
8X Bayshore Express	Inbound	408	79	487	753	65%
	Outbound	N/A	N/A	N/A	N/A	N/A
8BX Bayshore "B" Express	Inbound	N/A	N/A	N/A	N/A	N/A
	Outbound	568	89	657	753	87%
56 Rutland	Inbound	11	9	20	90	22%
	Outbound	12	6	18	90	20%
T Third	Inbound	554	18	572	714	80%
	Outbound	750	10	760	833	91%

Source: SFMTA TEP, 2008, 2011; CHS Consulting Group, 2011
Notes:
1. Peak passenger load and the carrying capacity for Routes 9, 8X and 8BX are obtained from data collected in August and September, 2011, provided by SFMTA on January 5, 2012 memo.
2. Capacity utilization above Muni's 85 percent standard is noted in shade.

However, transit riders typically have multiple options to reach the project site depending on their location and tolerance of certain types of transit options. As was presented in **Section 2.3.1**, transit routes serving the project site were split into directional groups to analyze whether or not the project would cause transit operating condition in a specific direction to exceed the 85 percent capacity utilization standard. The project was determined to have a significant impact if the addition of project trips to the Muni screenlines would result in the capacity utilization to exceed the 85 percent standards.[16]

[16] Muni screenline analysis was conducted based on the screeenline summary published on February 2, 2009. Since then, the San Francisco Planning Department has published an updated screenline summary as December 18, 2012. CHS compared the results under the 2009 and 2013 screenline summaries and has found that with the new screenline the capacity utilization over northwest screenline with the Proposed Project would increase from 65% to 73% in the AM peak-hour and from 66% to 76% in the PM peak-hour, but the capacity utilization over southeast screenline would decrease from 71% to 68% in the AM peak-hour and from 70% to 63% in the PM peak-hour.

Under the Existing Plus Proposed Project conditions, approximately 225 and 22 project trips are expected to cross the Southeast and Northwest screenlines, respectively, during the AM and PM peak-hour in the peak direction. Under the Existing Plus Alternative 1 conditions, approximately 143 and 14 project trips are expected to cross the Southeast and Northwest screenlines, respectively, during the peak-hour in the peak direction. However, all Muni screenlines would continue to operate under its 85 percent of capacity with the addition of project trips, as shown in **Table 27**.

Table 27 – Existing Plus Project, Variant Scenario, and Alternative 1: Muni Screenline Capacity Utilization during Weekday AM and PM Peak-hours

	Existing			Existing Plus Proposed Project/Variant			Existing Plus Alternative 1		
Screenline	Ridership	Capacity	Utili-zation	Added Trips	Total Ridership	Utili-zation	Added Trips	Total Ridership	Utili-zation
AM Peak-Hour[1]									
Northeast	1,882	3,781	50%	0	1,882	50%	0	1,882	50%
Northwest	7,434	11,437	65%	22	7,456	65%	14	7,448	65%
Southeast	4,248	6,301	67%	225	4,473	71%	143	4,391	70%
Southwest	6,627	8,699	76%	0	6,627	76%	0	6,627	76%
Total	20,191	30,218	67%	247	20,438	68%	157	20,348	67%
PM Peak-Hour[2]									
Northeast	1,886	3,599	52%	0	1,886	52%	0	1,886	52%
Northwest	6,621	10,123	65%	22	6,643	66%	14	6,635	66%
Southeast	4,668	7,028	66%	225	4,893	70%	143	4,811	68%
Southwest	7,434	9,623	77%	0	7,434	77%	0	7,434	77%
Total	20,609	30,373	68%	247	20,856	70%	157	20,766	68%

Source: AECOM, February 2, 2009; CHS Consulting Group, 2013.
Notes:
1. Inbound direction
2. Outbound direction

Alternative 2 and 3 – These two alternatives would generate the same level of transit demand as the existing conditions. Therefore, Alternatives 2 and 3 would not result in any significant transit impact under the Existing Plus Alternative 2 and the Existing Plus Alternative 3 conditions.

Regional

To evaluate regional transit operations under the Existing Plus Project conditions, the project-generated transit trips bound to the East Bay, North Bay and South Bay were added to each respective regional screenline. **Table 28** presents the ridership and capacity utilization at the three regional screenlines under the Existing Plus Project conditions.

Proposed Project and Variant Scenario – Since the project contribution to regional screenlines would be very small under the Existing Plus Project/Variant conditions, the regional transit operators would continue to operate at the same or similar level of capacity utilization as the existing conditions with the addition of project trips. The North Bay and the South Bay screenlines are expected to operate below 100 percent capacity, but the East Bay screenline would operate above 100 percent of the capacity. This would be under BART's one-hour capacity utilization standard of 135 percent but above other transit operators' utilization standard of 100 percent. Although the ridership demand over the East Bay

screenline would exceed the regional transit operator's (except BART) 100 percent capacity, the project contribution to this corridor would be considered minimal (less than 0.04 percent).

Alternative 1 – Similar to the Proposed Project, the contribution of trips to regional screenlines would be very small under the Existing Plus Alternative 1 conditions. Therefore, Alternative 1 would not cause significant impacts on regional transit services.

Table 28 – Existing Plus Project, Variant Scenario, and Alternative 1: Regional Screenline Capacity Utilization during Weekday AM and PM Peak-hours

	Existing			Existing Plus Proposed Project/Variant			Existing Plus Alternative 1		
Screenline	Ridership	Capacity	Utili-zation	Added Trips	Total Ridership	Utili-zation	Added Trips	Total Ridership	Utili-zation
AM Peak-Hour[1]									
East Bay	20,401	18,944	108%	7	20,408	108%	5	20,406	108%
North Bay	2,459	4,355	56%	6	2,465	57%	4	2,463	57%
South Bay	13,999	14,950	94%	8	14,007	94%	6	14,005	94%
PM Peak-Hour[2]									
East Bay	20,204	19,852	102%	7	20,211	102%	5	20,209	102%
North Bay	2,303	3,905	59%	6	2,309	59%	4	2,307	59%
South Bay	12,106	14,550	83%	8	12,114	83%	6	12,112	83%

Source: AECOM, February 2, 2009; CHS Consulting Group, 2013.
Notes:
1. Inbound direction
2. Outbound direction

Alternative 2 and 3 – These two alternatives would not generate any new regional transit demand. Therefore, Alternative 2 and 3 would not result in any significant regional transit impact under the Existing Plus Alternative 2 and Existing Plus Alternative 3 conditions.

In summary, the proposed street layout and new bus stop locations are expected to improve the bus operations and no significant conflicts would occur between transit and other modes. The project would not increase the bus travel time by more than half of its headway. The project's contribution to the local and regional transit screenlines would not exceed the utilization standards except for the East Bay screenline where the project's contribution would be minimal. Therefore, the Proposed Project, the Variant Scenario, and Alternatives' impacts on transit would be considered to be ***less than significant.***

4.4 Pedestrian Impacts

4.4.1 Pedestrian Impact Analysis

Proposed Project, Variant Scenario, and Alternative 1 – As shown in **Tables 14 and 16**, the Proposed Project and Variant Scenario would generate a total of 748 daily pedestrian trips and 67 PM peak-hour pedestrian trips and 562 trips to and from a transit stop, while Alternative 1 would generate a total of 728 daily pedestrian trips and 63 PM peak-hour pedestrian trips and 360 trips to and from a transit stop.

Under the Proposed Project, the Variant Scenario, and Alternative 1, all streets would have sidewalks and crosswalks at all intersections, which is an improvement from the existing conditions; therefore, pedestrians would be able to more safely navigate through the project site. The widths of sidewalks

would range between 5 to 15 feet depending on the location. The eastern portion of Sunnydale Avenue near the community center would have the widest sidewalk at 15 feet in width, and sidewalks along the new north-south streets (i.e., "A", "B", "C", and "D" Streets) would be 5 feet wide. The estimated pedestrian trips are expected to be sufficiently accommodated on these sidewalks.

It is anticipated that pedestrian conditions would be substantially improved under the Proposed Project, the Variant Scenario, and Alternative 1. The new grid pattern would have corner bulb-outs, mid-block bulb-outs, and intersection neck-downs (see **Figure 3**). These features would provide significantly better pedestrian connections and improve pedestrian safety. Sidewalks would be wheelchair accessible with curb-cuts at the intersections in compliance with the American Disability Act (ADA). Bulb-outs would be installed at all intersections to reduce pedestrian crossing distances and to improve pedestrian safety.

Currently there are few street trees and few lighting fixtures; however, the project would provide a more pedestrian-friendly street network with street lights and landscaping on every block. In addition, pedestrian-friendly community facilities would be provided throughout the project site such as the proposed pedestrian-only segment of Center Street between "C" and "D" Streets (see **Figure 3**), a new neighborhood park for community gatherings and events, and a community garden. These improvements would be consistent with the City's Better Street Plan which prioritizes walking and the use of streets as public spaces for social interaction and community life.

As discussed in **Section 2.4**, school children traffic in the vicinity of John McLaren School is expected to remain low as they would likely continue to be transported by their parents or school bus. In the event of increased student traffic in the area, potential pedestrian and vehicular conflicts would remain low due to improved pedestrian facilities such as wide sidewalks, "Green Streets" which provide landscaped buffer between the pedestrian path and travel lanes, crosswalks, and corner bulb-outs.

Overall, the the Proposed Project, the Variant Scenario, and Alternative 1 would have a ***less-than-significant*** impact on pedestrian conditions because it would not result in substantial overcrowding, create potentially hazardous conditions for pedestrians, or interfere with pedestrian accessibility to the site and adjoining areas.

Alternative 2 and 3 – These two alternatives propose no changes to the existing pedestrian circulation network, and would result in no impacts to pedestrians.

4.5 Bicycle Impacts

4.5.1 Bicycle Parking Code Requirements and Standards

Proposed Project, Variant Scenario, and Alternative 1 – The City of San Francisco Planning Codes (Sec 155.4 and 155.5) require that residential projects with over 50 dwelling units to provide 25 bicycle parking spaces for the first 50 units and plus one bicycle parking space for every four dwelling units over 50 units. No bicycle parking is required for senior housing units. As a result, the Proposed Project would be required to provide 400 bike spaces, the Variant Scenario would be required to provide 385 bike spaces, and Alternative 1 would be required to provide 318 bike spaces. In compliance with the Planning Code, the Proposed Project, the Variant Scenario, and Alternative 1 would provide a minimum of the required number of bike parking spaces in the residential garages throughout the project site.

For commercial/institutional buildings over 50,000 gsf but no greater than 100,000 gsf, the Planning Code requires six bicycle parking spaces. The Propose Project, the Variant Scenario and Alternative 1 would

construct total 72,500 gsf community space and 16,200 gsf of retail space, which would require a minimum of six parking spaces. The Proposed Project, Variant Scenario and Alternative 1 would provide a total of 38 bicycle parking spaces at key public locations around the project site, as illustrated in **Figure 3**. Therefore, the project would meet the planning code requirements.

Alternative 2 – Alternative 2 would be required to provide 205 bike parking spaces. However, similar to the existing condition Alternative 2 would not provide any bike parking spaces, thus this alternative would not meet the Planning Code requirements.

Alternative 3 – This alternative makes no changes to the existing complex, and so incurs no requirement for bicycle parking.

4.5.2 Bicycle Circulation

Proposed Project, Variant Scenario, and Alternative 1 – The Proposed Project, the Variant Scenario, and Alternative 1 would provide bike lanes on westbound Sunnydale Avenue west of Santos Street and along both sides of Santos Street, and the project would provide sharrows along the remaining portions of Sunnydale Avenue and along Brookdale and Blythedale Avenues, as illustrated in **Figure 14**. Street section drawings in **Appendix B** show the dimensions of these bike facilities.

The width of westbound Sunnydale Avenue is 24 feet including a 7-foot-wide parking lane. Adding a 5-foot-wide bike lane on the westbound direction on Sunnydale Avenue may reduce the travel lane width from 17 to 12 feet; however, it would not reduce the number of travel lanes. Therefore, the proposed bike lane would not significantly increase traffic congestion or delays on Sunnydale Avenue. The curb-to-curb width of Santos Street is 46 feet including a 7-foot-wide parking lane on both sides of the street. Adding a 5-foot-wide bike lane on both sides of Santos Street may reduce the width of each travel lane (one in each direction) from 16 to 11 feet; however it would not reduce the number of travel lanes. Therefore, the proposed bike lane would not significantly increase traffic congestion or delays on Santos Street.

As discussed in **Section 2.5**, currently there are no designated bicycle routes or lanes in the immediate vicinity of the project site, with the closest bicycle facilities being Route 90 on Geneva Avenue and Route 705 on Mansell Avenue. The proposed bike facilities do not connect to any surrounding bicycle network; however, they are expected to strengthen north-south and east-west bicycle traffic within the project site. Bicyclists traveling north on Santos Street and making a left at Sunnydale Avenue in the direction of McLaren Park would have a continuous north-south and east-west bike lane connection within the project site. Bicyclists travelling east on Sunnydale Avenue and making a right onto Santos Street would enter a bike lane immediately past the intersection of Sunnydale Avenue and Santos Street. Bicyclists approaching west on Sunnydale Avenue would travel on a 14-foot-wide travel lane with sharrows which would transition into a 12-foot travel lane and a 5-foot-wide bike lane past Santos Street.

According to **Tables 14 and 16**, the Proposed Project and Variant Scenario would generate approximately 42 new person trips using "Other" modes besides driving, taking transit or walking during the PM peak-hour, while Alternative 1 would generate approximately 29 trips using "Other" modes. The majority of these trips would likely be by bicycle. Since the existing bicycle volumes in the area were observed to be relatively low,[17] the proposed bicycle facilities would be sufficient to accommodate any new bicycle trips in the area.

[17] Field visit was conducted on Sunday, August 29, 2010, and on Thursday, September 23, 2010.



CHS Consulting Group

Figure 14
Existing and Proposed Bicycle Routes and Cross Sections

Bicycle and Pedestrian Conflicts with Other Modes

Parking

The proposed street layout would include perpendicular parking on Center Street between "A" Street and Hahn Street and parallel parking on the rest of the streets in the project site. The perpendicular parking lanes on Center Street would be up to 16.5 feet from the curb, and the parallel parking lanes would be seven feet from the curb. The proposed 5-foot-wide bike lanes on the north side of Sunnydale Avenue and on both sides of Santos Street would run parallel to these parking lanes. Sharrows on the south side of Sunnydale Avenue east of Santos Street would be stenciled on the approximately 14.5 feet wide roadway pavement, and this would be sufficient to accommodate each mode of travel. The sharrows on Brookdale and Blythedale Avenues would be stenciled on the approximately 11 feet wide roadway pavement. Since bike volumes on the project would be relatively low (with less than 42 trips during the PM peak hour), no significant vehicular and bike conflicts would be expected. The portion of Sunnydale Avenue and Center Street where angled parking is provided is flat with approximately two to five percent grade; therefore, no significant bicycle conflict is expected. No parking will be lost due to installation of bike lanes or sharrows on the street since parking lanes would be maintained adjacent to each travel lane or bike lane.

Transit

Sunnydale Avenue and Santos Street in the project site would have both transit and bicycle traffic. Sunnydale Avenue west of Santos Street has Muni bus route 9 at 12-minute headways or five buses an hour. This portion of Sunnydale Avenue would have a 12-foot-wide travel lane and a 5-foot-wide bike lane in the westbound direction and sharrows on the 12-foot-wide travel lane on the eastbound direction. Sunnydale Avenue east of Santos Street has Muni bus routes 8X and 8BX each at 8-minute headway for a total of 15 buses an hour. This portion of Sunnydale Avenue would have sharrows on the 14-foot-6-inch-wide travel lane in both directions. Santos Street has Muni bus routes 9, 8X, and 8BX at a combined frequency of every 3 minutes for a total of 20 buses an hour. Santos Street would have an 11-foot-wide travel lane and a 5-foot-wide bike lane in each direction. Bike volumes would be relatively low in the area and Sunnydale Avenue and Santos Street would have sufficient widths to accommodate both transit and bike traffic; therefore, significant conflicts between the two modes would be minimal.

When buses pull to the curbside bus stops (at the intersections of Sunnydale Avenue/ "C" Street, Sunnydale Avenue/Santos Street, Santos Street/Blythedale Avenue), typically bike lanes would continue and the parking lane would be replaced with a bus stop. Since buses would have to cross the bike lane to pull at the curbside stop or to re-enter the travel lane, potential conflicts between buses and bikes may occur. In this case, buses typically give a right-of-way to the cyclists so that the bus can safely maneuver between stop and travel lane. When the bus pulls ahead of a cyclist, it is most likely a cyclist will slow down behind the bus or pass the left of the bus, and the driver will not move until the last bike clears. Since the bicycle volumes would be low, potential conflicts between transit and bikes would be minimal.

Loading

The project consists of mostly residential buildings, a mixed-use building and a community building. Loading demand is relatively low and would take place within the off-street loading dock or on-street parking and/or loading spaces. As illustrated in **Figure 3**, there will be designated on-street loading

spaces in front of the main entrance to buildings (approximately one per each block).[18] Since there would be a sufficient number of loading spaces provided within the project site, no conflicts are expected with pedestrian or bike activities on the street. The off-street loading dock would be located adjacent to the mixed-use senior housing building in Block 3, and the loading dock access would be made from Center Street, near Hahn Street. Potential conflict points may exist at the loading dock entry and exit off of Center Street. However, bicycle or pedestrian traffic would be generally low in this segment of Center Street, and trucks backing into the loading dock would move slowly so that the trucks are highly visible to bicyclists and pedestrians. Therefore, there would be no hazard to bicyclists or pedestrians.

Overall, the the Proposed Project, Variant Scenario, and Alternative 1 would have a ***less-than-significant*** impact on bicycle conditions because it would not create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

Alternative 2 and 3 – These two alternatives propose no changes to the existing bicycle circulation network, and would have no impacts.

4.6 Loading Impacts

This section includes a discussion of loading impacts from the Proposed Project, the Variant Scenario, and Alternative 1in relation to the existing requirements outlined in the San Francisco Planning Code, anticipated demand and available loading supply.

4.6.1 Loading Code Requirements and Standards

Loading requirements for the project were calculated based on the San Francisco Planning Code Section 152. For residential land use, no off-street loading space is required for buildings less than 100,000 gsf, and one off-street loading space is required for buildings greater than 100,000 gsf and less than 200,000 gsf. For retail use, one off-street loading space is required for buildings greater than 10,000 gsf and less than 60,000 gsf. **Table 29** summarizes these loading requirements and the proposed loading supply.

Table 29 – Off-Street Loading Requirements

Land Use	Size	Requirement	Proposed Supply	Difference
Proposed Project/ Variant Sceanrio				
Residential[1]	2,184,560 gsf	2	0	-2
Retail	16,200 gsf	1	1	0
Recreation/Community Center	72,500 gsf	0	0	0
Total	**2,273,260 gsf**	**3**	**1**	**-2**
Alternative 1				
Residential[2]	1,382,898 gsf	1	0	-1
Retail	16,200 gsf	1	1	0
Recreation/Community Center	72,500 gsf	0	0	0
Total	**1,471,598 gsf**	**2**	**1**	**-1**

[18] These spaces would be designated as white or yellow loading zones during the midday period, and they can be used as on-street parking spaces during the evening period.

Source: CHS Consulting Group, 2010; San Francisco Planning Code 152.
Note:
1. There will be two residential blocks which exceed 100,000 gsf in the Proposed Project. Each of these buildings would be required to provide one off-street loading space per the Planning Code 152.
2. There will be one residential block which exceeds 100,000 gsf in Alternative 1. This building would be required to provide one off-street loading spaces per the Planning Code 152.

Proposed Project and Variant Scenario – As described in the Project Description, the residential component of the project would be developed over 2,184,560 gsf of building space; however, the area would be spread over 33 detached buildings, as shown in **Figure 3**. As a result, the square footage of each residential building would not exceed 100,000 gsf except for the mixed-use senior building in Block 3 and a residential building in Block 6. The residential component in Blocks 3 and 6 would be approximately 103,000 gsf and 144,000 gsf, respectively. This would require one off-street loading space for each block. In addition, the 16,200 gsf retail component of the Proposed Project (located in Block 3) would require one off-street loading space. In sum, a total of three off-street loading spaces would be required.

Alternative 1 – The residential component of Alternative 1 would be developed over 1,392,898 gsf of building spaces; however, the area would be spread over 33 detached buildings. As a result, the square footage of each residential building would not exceed 100,000 gsf, except for a residential building in Block 6 (148,418 gsf). This would require one off-street loading space for Block 6. Similar to the Proposed Project, retail use would require one off-street loading space. In sum, a total of two off-street loading spaces would be required.

Alternative 2 – The residential component of Alternative 2 would be developed in the existing locations over 794,168 gsf of building spaces and spread over 89 detached buildings. As a result, the square footage of each residential building would not exceed 100,000 gsf). Therefore, no off-street loading space would be required for this alternative.

4.6.2 Loading Supply and Loading Demand

Supply

Proposed Project, Variant Scenario, and Alternative 1 would provide one (20 feet wide and 25 feet deep) off-street loading space in Block 3 as part of the mixed-use senior building. As a result, the Proposed Project would be deficient by two off-street loading spaces, while the Alternative 1 would be deficient by one off-street loading space per the minimum Planning Code requirements. The project sponsor would seek exceptions from the off-street loading space requirement for the larger residential buildings and would make up for the deficiency of off-street loading spaces by providing on-street loading on all project blocks.

In addition to the off-street loading space, the project would provide on-street loading spaces throughout the project site (See **Figure 3**). The exact location of on-street loading zones would be determined based on the actual demand and needs for the project site in the future with collaboration with the SFMTA. It is expected that the move-in and move-out activities for residential uses would occur within the garages or from a nearby loading zone on the street.

Alternative 2 would not provide any off-street loading space similar to the existing condition and would meet the Planning Code requirements.

Alternative 3 proposes no changes to the current complex, so there would be no Planning Code requirements for loading spaces.

Demand

Proposed Project and Variant Scenario – As presented in **Table 21**, the Proposed Project would generate 77 daily truck trips, which equals a demand for approximately 4 loading spaces for an average hour and 5 spaces during the peak-hour. Since the project would provide one off-street loading space, the remaining loading activities are expected to be accommodated on the on-street loading spaces. The project would have sufficient street frontages along Sunnydale Avenue to accommodate the necessary loading demand.

Alternative 1 – Alternative 1 would generate 53 daily truck trips, which equals a demand for approximately 3 loading spaces for an average hour and during the peak-hour. Similar to the Proposed Project, the project would provide one off-street loading space, thus the remaining loading activities are expected to be accommodated on the on-street loading spaces. The project would have sufficient street frontages along Sunnydale Avenue to accommodate the necessary loading demand.

Alternatives 2 and 3 – Under these two alternatives, truck loading demand and supply would remain the same as the existing condition. Thus, there would be no truck loading impacts from Alternatives 2 and 3.

4.6.3 Passenger Loading Activities

Proposed Project, Variant Scenario, and Alternative 1 – Passenger loading and unloading activities would most likely occur near the main entrance to buildings throughout the project area. The project sponsor must petition to the SFMTA to designate parts of street frontages as white (passenger) loading zones in front of the main entrance to each building. The project would have sufficient street frontages along these streets to accommodate the necessary on-street passenger loading demand.

Alternatives 2 and 3 – Under these two alternatives, passenger loading demand and supply would remain the same as the existing condition. Thus, there would be no passenger loading impacts from Alternatives 2 and 3.

4.6.4 Trash and Recycling Storage and Collection

The current project plans do not include building-specific design information. It is anticipated that each multi-family residential building would include a centralized area for collection of trash, recycling, and composting bins on the ground floor or outside the building at grade, and these bins would be rolled in and out for each pick-up through the parking entry curb-cuts for the Proposed Project, the Variant Scenario, and Alternative 1. Likewise, the recreation/community center and the senior housing building would each have a ground-floor room for trash, recycling, and composting bins. The ground-floor retail space in the senior housing building would likely have a separate trash room. **Figure 3** shows these locations marked with a "T" and the parking-entry curb-cuts. As master planning proceeds to the schematic design stage for the proposed buildings, the project sponsor would work with Recology, one of the City's trash, recycling, and compost hauler, and with the San Francisco Department of the Environment and the Municipal Transportation Agency's Sustainable Streets Division to ensure that trash, recycling, and composting facilities are stored in accessible locations for pick-up, remain on the street for the shortest time possible before and after pick-up, and to minimize pedestrian and other traffic disruption during collection.

In summary, the project loading demand would be sufficiently accommodated on the designated off-street loading space and on-street loading zones to be provided throughout the project site for the Proposed Project, the Variant Scenario, and Alternative 1. Since the project would have sufficient loading spaces on the project site and its trash collection would not interfere with pedestrian and other traffic, the project would have ***less-than-significant*** loading impacts.

> **Improvement Measure 4** – Work with Recology, the City's designated trash, recycling, and compost hauler, and with the San Francisco Department of the Environment and the SFMTA's Sustainable Streets Division as master planning proceeds to the schematic design stage for the proposed buildings, to ensure that trash, recycling, and composting facilities are designed to ensure maximum diversion of trash from the City's landfill and that the collection bins are stored in such locations to maximize efficiency in container pickup and minimize traffic disruption during collection.

Alternatives 2 and 3 – Under these two alternatives, trash and recycling storage and collection would remain the same as the existing condition. Thus, there would be no impacts from Alternatives 2 and 3.

4.7 Emergency Vehicle Access Impacts

Proposed Project, Variant Scenario, and Alternative 1 – With the implementation of the Proposed Project, the Variant Scenario, and Alternative 1, access to the project site would not be substantially different from the existing conditions. The emergency vehicles would continue to use major access roads such as Sunnydale Avenue, Santos Street, Brookdale Avenue, or Blythedale Avenue to access the project site.

The project would reconfigure parts of Sunnydale Avenue, Brookdale Avenue, Blythedale Avenue and Santos Street, and would add new streets and driveways in between residential buildings within the site. All streets are proposed as city streets, and they would be required to adhere to the San Francisco Fire Codes. Per San Francisco Fire Code Section D105.1, all buildings exceeding 30 feet in height must provide 26 feet of clear roadway width for aerial fire apparatus access with an exception of residential buildings equipped with automatic sprinkler systems. In addition, access must be from a minimum 15 feet and maximum 30 feet distance from roadway to building.

Under the proposed roadway schemes, the roadway widths would range between 34 to 43 feet curb-to-curb, or from 20 to 29 feet bulb-to-bulb. The San Francisco Fire Department indicated that the proposed roadway widths would meet the standards since all residential buildings would be equipped with full sprinklers (see **Appendix N**). In terms of building access, all buildings would have an adequate access to emergency vehicles. While the specific dimensions of streets or driveways are not finalized, the project sponsor will ensure that all developments are designed in accordance with the City standards to provide adequate emergency access. Therefore, the Proposed Project, Variant Scenario, and Alternative 1 would not result in inadequate emergency access, and the project's impacts to emergency access would be considered ***less than significant***.

Alternatives 2 and 3 – These two alternatives propose no changes to the existing emergency vehicle access, and would result in no impacts.

4.8 Transportation Demand Management

Project sponsors intend to implement TDM programs in two distinct approaches for the Proposed Project, Variant Scenario, and Alternative 1. The first approach would involve sustainable and smart streets design to encourage pedestrian, bicycle and transit trips, and the second approach would involve efforts and incentives to reduce reliance on single occupancy vehicle use.

Sustainable and Smart Street Design

- All new streets would be in a grid pattern and have corner bulb-outs and crosswalks at intersections in consideration for the convenience and the safety of pedestrians and bicyclists. In particular, the "Y" intersection at Sunnydale Avenue and Santos Street will be reconfigured into a "T" intersection to provide for greater pedestrian safety, and further traffic calming measures will be taken throughout the site.

- Sunnydale Avenue would feature a wide linear open space, incorporating green street features (e.g., bio-retention swales and porous pavement), public spaces and enhanced pedestrian, bicycle and transit connections.

- Blythedale Avenue will be straightened in order to link to the cul-de-sac at Sunrise Way, providing one of the few possible new connections to the surrounding neighborhood. Green street features will also define the streetscape along Blythedale Avenue.

- Bicycle connections will be strengthened by providing bicycle routes along Sunnydale Avenue, Santos Street, Brookdale Avenue, and Blythedale Avenue.

- A comprehensive wayfinding signage program would be provided to support the network of walkways and shared-use paths and to encourage pedestrian and bicycle trips.

Promotional Strategies

- Designated TDM coordinator would be in charge of following activities:

    - Help people plan their trips using alternative mode of transportation from and to the project site and promote ride-sharing by coordinating with 511 Regional Rideshare, a web-based rideshare matching program which helps single occupancy vehicle (SOV) drivers to find a potential partner to carpool or vanpool with.

    - Provide a centralized kiosk/booth with a computer terminal in a conveniently accessible area or in the management office where residents could obtain maps, schedules, and regional transit information (e.g., 511.org), enroll in web-based ride-sharing or car-sharing programs and reserve car-sharing vehicles.

    - Conduct resident travel surveys every year and provide annual monitoring reports to the Planning Department summarizing TDM activities and indicating whether mode splits goals have been achieved.

- Promote TDM program

- Work with transportation agencies to promote transit, vanpooling, carpooling, car-sharing, bicycling and walking.

- Publish a newsletter or an e-mail newsletter with biannual update on transit and travel issues within the project site, containing highlighted program elements and benefits and contact information.

- If the development has a dedicated intranet/web site, provide relevant transit and parking information and related links.

- Include information about transportation choices in promotional material aimed at residential and commercial tenants.

- Parking Policy

  - Residential parking would be unbundled and sold or leased separately from market-rate units

- Promote CarSharing

  - Investigate and implement, where feasible, "site license" arrangement with CarShare or another vendor that would allow reduced cost memberships to the employees and residents. Carshare services, such as City CarShare and ZipCar, allow members to use vehicles when needed, paying based on how much they drive.

  - Promote carshare services to residents through newsletter, website and information package, and provide dedicated carshare parking spaces in the project site.

  - Install wayfinding signage that indicates where CarSharing pods are located

  - Work with commercial tenants and recreation center tenants on use of CarSharing vehicles to meet trip needs so that employees may use transit, walking, and biking to access site.

- Promote Bicycling

  - Provide bicycle support facilities for both residential and commercial developments to encourage bicycling usage, such as bicycle racks, indoor/long-term parking at major destinations.

  - Install wayfinding signage that indicates where bicycle parking is located.

  - Install bicycle parking spaces for guests and employees.

  - Provide information to commercial tenants about how to request additional bike parking from the City.

  - Work with transportation agencies and other community partners such as San Francisco Bicycle Coalition to offer at least one bicycle safety education class on-site annually.

- Provide basic bike maintenance tools for tenant use (tire pump, allen wrench, screw drivers, etc), possibly at recreation center.

- Promote Transit Usage

  - Provide on-site sale of transit passes and commuter checks.

  - Install "Next Bus" or similar technology at a prominent location to provide transit users with real-time transit and shuttle bus arrival time information.

  - Install wayfinding signage that indicates routes to transit choices.

These TDM programs specifically aim to encourage people to take alternative mode of transportation and to discourage people from driving alone. These improvements would be consistent with the City's Transit First policy, Climate Action Plan and Better Streets Plan.

4.9 Construction Impacts

Proposed Project – The details of the construction plan have not yet been finalized, but it is anticipated that the site will be divided into three phases, as shown in **Figure 15**. The first phase would demolish 316 existing dwelling units and construct 521 new units and the community support services in the eastern portion of the project site (i.e., Blocks 1 through 9). Eastern portions of Sunnydale Avenue and Blythedale Avenue, and Santos Street will be reconfigured during this first phase. Phase II will continue the reconfiguration of Sunnydale Avenue west and introduce the new north-south streets, "B", "C", and "D" Streets. During this phase, 279 existing dwelling units will be demolished and 625 new units will be developed in the northwestern portion of the project site (i.e., Blocks 10 through 21). Phase III would connect the new north-south streets to Blythedale Avenue. During this phase, 191 existing dwelling units will be demolished and 554 new dwelling units will be constructed in the southwest portion of the project site (i.e., Blocks 22 through 36).

During each phase, the existing buildings, streets, and utilities will be demolished first, and rough grading of the streets, building pads and open space would occur. The construction of new underground utility infrastructure with appropriate tie-ins to existing utilities (e.g., neighborhood power transformers, and sanitary sewer boxes) would follow, and then buildings would be constructed as determined by the financing available as well as the best scenarios for facilitating equipment and material access to the building sites.

It is estimated that each phase of construction would last between 3 to 5 years for a total of 9 to 15 years in duration for the entire project. In other words, when Phase I is under construction, existing buildings in Phase II and III areas will continue its current occupancy. There will be no more than one phase under demolition or construction at any given time.

During each phase of the construction, the residents living in the respective construction phase would be either relocated to vacant units or to units off-site depending on the health of the residents and/or whether the City has subsidies available for off-site relocation.[19] The project sponsor will work with the residents

[19] Potential (off-site) relocation site is unknown at this time.



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Figure 15
Muni Routes during Construction Phases

and neighbors, SFMTA, Department of Public Works and other utility agencies and the City departments to develop an access plan for pedestrians and transit during each phase of construction.

Variant Scenario – The construction activities under the Variant Scenario would be also divided into three phases; however, there would be 62 fewer units built than the Proposed Project. Other than the different number of dwelling units, the construction impacts of the Variant Scenario would be similar to that analyzed above for the Proposed Project.

Alternative 1 – The construction activities under Alternative 1 would be also divided into three phases; however, there would be 328 fewer units built than the Proposed Project. Other than the different number of dwelling units, the construction impacts of Alternative 1 would be similar to that analyzed above for the Proposed Project.

Alternative 2 – Similar to the Proposed Project, the construction of the one-for-one replacement alternative would occur in three phases. Under this alternative, the existing 785 family and senior dwelling units at the Sunnydale and Velasco public housing complexes would be replaced with identical dwelling units. These 785 units would remain affordable housing, subsidized by SFHA but under management by and the ownership of the developers or related entities. The building designs would be similar to those under existing conditions, but they would be revised to meet current San Francisco Planning Code and Building Code requirements.

Phase I would demolish and rebuild 262 dwelling units. Phase II would demolish and rebuild 268 family units and 18 senior units. Phase III would demolish and rebuild 237 family units. During each phase, the existing buildings, streets, and utilities would be demolished first. The existing sanitary and storm sewer piping would be retained in place in the western portion of the site, but it likely would require replacement on the eastern portion of the site. The buildings would be constructed including utility tie-ins. It is estimated that each phase would last 24 months. There will be no more than one phase under demolition or construction at any given time.

Alternative 3 – There would be no action under this alternative. Thus, no construction impact is anticipated.

4.9.1 Site Access

Proposed Project, Variant Scenario, and Alternative 1 – It is expected that the project construction would involve temporary street closures for 15 to 18 months in each phase for the site demolition, regrading, and utility infrastructure construction. Notifications of street closures and detour directions will be provided in advance to all affected residents and users including teachers and parents of McLaren Elementary School. During Phase I, the eastern portions of Sunnydale and Blythedale Avenues and Santos Street between Sunnydale and Velasco Avenues would be realigned to form a rectilinear grid pattern at the intersections of Sunnydale Avenue/Santos Street and Santos Street/Blythedale Avenue. During this period, these sections of Sunnydale Avenue, Blythedale Avenue and Santos Street will be closed to all traffic except for construction vehicles. Residents living west of Santos Street along Sunnydale Avenue and students, teachers, and parents going to McLaren Elementary School would access their buildings via McLaren Park from the west of the project site potentially using Mansell Street and Sunnydale Avenue. This detour would increase travel distance by up to 0.5 miles. Residents living west of Santos Street on Brookdale Avenue or Blythedale Avenue would access the project site via Geneva Avenue and Brookdale Avenue. Transit access to the project site and McLaren Elementary School will be provided at a temporary bus stop/turnaround point at the intersection of Brookdale Avenue and Santos Street (immediately west of the Phase I construction area). While details of the site access

plan during construction are not fully developed yet, the project sponsor will maintain a connection on west Sunnydale Avenue to ensure access to McLaren Elementary School and affected residential buildings during the construction period.

Mansell Street and Sunnydale Avenue roadways have one lane in each direction and currently carry 100 to 300 vehicles per hour during the PM peak hour. The detour traffic would add approximately 195 vehicle trips to these roadways during the PM peak hour.[20] While the volume increases on these roadways would be noticeable, the overall traffic volumes would remain at levels less than the carrying capacity of the local roadways which is approximately 800 vehicles per lane per hour.

During Phase II, Sunnydale Avenue west of Santos Street would be straightened and parts of Brookdale Avenue would be reconfigured to connect to Sunnydale Avenue in north. In addition, three new streets will be constructed in the north-south direction to connect the newly straightened Brookdale Avenue to Sunnydale Avenue. During this period, the segment of Sunnydale Avenue between the western project border and Santos Street would be closed to all traffic except for construction vehicles for approximately 15 to 18 months. As a result, traffic from the west of the project site (approximately 42 vehicle trips during the PM peak-hour) would be blocked off and would need to be rerouted to Moscow Street, Geneva Avenue and Brookdale Avenue or via Mansell Avenue, Visitacion Avenue and Sunnydale Avenue to access the project site. Students, parents and teachers going to McLaren Elementary School would also need to be rerouted to Mansell Avenue and Sunnydale Avenue to access the school. Transit access to the project site and McLaren Elementary School will be provided at a temporary bus stop/turnaround point at the intersection of Brookdale Avenue and Santos Street (immediately west of the Phase I construction area). As stated previously, the project sponsor will work with the SFMTA and DPW to maintain appropriate connections so that affected residents and school traffic are facilitated at all times.

In addition, McLaren Park would no longer be accessible from Sunnydale Avenue, and drivers would need to be diverted to the north side of the park through the Excelsior neighborhood or south side via Geneva Avenue. All the other traffic past of the Phase II construction area using Sunnydale Avenue, Santos Street or Brookdale Avenue would not be affected during this phase. A parking lot located south of Brookdale Avenue will not be accessible. Residents who park in this lot (approximately 34 spaces) would need to park on the streets or in other parking lots in the Phase III area where available.[21]

Phase III construction would straighten the remaining portion of Brookdale Avenue and the western half of Blythedale Avenue. The three new north-south streets constructed in Phase II would extend into the Phase III area to complete the connection between Sunnydale Avenue and Blythedale Avenue. During this phase traffic from Geneva Avenue via Brookdale Avenue would not be accessible; however, Sunnydale Avenue and Santos Street would be open, and access to McLaren Park or McLaren Elementary School will not be affected. Residents in the Phase I and II areas would continue to access the project site via Sunnydale Avenue or Santos Street.

During each phase of the construction, fencing, grading, and street closures would be planned to maintain access to the existing occupied units at all times, and temporary pedestrian walkways would be provided in order to facilitate pedestrian movements within the project site. In the event of emergency, emergency vehicles would be able to access the existing occupied units at all times using the temporary streets or

[20] The number of vehicle trips generated by residents living west of Santos Street along Sunnydale Avenue (part of Phase II area) are conservatively estimated assuming one third of total existing person trips (1,322 person trips) is multiplied by 53 percent auto mode split and divided by 1.2 persons per vehicle occupancy (see **Tables 12 and 14**).
[21] The existing parking lots in the project site are not designated, and they are open to all residents depending on availability.

detour routes. John McLaren School would also remain accessible in the event of emergency via Sunnydale Avenue west, Mansell Street/Persia Avenue, and Moscow Street. The project sponsor will work with the residents, neighbors, SFMTA, DPW, SFFD, SFPD, utility agencies and City departments to develop an access plan for pedestrians and transit during these phases of construction.

Alternative 2 – The site plan for the complexes and the existing street grid would remain generally the same as they are under existing conditions, although some grading and pad adjustments would be undertaken. During Phase I, Sunnydale Avenue would be shut down to demolish existing utilities and services and to pave the street for a total of four months. Santos Street would be closed for a total of two months for service disconnects and new service hook-ups, while Blythedale Avenue would be closed for entire phase I period (24 months). The vehicular circulation and bus stop/turnaround with the streets closure would be similar to the Phase I construction under the Proposed Project, the Variant Scenario and Alternative 1 scenarios.

During Phase II, Sunnydale Avenue west of Santos Street would be closed for 24 months. The project would consider adding one new cross street at the northern part of the project site connecting Sunnydale Avenue to Brookdale Avenue. Therefore, there would beno interruption to vehicular circulation or bus service though the project site at any given time.

During Phase III, western half of the Blythedale Avenue and the north-south section of Brookdale Avenue would be closed for 24 months. Santo Street would be shut down for a month to resurface, while east-west section of Brookdale Avenue would be closed for a month for repaving. During this phase, traffic from the south of the project site would be diverted to Sunnyvale Avenue.

During each phase of the construction, fencing, grading, and street closures would be planned to maintain access to the existing occupied units at all times, and temporary pedestrian walkways would be provided in order to facilitate pedestrian movements within the project site. In the event of emergency, emergency vehicles would be able to access the existing occupied units at all times using the temporary streets or detour routes. John McLaren School would also remain accessible in the event of emergency via Sunnydale Avenue west, Mansell Street/Persia Avenue, and Moscow Street. The project sponsor will work with the residents, neighbors, SFMTA, DPW, SFFD, SFPD, utility agencies and City departments to develop an access plan for pedestrians and transit during these phases of construction.

Alternative 3 – There would be no action under this alternative. Thus, no construction impact is anticipated.

4.9.2 Construction Traffic

Proposed Project, Variant Scenario, and Alternative 1 – Construction activity would typically occur Mondays through Saturdays, between 7 a.m. and 8 p.m., and the typical work shift for most construction workers would be from 7 a.m. to approximately 3:30 p.m. Construction is not anticipated to typically occur on Sundays or major holidays. It is anticipated that there will be construction truck traffic to off-haul soil from the project site that results from the regrading. Approximately 300,000 cubic yards (cy) of soil will be off-hauled from the entire 48.8 acre site, which translates to 4,285 to 17,135 total truck trips depending on the size of the trucks. The 4,285 truck trips assume 18-wheel trucks with a capacity of 70 cy each, and the conservative estimate of 17,135 truck trips is based on transfer dump trucks with a capacity of 17 to 18 cy each. Assuming the off-hauling activities would last for approximately six

months in each phase, the daily truck trips would range between 10 to 40 truck trips.[22] In addition, construction vehicle and worker trips will be generated. The most intense construction activities would occur during Phase II when 625 new dwelling units along with three new streets (i.e., "B", "C", and "D" Streets) would be constructed. While the construction details have not been fully developed at this time, the number of truck trips and worker trips generated during the construction period is expected to be considerably less than the amount of new vehicle traffic generated by the Proposed Project at completion (approximately 621 vehicle trips during the PM peak hour). Construction staging and worker parking would be contained within the project site and would not occupy spaces on neighborhood streets. Construction traffic would be routed along Geneva Avenue, Brookdale Street and Santos Street and would be managed to avoid peak periods to lessen impacts on peak-hour traffic and transit operations on Santos Street.

Alternative 2 – Similar to the Proposed Project, Variant, and Alternative 1 scenarios, construction activity would typically occur Mondays through Saturdays, between 7 a.m. and 8 p.m., and the typical work shift for most construction workers would be from 7 a.m. to approximately 3:30 p.m. Construction is not anticipated to typically occur on Sundays or major holidays. Given that the site layout would remain relatively similar to existing conditions, it is anticipated that there will be limited-to-no construction truck traffic to off-haul soil from the project site. In addition, construction vehicle and worker trips will be generated. While the construction details have not been fully developed at this time, the number of truck trips and worker trips generated during the construction period is expected to be considerably less than the amount of new vehicle traffic generated by the Proposed Project at completion (approximately 621 vehicle trips during the PM peak hour). Construction staging and worker parking would be contained within the project site and would not occupy spaces on neighborhood streets. Construction traffic would be routed along Geneva Avenue, Brookdale Street and Santos Street and would be managed to avoid peak periods to lessen impacts on peak-hour traffic and transit operations on Santos Street.

Alternative 3 – There would be no action under this alternative. Thus, no construction impact is anticipated.

4.9.3 Transit

Proposed Project, Variant Scenario, and Alternative 1 – The project sponsor has been working with the SFMTA to develop a rerouting and bus stop plan to mitigate potential impacts on transit operations in the project site.

While the Phase I area is under construction, portions of Sunnydale Avenue, Blythedale Avenue and Santos Street will be closed to all traffic except for construction vehicles. Therefore, Muni routes 8X, 8BX and 9 that run on Santos Street and Sunnydale Avenue will need to be rerouted by the SFMTA. For example, Route 9, which currently runs on Sunnydale Avenue, Schwerin Street, Geneva Avenue and Santos Street in the project site could potentially run on Sunnydale Avenue, Calgary/Sawyer Street, Geneva Avenue and Brookdale Avenue during Phase I. The bus stop at the intersection of Velasco Avenue and Santos Street would need to be relocated to the intersection of Geneva Avenue and Santos Street. The existing route terminus which is currently located on Sunnydale Avenue in front of McLaren School would also be relocated, possibly to the intersection of Brookdale Avenue and Santos Street (immediately west of the Phase I construction area). The project sponsor would provide the bus layover

[22] Daily truck trips is estimated by dividing the total off-haul truck trips by 3 phases and then by dividing it over 150 construction days based on six days a week for six months.

area at this intersection.[23] Routes 8X and 8BX, which currently run on Sunnydale Avenue and Santos Street through the project site could be potentially rerouted to Visitacion Avenue, Calgary/Sawyer Street, Geneva Avenue, and Brookdale Avenue.

During Phase II of construction, Muni routes 9, 8X, and 8BX would be restored to run on Santos Street and the eastern half of Sunnydale Avenue. However, the existing terminus for Route 9 would not be accessible, thus would need to be relocated to the intersection of Sunnydale Avenue and Santos Street during this phase.

During Phase III of construction, all Muni routes (i.e., 9, 8X and 8BX) would be restored to their current configuration along Santos Street and the entire length of Sunnydale Avenue.

In order to minimize potential transit impacts, the project sponsor would continue to work with the SFMTA to develop a transit service re-routing plan and a temporary bus stop relocation plan.

Alternative 2 – The construction under this alternative would be separated into three phases. The transit access route and stop/turnaround during the construction period would be similar to that under the Proposed Project, the Variant Scenario and Alternative 1. The project sponsor would continue to work with the SFMTA to develop a transit service re-routing plan and a temporary bus stop relocation plan.

Alternative 3 – There would be no action under this alternative. Thus, no construction impact is anticipated.

4.9.4 Pedestrian

Proposed Project, Variant Scenario, and Alternative 1 – During each phase of the construction, fencing, grading, and street closures would be planned to maintain access to the existing occupied units at all times, and temporary pedestrian walkways would be provided in order to facilitate pedestrian movements within the project site. Construction sites will be fenced off and pedestrian access outside of the project site (e.g., along Hahn Street and Velasco Street) will not be affected during the construction period.

In general, bus rerouting and stop relocation plans as a part of construction activity are subject to review and approval by the SFMTA. In order to minimize the construction-related impacts, the project sponsor would be required to develop a construction traffic management plan for approval by the Traffic Engineering and Muni Planning Divisions of the SFMTA, the Police Department, the Fire Department, the Public Works Department, and the SF School District prior to initiation of construction. The coordinated plan should include measures that address, but not be limited to, construction activities in each phase, truck arrivals and departures, lane closures and detours, and staging and ensure that all modes of travel, including bike and pedestrian trips are accommodated. Implementation of these measures would substantially reduce potential construction impacts; however, due to the duration of roadway closures, construction activities, and blocked access to McLaren Park with limited alternatives for up to 15 to 18 months, project construction impacts would be considered a ***significant and unavoidable*** impact.

[23] The relocation site for the route 9 terminus has not been determined yet. The intersection of Brookdale Avenue and Santos Street is currently being considered as a potential relocation site.

Mitigation Measure 1 – Prepare and implement a traffic control plan prior to and during project construction. The project sponsor and its construction contractor(s) will prepare and implement a traffic control plan and coordinate with the City and County of San Francisco, the SFMTA, and the SF School District, as appropriate. The coordinated plan will include measures that address street closures, and ensure safe access to McLaren Elementary School. The traffic control plan shall include, but may not be limited to, the following elements:

- Advisory signs will be erected several weeks in advance to inform of planned street closures in the area. During each construction phase, street closure signs and detour routes will be posted ahead of the point to direct vehicles to use alternative routes to access the project site.

- The construction contractor shall coordinate with McLaren Elementary School to ensure safe access to and from the school for students, teachers, and parents at all times. The contractors should inquire with the school about start and dismissal times and schedule construction vehicle trips outside of the peak school drop-off and pick up hours to the extent feasible. If avoiding these hours is infeasible, the construction contractor will provide additional flaggers near the school during school drop-off and pick-up hours.

- To the extent applicable, the traffic control plan will conform to Caltrans's Manual of Traffic Controls for Construction and Maintenance Work Zones.

Alternative 2 – The construction impacts on pedestrian of this alternative would be similar to that analyzed above for the Proposed Project. The mitigation measure described for the Proposed Project would also be applicable for Alternative 2 and would reduce this impact to a less-than-significant level.

Alternative 3 – There would be no action under this alternative. Thus, no construction impact is anticipated.

4.10 Parking Analysis

This section includes a discussion of the Proposed Project's parking impacts in relation to the existing requirements outlined in the San Francisco Planning Code, and anticipated demand and available parking supply.

4.10.1 Parking

San Francisco does not consider parking supply as part of the permanent physical environment and therefore, does not consider changes in parking conditions to be environmental impacts as defined by CEQA. The San Francisco Planning Department acknowledges, however, that parking conditions may be of interest to the public and the decision makers. Therefore, this report presents a parking analysis for information purposes.

Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines § 15131(a)). The social inconvenience of

parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Article 8A, Section 8A.115. provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor, and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects.

In summary, changes in parking conditions are considered to be social impacts rather than impacts on the physical environment. Accordingly, the parking analysis in Section 4.9 is presented for informational purposes only.

4.10.2 Parking Code Requirements and Standards

Supply

Proposed Project – Currently, there are 430 off-street and 452 on-street parking spaces on the project site. The Proposed Project would provide 1,437 off-street and 500 on-street parking spaces, resulting in a net increase of 1,007 off-street and 48 on-street parking spaces from the existing conditions. All 1,437 off-street parking spaces would be dedicated for the residential use, and none will be provided for the retail and recreation/community center uses as their parking demand are expected to be accommodated on the street. The off-street residential parking spaces would be distributed at approximately 1 space per market rate housing unit, 0.6 spaces per affordable housing unit, and 0.3 spaces per senior housing unit, for an average of 0.8 spaces per housing unit.

Variant Scenario – The Variant Scenario would provide 1,378 off-street and 500 on-street parking spaces, resulting in a net increase of 948 off-street and 48 on-street parking spaces from the existing conditions. Similar to the Proposed Project, all 1,378 off-street parking spaces would be dedicated for the residential use and none will be provided for the retail or community uses. The off-street residential parking spaces would be distributed at the same ratio as the Proposed Project (i.e., 1 space per unit for market rate housing, 0.6 spaces per unit for affordable housing, and 0.3 spaces per unit for senior housing).

Alternative 1 –Alternative 1 would provide 1,123 off-street and 481 on-street parking spaces, resulting in a net increase of 693 off-street and 29 on-street parking spaces from the Existing conditions. Similar to the Proposed Project, all 1,378 off-street parking spaces would be dedicated for the residential use and

none will be provided for the retail or community uses. The off-street residential parking spaces would be distributed at approximately 0.82 spaces per housing unit.

Alternative 2 - Alternative 2 would provide the same number of parking spaces as today, including 430 off-street and 452 on-street parking. The off-street residential parking spaces would be distributed the same as today at approximately 0.54 spaces per housing unit.

Alternative 3 - Alternative 3 would not involve any changes to the existing uses and would continue to provide the same number of parking spaces as today including 430 off-street and 452 on-street parking.

Requirements

Proposed Project, Variant Scenario, and Alternatives 1 and 2 – Based on the Planning Code for the RM-1 District, the Proposed Project would be required to provide a minimum of 694 off-street parking spaces for the residential use, 39 off-street parking spaces for the retail use, and 156 off-street parking spaces for the recreation/community center use for a total of 889 spaces. The Variant Scenario would be required to provide a minimum of 632 off-street parking spaces for the residential use, 39 off-street parking spaces for the retail use, and 156 off-street parking spaces for the recreation/community center use for a total of 827 spaces. Alternative 1 would be required to provide a minimum of 520 off-street parking spaces for the residential use, 39 off-street parking spaces for the retail use, and 156 off-street parking spaces for the recreation/community center use for a total of 715 spaces. Alternative 2 would not be required to provide any off-street parking spaces (see **Appendix O** for detailed calculation).

As a result, the Proposed Project, the Variant Scenario and Alternative 1 would exceed the minimum requirements for the residential use; however, they would not meet the minimum requirements for the retail and recreation/community center uses. The project sponsor would apply for a PUD exception from the Planning Commission to allow the retail and recreation/community center's parking demand to be met on the street. Alternative 2 would meet the Planning Code requirements since there is no minimum number of parking spaces required for this alternative. **Table 30** compares the off-street parking supply to the Planning Code requirements for the Proposed Project, the Variant Scenario and Alternatives 1 and 2. It should be noted that in addition to the proposed supply of 1,437 off-street parking spaces, additional 500 parking spaces would be provided on the streets throughout the site for the Proposed Project and the Variant Scenario, and additional 481 on-street parking spaces would be provided for Alternative 1.

Table 30 – Off-Street Parking Requirements

Land Use	Size	Code Requirement	Minimum Required	Proposed Supply	Difference
Proposed Project					
Residential					
Market Rate Housing	694 units	1 per unit	694		
Affordable Housing	856 units	None[1]	0	1,437	743
Senior Housing	150 units	None	0		
Retail	16,200 gsf	N/A[2]	39	0	-39
Recreation/Community Center	72,500 gsf	N/A[2]	156	0	-156
Total			**889**	**1,437**	**548**
Variant Scenario					
Residential					
Market Rate Housing	632 units	1 per unit	632		
Affordable Housing	856 units	None[1]	0	1,378	746
Senior Housing	150 units	None	0		
Retail	16,200 gsf	N/A[2]	39	0	-39
Recreation/Community Center	72,500 gsf	N/A[2]	156	0	-156
Total			**827**	**1,378**	**551**
Alternative 1					
Residential					
Market Rate Housing	520 units	1 per unit	520		
Affordable Housing	702 units	None[1]	0	1,123	603
Senior Housing	150 units	None	0		
Retail	16,200 gsf	N/A[2]	39	0	-39
Recreation/Community Center	72,500 gsf	N/A[2]	156	0	-156
Total			**715**	**1,123**	**408**
Alternative 2					
Residential					
Affordable Housing	767 units	None[1]	0	430	
Senior Housing	18 units	None	0		
Total			**0**	**430**	**430**

Source: CHS Consulting Group, 2010; SF Planning Codes Sec 151.
Notes:
1. State-financed affordable housing projects require parking to be included with affordable housing unit.
2. Parking requirements for retail and community buildings is determined by summing the requirement for each specific use in the facility (restaurant, leasing office, gymnasium, day care, etc). See **Appendix O** for detailed parking requirement calculation for non-residential uses.

Handicapped-accessible parking and car-share parking spaces would also be required for the Proposed Project. Section 155(i) of the Planning Code specifies that one disabled parking space be designated for each 25 off-street spaces provided and that two car-share parking space be provided for 200 dwelling

units and one additional space for each 200 additional dwelling units.[24] Thus, the Proposed Project would be required to provide 57 handicapped-accessible parking spaces and nine car-share parking spaces on the project site. The Variant Scenario would be required to provide 55 handicapped-accessible parking spaces and nine car-share parking spaces on the project site. Alternative 1 would be required to provide 45 handicapped-accessible parking spaces and seven car-share parking spaces on the project site.

The Proposed Project and the Variant Scenario, and Alternatives 1 and 2 would provide three car-share pod sites with three vehicles each for a total of nine vehicles. One pod will be located on-street in front of the retail building on the south side of Sunnydale Avenue, and the other two pod locations have not been identified yet. The current project plans do not include the details of parking assignments for handicapped-accessible parking spaces on site. However, the Proposed Project, the Variant Scenario and Alternative 1 would provide a sufficient number of parking spaces that would meet the minimum number of designated parking spaces required by the Planning Code. As discussed in **Section 4.5.2**, the project would also provide a minimum 400 bicycle parking spaces in total as required by the Planning Code.

4.10.3 Parking Demand and Parking Supply

Table 31 compares the estimated parking demand for the Proposed Project, the Variant Scenario, and Alternatives 1 and 2 to the proposed parking supply. The Proposed Project would generate a demand for approximately 1,810 parking spaces, while there would be 1,437 structured parking and 500 on-street parking spaces. As a result, there would be a surplus of approximately 127 on-street parking spaces. The Variant Scenario would generate a demand for approximately 1,814 parking spaces, while there would be 1,378 structured parking and 500 on-street parking spaces. As a result, there would be a surplus of approximately 64 parking spaces. Alternative 1 would generate a demand for approximately 1,492 parking spaces, while there would be 1,123 structured parking and 481 on-street parking spaces. As a result, there would be a surplus of approximately 112 on-street parking spaces. Alternative 2 would generate a demand for approximately 676 parking spaces, while there would be 430 off-street parking and 452 on-street parking spaces. As a result, there would be a surplus of approximately 206 on-street parking spaces.

[24] Planning Code – Car Share Controls Ordinance (No. 286-10) was enacted as of November 9, 2010.

Table 31 – Parking Supply and Demand

Land Use	Proposed Supply	Demand	Difference
Proposed Project			
Residential	1,437	1,666	-229
Retail	0	106	-106
Recreation/Community Center	0	38	-38
Total	**1,437**	**1,810**	**-373**
On-Street Parking Spaces	500	-	-
Grand Total	**1,937**	**1,810**	**127**
Variant Scenario			
Residential	1,378	1,670	-292
Retail	0	106	-106
Recreation/Community Center	0	38	-38
Total	**1,378**	**1,814**	**-436**
On-Street Parking Spaces	500	-	-
Grand Total	**1,878**	**1,814**	**64**
Alternative 1			
Residential	1,123	1,348	-225
Retail	0	106	-106
Recreation/Community Center	0	38	-38
Total	**1,123**	**1,492**	**-369**
On-Street Parking Spaces	481	-	-
Grand Total	**1,604**	**1,492**	**112**
Alternative 2			
Residential	430	676	-246
Total	**430**	**676**	**-246**
On-Street Parking Spaces	452	-	-
Grand Total	**882**	**676**	**206**

Source: CHS Consulting Group, 2010; SF Guidelines, 2002.

In compliance with the City's Transit First policy, the project sponsor would encourage people to take transit or alternative mode of transportation and discourage people from driving alone. In keeping with this commitment, the Proposed Project would provide less than one designated parking space for each independent dwelling unit (i.e., 0.8 off-street parking spaces per unit or 1.18 spaces per unit including on-street parking). Residential parking would be unbundled and sold or leased separately from market-rate units.[25] Unbundling parking makes the cost of parking visible to households and may encourage some residents to save money by opting for a single off-street space or no dedicated parking. Unbundled parking would also serve as a "self selection" incentive for residents who prefer to live in car-free or car-reduced neighborhoods. In addition, the project sponsor would provide aggressive Transportation Demand Management (TDM) programs as entailed in **Section 4.8** above.

[25] Parking would not be unbundled for affordable housing units as it conflicts with terms regulated by the State.

5.0 FUTURE CUMULATIVE (2030) CONDITIONS

This chapter presents future cumulative impacts generated by the Proposed Project and the Variant Scenario, including the following:

- Circulation impacts in terms of Intersection Level of Service (LOS);
- Transit impacts in terms of capacity utilization and operation (transit delay);

5.1 Approach

The growth in future background traffic volumes under the Future Year 2030 scenario was estimated based on the combination of traffic forecast data obtained from the *Candlestick Point – Hunters Point Shipyard Phase II Development Plan Transportation Study* (primarily for Bayshore Boulevard) and the SFCTA's transportation demand forecasting model outputs containing traffic assignments for the PM peak periods for the Years 2005 and 2030 (for the remaining streets in the study area). **Appendix D** includes a technical memorandum submitted to the Planning Department which describes the methodology used to develop growth rates at the study intersections.

The Future Cumulative conditions also assume that Geneva Avenue is extended to the east of Bayshore Boulevard to connect to Harney Way and U.S. 101. Subsequently, different traffic assignments were used for the Future Cumulative conditions from the Existing conditions. For example, currently 100 percent of traffic from U.S. 101 southbound use the Bayshore Boulevard off-ramp, but these trips were assumed to be equally split between the Bayshore Boulevard and the proposed Harney Way off-ramps under the Future Cumulative conditions.

The SFMTA recently prepared a preliminary assessment of the proposed BRT along Geneva Avenue from Bayshore Boulevard to Ocean Avenue. Implementation of the Geneva Avenue BRT may eliminate the existing parking lane(s) along Geneva Avenue; but it would not likely reduce roadway capacity for vehicle travel. Therefore, the existing roadway configuration is used for the cumulative conditions. **Figures 16 and 17** present the inbound and outbound trip distribution patterns under the Future Cumulative conditions, respectively.

5.2 Traffic Conditions and Impacts

Proposed Project and Variant Scenario – Figure 18 shows the future cumulative turning movement volumes under the Proposed Project and the Variant Scenario. The LOS for the Existing (2010) and Future Cumulative (2030) conditions are summarized in **Table 32**. It shows that under 2030 conditions, all study intersections along Geneva Avenue (i.e., at Brookdale Avenue, Santos Street, Calgary Street, Schwerin Street, and Bayshore Boulevard) would be operating at LOS F, and the study intersections along Bayshore Boulevard (i.e., at Sunnydale Avenue and Visitacion Avenue) would be operating at LOS E. With the addition of project-generated traffic, all of these intersections would continue to operate at LOS F. In addition, the worst approach delay at the intersection of Sunnydale Avenue and Schwerin Street would degrade from LOS C to E.



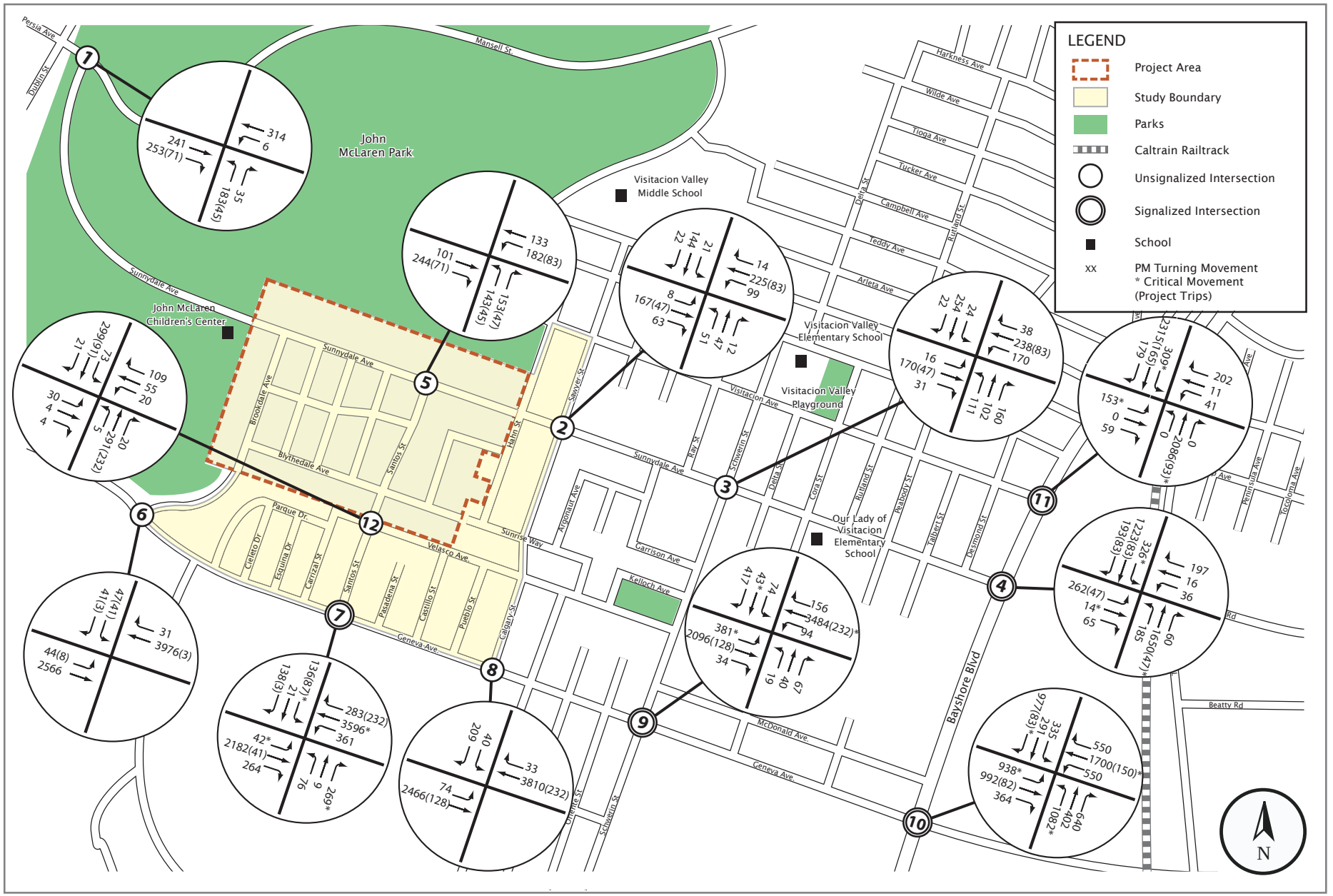
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Figure 16
Inbound PM Peak-Hour Project Trip Assignment in Year 2030



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Figure 17
Outbound PM Peak-Hour Project Trip Assignment in Year 2030



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Figure 18

Future Cumulative Plus Proposed Project/Variant Scenario (2030) Intersection PM Peak-Hour Turning Movement Volumess

Table 32 – Intersection Level of Service: Future Cumulative Conditions Weekday PM Peak-Hour under the Proposed Project and Variant Scenario

	Existing Plus Project (2010)	Future (2030)	Existing		Existing Plus Project/ Variant Scenario (2010)		Future (2030)		Future Plus Project/ Variant Sceanrio (2030)	
			Delay	LOS [4]	Delay	LOS [4]	Delay (v/c) [5]	LOS [4]	Delay (v/c) [5]	LOS [4]
1	Sunnydale Avenue/ Persia Street	TWSC	13.2	B (NB)	16.5	C (NB)	17.6	C (NB)	21.9	C (NB)
2	Sunnydale Avenue/ Sawyer Street	FWSC	8.2	A (EB)	10.9	B (WB)	10.7	B (WB)	12.9	B (WB)
3	Sunnydale Avenue/ Schwerin Street	FWSC	9.9	A (WB)	14.7	B (WB)	20.3	C (WB)	37.3 (0.87)	E (WB)
4	Sunnydale Avenue/ Bayshore Boulevard	Signalized	20.2	C	24.4	C	**69.7 (1.11)**	**E**	**>80 (1.20)**	**F**
5	Sunnydale Avenue/ Santos Street	FWSC	8.3	A (WB)	12.8	B (WB)	10.0	A (WB)	12.8	B (WB)
6	Geneva Avenue/ Brookdale Avenue	TWSC	21.9	C (SB)	22.0	C (SB)	**>50**	**F** (SB)	**>50**	**F** (SB)
7	Geneva Avenue/ Santos Street	Signalized	19.9	B	23.9	C	**>80 (1.50)**	**F**	**>80 (1.58)**	**F**
8	Geneva Avenue/ Calgary Street	TWSC	22.3	C (SB)	30.4	D (SB)	**>50**	**F** (SB)	**>50**	**F** (SB)
9	Geneva Avenue/ Schwerin Street	Signalized	16.6	B	15.9	B	**>80 (1.70)**	**F**	**>80 (1.75)**	**F**
10	Geneva Avenue/ Bayshore Boulevard	Signalized	23.2	C	24.0	C	**>80 (1.58)**	**F**	**>80 (1.62)**	**F**
11	Visitacion Avenue/ Bayshore Boulevard	Signalized	14.0	B	13.1	B	**71.8 (1.13)**	**E**	**>80 (1.16)**	**F**
12	Velasco Avenue/ Santos Street	FWSC	7.9	A (SB)	9.5	A (NB)	10.4	B (SB)	13.8	B (SB)

Source: CHS Consulting Group, 2010

Notes:

1. Intersections operating at unacceptable levels of service, LOS E or LOS F, are shaded and in bold.
2. TWSC indicates two-way stop-controlled intersection; delay is presented as the worst approach delay
3. FWSC indicates four-way stop-controlled intersection; delay is presented as the worst approach delay.
4. Worst approach is indicated in parenthesis (NB=northbound; SB=southbound; WB=westbound; EB=eastbound).
5. For intersections operating at LOS E or LOS F, volume to capacity (v/c) ratio is reported.

Based on the significance criteria discussed in **Section 4.1.1**, the Proposed Project/Variant Scenario would result in significant Cumulative Plus Project operational impacts at the following three intersections during the PM peak-hour:

- Intersection #3: Sunnydale Avenue/ Schwerin Street (Unsignalized)
- Intersection #4: Sunnydale Avenue/ Bayshore Boulevard (Signalized)
- Intersection #11: Visitacion Avenue/ Bayshore Boulevard (Signalized)

Intersection #3: Sunnydale Avenue/ Schwerin Street (Unsignalized)

The Proposed Project would cause the LOS at worst approach to deteriorate from LOS C to E, and would be therefore considered as a significant traffic impact. Adding a left-turn pocket on the westbound approach would improve the intersection delay. Given the sufficient width of Sunnydale Avenue (36 feet in the westbound approach), adding a left-turn pocket on the westbound approach would improve the worst approach operating condition from LOS E to C; therefore, impact would be considered to be ***less-than-significant***. Adding a left-turn pocket at this location would potentially displace two parking spaces on the south side of Sunnydale Avenue.

> **Mitigation Measure 2** – Given the sufficient width of Sunnydale Avenue (36 feet in the westbound approach), adding a left-turn pocket on the westbound approach would improve the worst approach operating condition from LOS E to C.[26]

Intersection #4: Sunnydale Avenue/ Bayshore Boulevard (Signalized)

The Proposed Project/Variant Sceanrio would cause the intersection operating condition to deteriorate from LOS E to F and would be therefore considered a significant traffic impact. Improvements such as providing additional traffic lanes are not feasible at this intersection because it would require substantial reduction in sidewalk widths or bike lane. No parking lane is available in the immediate area of the intersection that would provide additional space. Signal timing adjustments are similarly infeasible due to integrated signal timing for traffic and transit on Bayshore Boulevard. No feasible mitigation measures were identified; therefore, impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project at this intersection would be 87 seconds per vehicle, of which the Proposed Project would contribute approximately 20 percent (17 seconds) of the overall delay at the intersection.

Intersection #11: Visitacion Avenue/ Bayshore Boulevard (Signalized)

The Proposed Project/Variant Scenario would cause the intersection operating conditions to deteriorate from LOS E to F and would be therefore considered a significant traffic impact. Improvements such as providing additional traffic lanes are not feasible because it would require substantial reduction in sidewalk widths. There is limited space for additional traffic lanes due to bus zone on Visitacion Avenue, and parking lane has been already removed along Bayshore Boulevard to maximize vehicle turning movements at the intersection. Signal timing adjustments are infeasible due to coordinated signal timing on Bayshore Boulevard. No feasible mitigation measures were identified; therefore, the impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project would be 88 seconds per vehicle, of which the Proposed Project would contribute approximately 18 percent (16 seconds) of the overall delay at the intersection.

In addition, the following five intersections would operate at LOS F under 2030 Cumulative conditions, and would continue to operate at the same LOS F under 2030 Cumulative Plus Project conditions during the PM peak-hour:

- Intersection #6: Geneva Avenue/ Brookdale Avenue (Unsignalized)

[26] The following two alternative mitigation measures were explored, but are not presented above because they would not further improve the intersection operating condition: 1) Adding a left-turn pocket on the eastbound approach would increase the delay for the worst approach from 37.3 seconds to 40.3 seconds. 2) Signalizing the intersection would also increase the delay for the worst approach from 37.3 seconds to 50.0 seconds (or to 40.2 seconds for the average intersection delay).

- Intersection #7: Geneva Avenue/ Santos Street (Signalized)
- Intersection #8: Geneva Avenue/ Calgary Street (Unsignalized)
- Intersection #9: Geneva Avenue/ Schwerin Street (Signalized)
- Intersection #10: Geneva Avenue/ Bayshore Boulevard (Signalized)

Each of these intersections operated at unacceptable levels under the Cumulative conditions; therefore, the project's contribution to each intersection's critical movements was identified to determine if the project had a significant traffic impact at the intersection.

Intersection #6: Geneva Avenue/ Brookdale Avenue (Unsignalized)

Under 2030 Cumulative Plus Proposed Project/Variant conditions, the intersection would continue to operate at LOS F, but the project traffic would not cause signal warrants to be met due to low traffic volumes in the worst approach. Southbound Brookdale Avenue would carry a total of 88 vehicles (including the addition of 44 project trips) during the PM peak hour while a minimum of 100 vehicle trips are needed to meet the signal warrant. Since the intersection would not meet the signal warrant due low traffic volume in the worst approach (i.e., southbound), the project specific impact would be considered to be ***less-than-significant***.

Although the intersection operational impacts would be considered to be less-than-significant, southbound traffic on Brookdale Avenue would not be able to make left-turns when traffic volumes are heavy along Geneva Avenue, and therefore improvement measures were considered to improve upon this less-than-significant impact. Approximately 47 vehicles would be making left-turns from Brookdale Avenue onto Geneva Avenue (i.e., 41 project trips and 6 background traffic) during the PM peak-hour, and these vehicles could take alternative routes to access Geneva Avenue. As a result, the intersections of Geneva Avenue/ Santos Street, Geneva Avenue/ Schwerin Street, and Sunnydale Avenue/ Bayshore Boulevard could be potentially used as alternate routes. Assuming the diverted vehicles trips would be equally split between alternative routes, the operating conditions at the intersection of Geneva Avenue and Santos Street and the intersection of Sunnydale Avenue and Bayshore Boulevard could be further aggravated and continue to have a significant and unavoidable impact. With diverted trips, the intersection of Geneva Avenue and Schwerin Street would remain at a less-than-significant level because the project contribution to critical movements would not be substantial. Providing additional traffic lanes along Geneva Avenue or Brookdale Avenue would not improve the intersection operating conditions.

> **Improvement Measure 5** – Considering the history of frequent vehicle collisions at the intersection even though there is no project generated LOS impact to the intersection, the project sponsor would work with SFMTA on identifying feasible improvements to address the hazardous conditions at the intersection. The project would contribute approximately 0.8% (55 out of 6,706 vehicle trips) of the total traffic volume at the intersection.

Intersection #7: Geneva Avenue/ Santos Street (Signalized)

The intersection would continue to operate at LOS F under 2030 cumulative conditions with or without the Proposed Project/Variant Sceanrio. The Proposed Project would add 87 vehicles to the critical southbound left-turn (SBL) movement during the PM peak-hour, which would more than double the SBL volume, and therefore would be considered a significant contribution to this critical movement. Santos Street is approximately 40 feet wide and has one lane in each direction and a bus stop on the east side. Given the sufficient street width, improvements such as adding a left-turn lane at the southbound approach on Santos Street would improve operating conditions (Mitigation Measure 2); however, the overall intersection operations even with this mitigation, would remain at unacceptable levels mainly due

to heavy increase in background traffic along Geneva Avenue. Signal timing adjustments would be infeasible due to coordinated signal timing on Geneva Avenue. Therefore, impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project would be 288 seconds per vehicle, of which the Proposed Project would contribute approximately 15 percent (43 seconds) of the overall delay at the intersection.

> **Mitigation Measure 3** – Adding a left-turn pocket at the intersection of Geneva Avenue/Santos Street on the southbound approach would reduce the average intersection delay by 11 seconds, resulting in a total delay of 277 seconds. This mitigation measure would not result in a loss of on-street parking spaces.

Intersection #8: Geneva Avenue/ Calgary Street (Unsignalized)

The intersection would continue to operate at LOS F under 2030 Cumulative conditions with or without the Proposed Project/Variant Sceanrio, and the intersection would meet the Caltrans signal warrants under either condition. The worst approach would occur in the southbound direction. Since the project would not contribute any trips to the southbound approach, the project impact would be considered ***less-than-significant***. The SFMTA has no plan to signalize this intersection at this time.

Intersection #9: Geneva Avenue/ Schwerin Street (Signalized)

Under the 2030 Cumulative Plus Project/Variant conditions, the intersection would continue to operate at LOS F with the westbound through (WBT) movement being the primary critical movement with total volume of 3,484 vehicles. The project would add 232 vehicles to the WBT movement, approximately seven percent of the WBT volume, and therefore would be considered a significant contribution. Given the sufficient street width, improvements such as adding right-turn pockets on the westbound approach on Geneva Avenue and at the southbound approach on Schwerin Street (Mitigation Measure 3) would improve operating conditions; however, the overall intersection operations would remain at unacceptable levels mainly due to heavy increase in background traffic along Geneva Avenue. Signal timing adjustments would be infeasible due to coordinated signal timing on Geneva Avenue. Therefore, impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project would be 268 seconds per vehicle, of which the Proposed Project/Variant Scenario would contribute approximately eight percent (21 seconds) of the overall delay at the intersection.

> **Mitigation Measure 4** – Adding right-turn pockets at the intersection of Geneva Avenue/Schwerin Street on the westbound approach and the southbound approach would reduce the average intersection delay by 70 seconds, resulting in a total delay of 198 seconds. This mitigation measure would not result in a loss of on-street parking spaces.

Intersection #10: Geneva Avenue/ Bayshore Boulevard (Signalized)

Under 2030 Cumulative Plus Proposed Project/Variant conditions, the intersection, even with extension to the east, would continue to operate at LOS F. The Proposed Project would add 150 vehicles to the critical westbound through (WBT) movement, 83 vehicles to the critical southbound right-turn (SBR) movement, and 47 vehicles to the critical eastbound left-turn (EBL) movement during the PM peak-hour. That would constitute nine percent, eight percent, and five percent of the volume in each movement, respectively, and would therefore be considered significant contributions. Improvements such as providing additional traffic lanes are neither feasible nor recommended because it would require expansion of the roadway and substantial reduction in sidewalk widths. Signal timing adjustments are infeasible due to coordinated signal timing on Bayshore Boulevard. No feasible mitigation measures

were identified; therefore, the impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project would be 241 seconds per vehicle, of which the Proposed Project/Variant Scenario would contribute approximately 11 percent (26 seconds) of the overall delay at the intersection.

In summary, of the eight intersections that would operate at LOS E or F under 2030 Cumulative Plus Project/Variant conditions, five intersections (i.e., #4, #7, #9, #10, and #11) would have significant and unavoidable impacts, one (i.e., #3) would have less-than significant impact with mitigation measure, and the other two (i.e., #6 and #8) would have less-than-significant impacts.

The Proposed Project/Variant Scenario would result in less-than-significant impacts at the following intersections during the PM peak-hour:

- Intersection #1: Sunnydale Avenue/ Persia Street (Unsignalized)
- Intersection #2: Sunnydale Avenue/ Sawyer Street (Unsignalized)
- Intersection #5: Sunnydale Avenue/ Santos Street (Unsignalized)
- Intersection #12: Velasco Avenue/ Santos Street (Unsignalized)

Intersections #1, #2, #5, and #12 (Unsignalized) would operate at LOS D or better under 2030 Cumulative and 2030 Cumulative Plus Project/Variant conditions, thus the project-specific impact would be ***less-than-significant***.

The Proposed Project/Variant Scenario would result in significant impact at the following intersection during the PM peak-hour. However, this intersection would become less-than-significant with mitigation measure:

Intersection #3: Sunnydale Avenue/ Schwerin Street (Unsignalized)

The Proposed Project would cause the LOS at worst approach to deteriorate from LOS C to E, and would be therefore considered as a significant traffic impact. Adding a left-turn pocket on the westbound approach would improve the intersection delay. Given the sufficient width of Sunnydale Avenue (36 feet in the westbound approach), adding a left-turn pocket on the westbound approach would improve the worst approach operating condition from LOS E to C; therefore, impact would be considered to be ***less-than-significant***. Adding a left-turn pocket at this location would potentially displace two parking spaces on the south side of Sunnydale Avenue.

> **Mitigation Measure 2** – Given the sufficient width of Sunnydale Avenue (36 feet in the westbound approach), adding a left-turn pocket on the westbound approach would improve the worst approach operating condition from LOS E to C.

In summary, the Proposed Project and Variant Scenario would result in significant and unavoidable impacts at five intersections (i.e., Sunnydale Avenue/ Bayshore Boulevard, Geneva Avenue/ Santos Street, Geneva Avenue/ Schwerin Street, Geneva Avenue/ Bayshore Boulevard, and Visitacion Avenue/ Bayshore Boulevard). The remaining intersections would have ***less-than-significant*** impacts.

Alternative 1 – Figure 19 shows the future cumulative turning movement volumes under Alternative 1. The LOS for the Existing (2010) and Future Cumulative (2030) conditions are summarized in **Table 33**. Similar to the Proposed Project, all study intersections along Geneva Avenue (i.e., at Brookdale Avenue, Santos Street, Calgary Street, Schwerin Street, and Bayshore Boulevard) would be operating at LOS F, and the study intersections along Bayshore Boulevard (i.e., at Sunnydale Avenue and Visitacion Avenue)

would be operating at LOS E. With the addition of project-generated traffic, all of these intersections would continue to operate at LOS F.

Based on the significance criteria discussed in **Section 4.1.1**, Alternative 1 would result in significant Cumulative Plus Alternative 1 operational impacts at the following two intersections during the PM peak-hour:

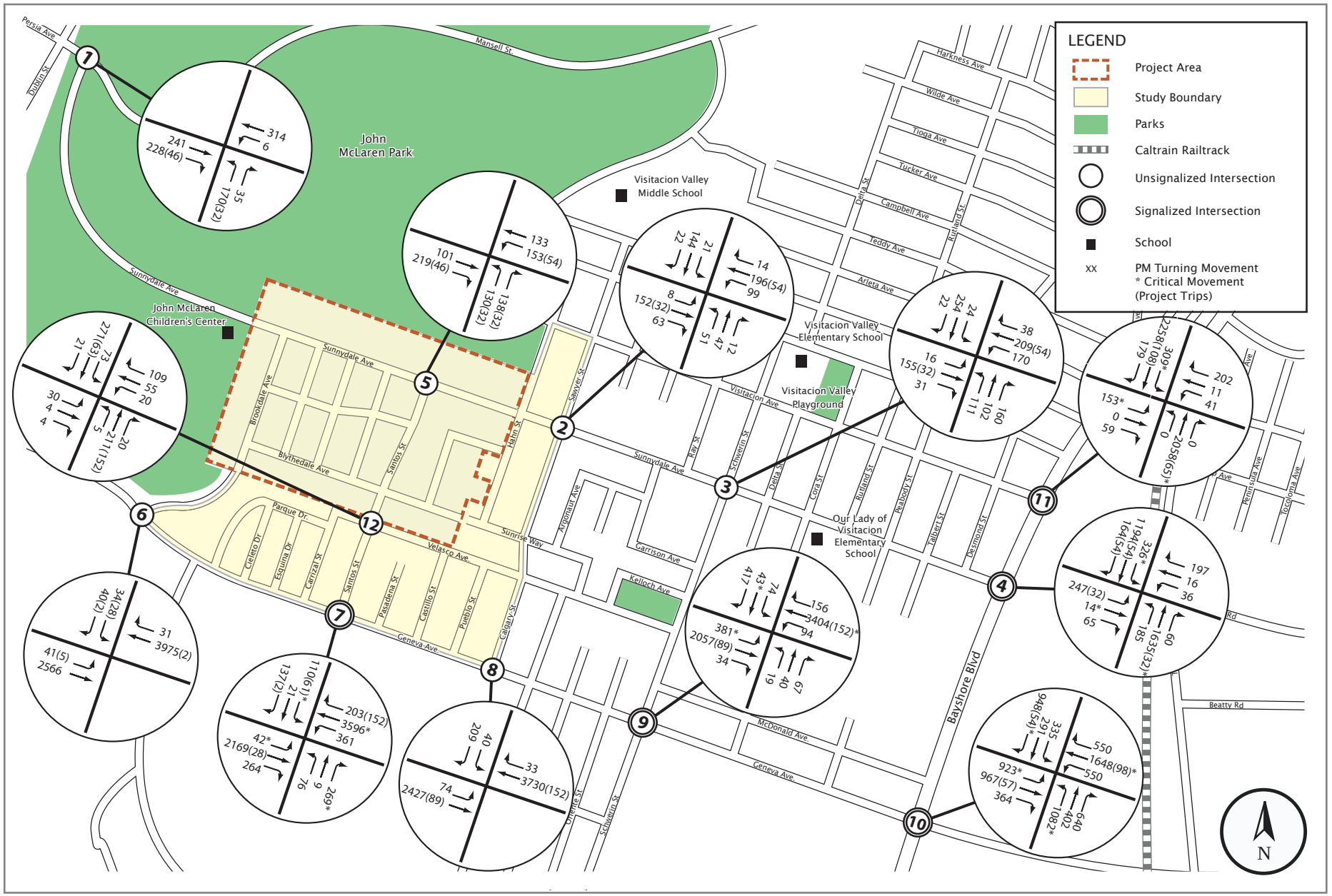
- Intersection #4: Sunnydale Avenue/ Bayshore Boulevard (Signalized)
- Intersection #11: Visitacion Avenue/ Bayshore Boulevard (Signalized)

Intersection #4: Sunnydale Avenue/ Bayshore Boulevard (Signalized)

Alternative 1 would cause the intersection operating condition to deteriorate from LOS E to F and would be therefore considered a significant traffic impact. Improvements such as providing additional traffic lanes are not feasible at this intersection because it would require substantial reduction in sidewalk widths or bike lane. No parking lane is available in the immediate area of the intersection that would provide additional space. Signal timing adjustments are similarly infeasible due to integrated signal timing for traffic and transit on Bayshore Boulevard. No feasible mitigation measures were identified; therefore, impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the alternative at this intersection would be 81 seconds per vehicle, of which Alternative 1 would contribute approximately 14 percent (11 seconds) of the overall delay at the intersection.

Intersection #11: Visitacion Avenue/ Bayshore Boulevard (Signalized)

Alternative 1 would cause the intersection operating conditions to deteriorate from LOS E to F and would be therefore considered a significant traffic impact. Improvements such as providing additional traffic lanes are not feasible because it would require substantial reduction in sidewalk widths. There is limited space for additional traffic lanes due to bus zone on Visitacion Avenue, and parking lane has been already removed along Bayshore Boulevard to maximize vehicle turning movements at the intersection. Signal timing adjustments are infeasible due to coordinated signal timing on Bayshore Boulevard. No feasible mitigation measures were identified; therefore, the impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project would be 82 seconds per vehicle, of which Alternative 1 would contribute approximately 12 percent (10 seconds) of the overall delay at the intersection.



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Figure 19

Future Cumulative Plus Alternative I (2030) Intersection PM Peak-Hour Turning Movement Volumes

Table 33 – Intersection Level of Service: Future Cumulative Conditions Weekday PM Peak-Hour under Alternative 1

Existing Plus Project (2010)		Future (2030)	Existing		Existing Plus Alt 1 (2010)		Future (2030)		Future Plus Alt 1 (2030)	
			Delay	LOS [4]	Delay	LOS [4]	Delay (v/c) [5]	LOS [4]	Delay (v/c) [5]	LOS [4]
1	Sunnydale Avenue/ Persia Street	TWSC	13.2	B (NB)	15.3	C (NB)	17.6	C (NB)	20.3	C (NB)
2	Sunnydale Avenue/ Sawyer Street	FWSC	8.2	A (EB)	9.7	A (WB)	10.7	B (WB)	12.0	B (WB)
3	Sunnydale Avenue/ Schwerin Street	FWSC	9.9	A (WB)	12.5	B (WB)	20.3	C (WB)	29.0	D (WB)
4	Sunnydale Avenue/ Bayshore Boulevard	Signalized	20.2	C	23.0	C	**69.7 (1.11)**	**E**	**>80 (1.15)**	**F**
5	Sunnydale Avenue/ Santos Street	FWSC	8.3	A (WB)	10.6	B (WB)	10.0	A (WB)	11.6	B (WB)
6	Geneva Avenue/ Brookdale Avenue	TWSC	21.9	C (SB)	21.9	C (SB)	**>50**	**F** (SB)	**>50**	**F** (SB)
7	Geneva Avenue/ Santos Street	Signalized	19.9	B	22.6	C	**>80 (1.50)**	**F**	**>80 (1.60)**	**F**
8	Geneva Avenue/ Calgary Street	TWSC	22.3	C (SB)	27.1	D (SB)	**>50**	**F** (SB)	**>50**	**F** (SB)
9	Geneva Avenue/ Schwerin Street	Signalized	16.6	B	16.1	B	**>80 (1.70)**	**F**	**>80 (1.75)**	**F**
10	Geneva Avenue/ Bayshore Boulevard	Signalized	23.2	C	23.7	C	**>80 (1.58)**	**F**	**>80 (1.64)**	**F**
11	Visitacion Avenue/ Bayshore Boulevard	Signalized	14.0	B	13.5	B	**71.8 (1.13)**	**E**	**>80 (1.15)**	**F**
12	Velasco Avenue/ Santos Street	FWSC	7.9	A (SB)	8.8	A (SB)	10.4	B (SB)	12.4	B (SB)

Source: CHS Consulting Group, 2010

Notes:

1. Intersections operating at unacceptable levels of service, LOS E or LOS F, are shaded and in bold.
2. TWSC indicates two-way stop-controlled intersection; delay is presented as the worst approach delay
3. FWSC indicates four-way stop-controlled intersection; delay is presented as the worst approach delay.
4. Worst approach is indicated in parenthesis (NB=northbound; SB=southbound; WB=westbound; EB=eastbound).
5. For intersections operating at LOS E or LOS F, volume to capacity (v/c) ratio is reported.
6. Alt 1 indicates Alternative 1.

In addition, the following five intersections would operate at LOS F under 2030 cumulative conditions, and would continue to operate at the same LOS F under 2030 Cumulative Plus Alternative 1 conditions during the PM peak-hour:

- Intersection #6: Geneva Avenue/ Brookdale Avenue (Unsignalized)
- Intersection #7: Geneva Avenue/ Santos Street (Signalized)
- Intersection #8: Geneva Avenue/ Calgary Street (Unsignalized)
- Intersection #9: Geneva Avenue/ Schwerin Street (Signalized)
- Intersection #10: Geneva Avenue/ Bayshore Boulevard (Signalized)

Each of these intersections operated at unacceptable levels under the cumulative conditions; therefore, the contribution by Alternative 1 to each intersection's critical movements was identified to determine if the project had a significant traffic impact at the intersection.

Intersection #6: Geneva Avenue/ Brookdale Avenue (Unsignalized)

Under 2030 Cumulative Plus Alternative 1 conditions, the intersection would continue to operate at LOS F, but the project traffic would not cause signal warrants to be met due to low traffic volumes in the worst approach. Southbound Brookdale Avenue would carry a total of 74 vehicles (including the addition of 30 project trips) during the PM peak hour while a minimum of 100 vehicle trips are needed to meet the signal warrant. Since the intersection would not meet the signal warrant due to low traffic volume in the worst approach (i.e., southbound), Alternative 1 specific impact would be considered to be ***less-than-significant***.

Although the intersection operational impacts would be considered to be less-than-significant, southbound traffic on Brookdale Avenue would not be able to make left-turns when traffic volumes are heavy along Geneva Avenue, and therefore improvement measures were considered to improve upon this less-than-significant impact. Approximately 34 vehicles would be making left-turns from Brookdale Avenue onto Geneva Avenue (i.e., 28 project trips and 6 background traffic) during the PM peak-hour, and these vehicles could take alternative routes to access Geneva Avenue. As a result, the intersections of Geneva Avenue/ Santos Street, Geneva Avenue/ Schwerin Street, and Sunnydale Avenue/ Bayshore Boulevard could be potentially used as alternate routes. Assuming the diverted vehicles trips would be equally split between alternative routes, the operating conditions at the intersection of Geneva Avenue and Santos Street and the intersection of Sunnydale Avenue and Bayshore Boulevard could be further aggravated and continue to have a significant and unavoidable impact. With diverted trips, the intersection of Geneva Avenue and Schwerin Street would remain at a less-than-significant level because the project contribution to critical movements would not be substantial. Providing additional traffic lanes along Geneva Avenue or Brookdale Avenue would not improve the intersection operating conditions.

> **Improvement Measure 5** – Considering the history of frequent vehicle collisions at the intersection even though there is no project-generated LOS impact to the intersection, the project sponsor would work with SFMTA on identifying feasible improvements to address the hazardous conditions at the intersection. The Alternative 1 would contribute approximately 0.6% (37 out of 6,687 vehicle trips) of the total traffic volume at the intersection.

Intersection #7: Geneva Avenue/ Santos Street (Signalized)

The intersection would continue to operate at LOS F under 2030 cumulative conditions with or without Alternative 1. The Alternative 1 would add 61 vehicles to the critical southbound left-turn (SBL) movement during the PM peak-hour, which would more than double the SBL volume, and therefore would be considered a significant contribution to this critical movement. Santos Street is approximately 40 feet wide and has one lane in each direction and a bus stop on the east side. Given the sufficient street width, improvements such as adding a left-turn lane at the southbound approach on Santos Street would improve operating conditions (Mitigation Measure 2); however, the overall intersection operations even with this mitigation, would remain at unacceptable levels mainly due to heavy increase in background traffic along Geneva Avenue. Signal timing adjustments would be infeasible due to coordinated signal timing on Geneva Avenue. Therefore, impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project would be 273 seconds per vehicle, of which Alternative 1 would contribute approximately 10 percent (28 seconds) of the overall delay at the intersection.

Mitigation Measure 3 – Adding a left-turn pocket at the intersection of Geneva Avenue/Santos Street on the southbound approach would reduce the average intersection delay by nine seconds, resulting in a total delay of 264 seconds. This mitigation measure would not result in a loss of on-street parking spaces.

Intersection #8: Geneva Avenue/ Calgary Street (Unsignalized)

The intersection would continue to operate at LOS F under 2030 conditions with or without Alternative 1, and the intersection would meet the Caltrans signal warrants under either condition. The worst approach would occur in the southbound direction. Since the project would not contribute any trips to the southbound approach, the project impact would be considered ***less-than-significant***. The SFMTA has no plan to signalize this intersection at this time.

Intersection #9: Geneva Avenue/ Schwerin Street (Signalized)

Under the 2030 Cumulative Plus Alternative 1 conditions, the intersection would continue to operate at LOS F with the westbound through (WBT) movement being the primary critical movement with total volume of 3,404 vehicles. Alternative 1 would add 152 vehicles to the WBT movement, approximately four percent of the WBT volume, and therefore Alternative 1 impact would be considered ***less-than-significant***.

Although the intersection operational impacts would be considered to be less-than-significant, the LOS could be improved by an **Improvement Measure**, which is the same as Mitigation Measure 4 under the Cumulative Plus the Proposed Project condition. Given the sufficient street width, improvements such as adding right-turn pockets on the westbound approach on Geneva Avenue and at the southbound approach on Schwerin Street would improve operating conditions. It is noted that the future average delay with the project would be 261 seconds per vehicle, of which the Alternative 1 would contribute approximately five percent (14 seconds) of the overall delay at the intersection.

Improvement Measure 6 – Adding right-turn pockets at the intersection of Geneva Avenue/Schwerin Street on the westbound approach and the southbound approach would reduce the average intersection delay by 70 seconds, resulting in a total delay of 191 seconds. This mitigation measure would not result in a loss of on-street parking spaces.

Intersection #10: Geneva Avenue/ Bayshore Boulevard (Signalized)

Under 2030 Cumulative Plus Alternative 1 conditions, the intersection, even with extension to the east, would continue to operate at LOS F. The Alternative 1 would add 98 vehicles to the critical westbound through (WBT) movement, 54 vehicles to the critical southbound right-turn (SBR) movement, and 32 vehicles to the critical eastbound left-turn (EBL) movement during the PM peak-hour. That would constitute six percent, six percent, and four percent of the volume in each movement, respectively, and would therefore be considered significant contributions. Improvements such as providing additional traffic lanes are neither feasible nor recommended because it would require expansion of the roadway and substantial reduction in sidewalk widths. Signal timing adjustments are infeasible due to coordinated signal timing on Bayshore Boulevard. No feasible mitigation measures were identified; therefore, the impacts would remain ***significant and unavoidable***. It is noted that the future average delay with the project would be 232 seconds per vehicle, of which Alternative 1 would contribute approximately seven percent (17 seconds) of the overall delay at the intersection.

In summary, of the seven intersections that would operate at LOS F under 2030 Cumulative Plus Alternative 1 conditions, four intersections (i.e., #4, #7, #10, and #11) would have significant and unavoidable impacts, and the other three (i.e., #6, #8, and #9) would have less-than-significant impacts.

Alternative 1 would result in less-than-significant impacts at the following intersections during the PM peak-hour:

- Intersection #1: Sunnydale Avenue/ Persia Street (Unsignalized)
- Intersection #2: Sunnydale Avenue/ Sawyer Street (Unsignalized)
- Intersection #3: Sunnydale Avenue/ Schwerin Street (Unsignalized)
- Intersection #5: Sunnydale Avenue/ Santos Street (Unsignalized)
- Intersection #12: Velasco Avenue/ Santos Street (Unsignalized)

Intersections #1, #2, #3, #5, and #12 (Unsignalized) would operate at LOS C or better under 2030 Cumulative and 2030 Cumulative Plus Alternative 1 Conditions, thus the project-specific impact would be ***less-than-significant***.

Intersection #3: Sunnydale Avenue/ Schwerin Street (Unsignalized)

Alternative 1 would not cause the LOS to deteriorate but would increase intersection delay from 17.9 to 22.5 seconds. Similar to the Proposed Project, the operation of this intersection could be improved upon through the following improvement measure, which is the same as Mitigation Measure 2 under the Cumulative Plus the Proposed Project condition.

> **Improvement Measure** 7 – Given the sufficient width of Sunnydale Avenue (36 feet in the westbound approach), adding a left-turn pocket on the westbound approach would reduce the intersection delays from 22.5 to 17.0 seconds.

In summary, Alternative 1 would result in significant and unavoidable impacts at four intersections (i.e., Sunnydale Avenue/ Bayshore Boulevard, Geneva Avenue/ Santos Street, Geneva Avenue/ Bayshore Boulevard, and Visitacion Avenue/ Bayshore Boulevard). The remaining intersections would have ***less-than-significant*** impacts.

Alternatives 2 and 3 – The traffic analysis related to the Alternative 2 and 3 would be the same as 2030 Cumulative conditions. Thus, there would be no significant impact on traffic operations under 2030 Cumulative Plus Alternative 2 nor Alternative 3 conditions.

5.3 Transit Impacts

5.3.1 Transit Delay Impacts

Future transit delay impacts were analyzed based on the level of traffic congestion calculated for the 2030 Cumulative Plus Project conditions. Generally, a project is determined to have a significant impact if it would increase travel times such that additional vehicles would be required to maintain the proposed headways. This was assumed to be the case if the project's travel time increases to a particular route would be greater than ½ of its proposed headway.

Table 34 presents the associated delay for the 2030 Cumulative Plus Project conditions for the Proposed Project and Alternative 1 during the PM peak period. Detailed calculations are included in **Appendix M**.

As shown in the table, the increase in transit travel time due to the Proposed Project and Alternative 1 would be less than half of the route headway.

Table 34 – Transit Corridor Delay: Future Cumulative Conditions Weekday PM Peak-hour

Route[1]	Headway (min)[2]	Travel Time (min: sec)					Additional Transit Vehicle Required
		Cumulative	Cumulative Plus Proposed Project/Variant Scenario	Proposed Project/Variant Scenario Increase	Cumulative Plus Alt 1	Alternative 1 Increase	
Northbound/ Eastbound							
9 San Bruno[3]	12	18:39	22:14	3:35	22:02	3:23	0
8X Bayshore Express	8	9:09	9:50	0:41	9:32	0:23	0
8BX Bayshore "B" Express[4]	8	-	-	-	-	-	-
56 Rutland	20	1:29	1:46	0:17	1:40	0:11	0
Southbound/ Westbound							
9 San Bruno[3]	12	13:08	14:46	1:38	14:02	0:54	0
8X Bayshore Express	8	9:16	10:28	1:13	9:59	0:43	0
8BX Bayshore "B" Express	8	9:16	10:28	1:13	9:59	0:43	0
56 Rutland[5]	20	-	-	-	-	-	-

Source: CHS Consulting Group, 2013

Notes:

1. Light rail service T Third is not included in the transit delay analysis because it operates on a designated rail track thus is not affected by roadway traffic congestion.
2. Represents the existing headway. No headway changes are proposed under TEP.
3. The Proposed Project would consolidate two bus stops into one (in each direction) on Sunnydale Avenue, and it would potentially reduce bus travel time.
4. Route 8BX operates in the outbound (southbound) direction only during the PM period.
5. Westbound Route 56 operates along Wilde Avenue, Rutland Street, and Raymond Avenue which are not part of the study corridor.

Alternative 2 and 3 – The transit trips and capacity analyses related to the Alternative 2 and 3 would the same as Cumulative conditions. Thus, there would be no significant impact on local or regional transit operations.

5.3.2 Transit Capacity Utilization

The analysis of 2030 baseline transit utilization considers likely changes to transit service in the future, such as Muni service changes due to the TEP recommendations, and the change in ridership based on the SFCTA model estimates of future ridership growth.

Proposed Project and Variant Scenario – In order to assess the capacity utilization of transit lines under the Future Cumulative Plus Project/Variant condition, the project-generated transit trips were added to the 2030 baseline transit ridership at the four Muni screenlines. Project transit trips were assigned to each transit line depending on the origin and destination of their trip and the availability of transit connections from and to the project site (**Appendix J**). The project was determined to have a significant impact if the addition of project trips to the Muni screenlines would result in the capacity utilization to

exceed the 85 percent standard or make a substantial contribution to the screenlines operating at above 85 percent capacity standard.[27]

As shown in **Table 35**, all Muni screenlines would operate under its 85 percent capacity standard. Therefore, the transit impact under the Cumulative Plus Proposed Project/Variant conditions would be considered ***less-than-significant.***

Table 35 – Muni Screenline Capacity Utilization: Future Cumulative Conditions Weekday AM and PM Peak-hours

	Cumulative			Cumulative Plus Project/ Variant Scenario			Cumulative Plus Alternative 1		
Screenline	**Ridership**	**Capacity**	**Utili-zation**	**Added Trips**	**Total Ridership**	**Utili-zation**	**Added Trips**	**Total Ridership**	**Utili-zation**
AM Peak-Hour[1]									
Northeast	2,629	3,857	68%	0	2,629	68%	0	2,629	68%
Northwest	8,199	11,983	68%	22	8,221	69%	14	8,213	69%
Southeast	7,172	10,197	70%	225	7,397	73%	143	7,315	72%
Southwest	7,104	10,045	71%	0	7,104	71%	0	7,104	71%
Total	25,104	36,082	70%	247	25,351	70%	157	25,261	70%
PM Peak-Hour[2]									
Northeast	2,643	4,699	56%	0	2,643	56%	0	2,643	56%
Northwest	7,413	11,612	64%	22	7,435	64%	14	7,427	64%
Southeast	7,856	9,940	79%	225	8,081	81%	143	7,999	80%
Southwest	8,252	10,703	77%	0	8,252	77%	0	8,252	77%
Total	26,164	36,954	71%	247	26,411	71%	157	26,321	71%

Source: AECOM, February 2, 2009; CHS Consulting Group, 2013.
Notes:
1. Inbound direction
2. Outbound direction

It is noted that, as presented in **Table 25**, individual Muni routes 9, 8BX and T Third are currently operating above Muni's 85 percent capacity utilization standard during the AM and the PM peak hours. Their capacity utilization is expected to be worsened with the addition of project trips in the future (Year 2030), assuming there would be no changes in service frequency and ridership from the existing condition.[28] [29] Although these individual routes may operate above the 85 percent capacity standard, since transit riders have multiple options to reach the project site depending on their location and tolerance of certain types of transit options, the project transit impacts were determined based on the level of capacity utilization at the four Muni screenlines, as presented above.

[27] Muni screenline analysis was conducted based on the screeenline summary published on February 2, 2009. Since then, the San Francisco Planning Department has published an updated screenline summary as of December 18, 2012. CHS compared the results under the 2009 and 2013 screenline summaries and has found that with the new screenline the capacity utilization over northwest screenline with the Proposed Project would increase from 69% to 71% in the AM peak-hour and from 64% to 78% in the PM peak-hour, but the capacity utilization over southeast screenline would change from 73% to 82% in the AM peak-hour and from 81% to 74% in the PM peak-hour.
[28] Future ridership data for individual routes are not available, thus no capacity utilization has been analyzed on a route-by-route basis for the future year.
[29] No changes on service frequency are proposed for Routes 9, 8BX, and T Third as part of the TEP recommendations.

In order to evaluate regional transit operations under the Cumulative Plus Project, the project-generated transit trips bound to East Bay, North Bay and South Bay were added to each respective regional screenline. **Table 36** presents the ridership and capacity utilization at the three regional screenlines under the Cumulative Plus Project condition. It shows that the East Bay and North Bay screenlines would operate above their capacity utilization standards under 2030 Cumulative conditions with or without the Proposed Project. This would be over the BART's one-hour capacity utilization standard of 135 percent and other transit operators' utilization standard of 100 percent. Although the ridership demand over the East Bay and the North Bay screenlines would exceed these capacity standards, the Proposed Project would contribute approximately six to seven trips to these regional screenlines, which represents less than one percent of expected ridership under the Cumulative Baseline condition. Therefore, this contribution would be considered a ***less-than-significant*** impact.

Table 36 – Regional Screenline Capacity Utilization: Future Cumulative Conditions Weekday AM and PM Peak-hours

	Cumulative			Cumulative Plus Project/Variant Scenario			Cumulative Plus Alternative 1		
Screenline	Ridership	Capacity	Utili-zation	Added Trips	Total Ridership	Utili-zation	Added Trips	Total Ridership	Utili-zation
AM Peak-Hour[1]									
East Bay	40,271	27,486	147%	7	40,278	147%	5	40,276	147%
North Bay	4,176	4,175	100%	6	4,182	100%	4	4,180	100%
South Bay	17,053	21,760	78%	8	17,061	78%	6	17,059	78%
PM Peak-Hour[2]									
East Bay	35,779	28,919	124%	7	35,786	124%	5	35,784	124%
North Bay	4,051	3,905	104%	6	4,057	104%	4	4,055	104%
South Bay	14,416	21,640	67%	8	14,424	67%	6	14,422	67%

Source: AECOM, February 2, 2009; CHS Consulting Group, 2010.
Notes:
1. Inbound direction
2. Outbound direction

Alternative 1 – The transit trips and capacity analyses related to Alternative 1 would be similar to the Proposed Project analysis. Therefore, Alternative 1 would not cause significant impacts on local or regional transit operations under the Cumulative conditions.

Alternative 2 and 3 – The transit trips and capacity analyses related to Alternatives 2 and 3 would be the same as the cumulative conditions. Thus, there would be no significant impact on local or regional transit operations.

6.0 TRANSPORTATION MITIGATION AND IMPROVEMENT MEASURES

This chapter presents the transportation mitigation and improvement measures to reduce significant impacts identified in the impact analyses. In some cases, mitigation measures would reduce the magnitude of the project's impacts, but not to less-than-significant levels. In some cases, no significant impact was identified; however, an improvement measure was noted that would improve operations.

6.1 Existing Plus Project (Year 2010) Conditions

Based on the impact analyses, the Proposed Project would result in significant construction impacts under the Existing Plus Project conditions. There would be no project impacts related to traffic, transit, pedestrian, bicycle and loading operations, and no mitigation measure is required.

6.1.1 Traffic

No significant environmental impacts have been identified; no mitigation required. The following improvement measures are proposed to improve operating conditions at the intersections of Sunnydale Avenue/Persia Street, Geneva Avenue/Brookdale Avenue, and Geneva Avenue/Santos Street:

Improvement Measure 1 – Given the sufficient width of Sunnydale Avenue (32 feet in the northbound approach) and Persia Avenue (41 feet in the eastbound approach), adding a left-turn pocket on the northbound approach on Sunnydale Avenue and a right-turn pocket on the eastbound approach on Persia Avenue would improve the intersection operating condition from LOS C to B under both the Existing Plus Proposed Project/Variant Scenario and the Existing Plus Alternative 1 conditions. No parking space would be lost due to this change.

Improvement Measure 2 – Given the sufficient width of Brookdale Avenue (51 feet in the southbound approach), adding a right-turn pocket on the southbound approach on Brookdale Avenue would reduce the vehicle delay to 20.4 seconds (LOS C) under the Existing Plus Proposed Project/Variant Scenario. Approximately two on-street parking spaces would be lost due to this change.

Improvement Measure 3 – Given the sufficient width of Santos Street (48 feet in the southbound approach), adding a right-turn pocket on the southbound approach on Santos Street would not improve the LOS but would reduce the average vehicle delay by approximately three seconds from 23.9 to 20.6 seconds under the Existing Plus Proposed Project. Under the Existing Plus Alternative 1, the LOS would improve from LOS C to LOS B with the average vehicle delay of 19.1 seconds.

6.1.2 Transit

No significant environmental impacts have been identified; no mitigation required.

6.1.3 Pedestrians

No significant environmental impacts have been identified; no mitigation required.

6.1.4 Bicycles

No significant environmental impacts have been identified; no mitigation required.

6.1.5 Loading

No significant environmental impacts have been identified; no mitigation required.

Improvement Measure 4 - Work with Recology, the City's designated trash, recycling, and compost hauler, and with the San Francisco Department of the Environment and the SFMTA's Sustainable Streets Division as master planning proceeds to the schematic design stage for the proposed buildings, to ensure that trash, recycling, and composting facilities are designed to ensure maximum diversion of trash from the City's landfill and that the collection bins are stored in such locations to maximize efficiency in container pickup and minimize traffic disruption during collection.

6.1.6 Emergency Access

There are no emergency access improvement measures identified.

6.1.7 Construction

Implementation of the following mitigation measures would substantially reduce potential construction impacts; however, due to the duration of roadway closures, construction activities, and blocked access to McLaren Park with limited alternatives for up to 15 to 18 months, project construction impacts would be considered a ***significant and unavoidable*** impact.

Mitigation Measure 1 – Prepare and implement a traffic control plan prior to and during project construction. The project sponsor and its construction contractor(s) will prepare and implement a traffic control plan and coordinate with the City and County of San Francisco, the SFMTA, the SF School District, as appropriate. The coordinated plan will include measures that address street closures, and ensure safe access to the McLaren Elementary School. The traffic control plan shall include, but may not be limited to, the following elements:

- Advisory signs will be erected several weeks in advance to inform planned street closures in the area. During each construction phase, street closure signs and detour routes will be posted ahead of the point to direct vehicles to use alternative routes to access the project site.

- The construction contractor shall coordinate with the McLaren Elementary School to ensure safe access to and from the school for students, teachers, and parents at all times. The contractors should inquire the school start and dismissal times and schedule construction vehicle trips outside of the peak school drop-off and pick up hours to the extent feasible. If avoiding these hours is infeasible, the construction contractor will provide additional flaggers during school drop-off and pick-up hours near school.

- To the extent applicable, the traffic control plan will conform to Caltrans's Manual of Traffic Controls for Construction and Maintenance Work Zones.

6.1.8 Parking

No significant environmental impacts have been identified; no mitigation required.

6.2 Future Cumulative Plus Project (Year 2030) Conditions

Based on the impact analyses, the Proposed Project/Variant Scenario and Alternative 1 would result in significant transportation impacts related to the intersection levels of service under the Future Cumulative Plus Project conditions at four intersections. There would be no cumulative impacts related to transit, and no mitigation is required.

6.2.1 Traffic

Implementation of the proposed project would result in potentially significant impacts at the intersections of Geneva Avenue/ Santos Street and Geneva Avenue/ Schwerin Street, and the following mitigation measures are proposed. These measures would help alleviate the operating conditions at each intersection; however, no feasible mitigation measures were identified to reduce project impacts to less-than-significant levels and impacts would remain significant and unavoidable.

Mitigation Measure 2 – Given the sufficient width of Sunnydale Avenue (36 feet in the westbound approach), adding a left-turn pocket on the westbound approach would improve the worst approach operating condition from LOS E to C. This mitigation measure is the same as **Improvement Measure 7** under the Cumulative Plus Alternative 1 conditions.

Mitigation Measure 3 – Adding a left-turn pocket at the intersection of Geneva Avenue/Santos Street on the southbound approach would reduce the average intersection delay by 11 seconds, resulting in a total delay of 277 seconds under the Cumulative Plus Proposed Project. The average intersection delay would reduce by nine seconds resulting in a total delay of 264 seconds under the Cumulative Plus Alternative 1. This mitigation measure would not result in a loss of on-street parking spaces.

Mitigation Measure 4 – Adding right-turn pockets at the intersection of Geneva Avenue/Schwerin Street on the westbound approach and the southbound approach would reduce the average intersection delay by 70 seconds, resulting in a total delay of 198 seconds under the Cumulative Plus Proposed Project. This mitigation measure is the same as **Improvement Measure 6** under the Cumulative Plus Alternative 1 conditions. It would reduce the average intersection delay by 70 seconds, resulting in a total delay of 191 seconds. This mitigation measure would not result in a loss of on-street parking spaces. .

No significant environmental impacts have been identified at the intersections of Geneva Avenue/Brookdale Avenue and Sunnydale Avenue/Schwerin Street, thus no mitigation required. The following improvement measures are proposed to operate operating conditions at these intersections.

Improvement Measure 5 – Considering the history of frequent vehicle collisions at the intersection even though there is no project generated LOS impact to the intersection, the project sponsor would work with SFMTA on identifying feasible improvements to address the hazardous conditions at the intersection. The Proposed Project contribution to the traffic volume at the intersection would be approximately 0.6% (44 out of 6,842 vehicle trips) of the total traffic volume at the intersection, while the Alternative 1 contribution to the traffic volume at the intersection would be approximately 0.5 % (37 out of 6,824 vehicle trips) of the total traffic volume.

In addition, the project sponsor would adopt an aggressive Transportation Demand Management (TDM) program as described in **Section 4.8**, which specifically aims at encouraging people to transit and discouraging people from driving alone.

6.2.2 Transit

No significant environmental impacts have been identified; no mitigation required.

APPENDICES

APPENDIX A PROJECT SITE PLANS AND STREET CROSS-SECTIONS

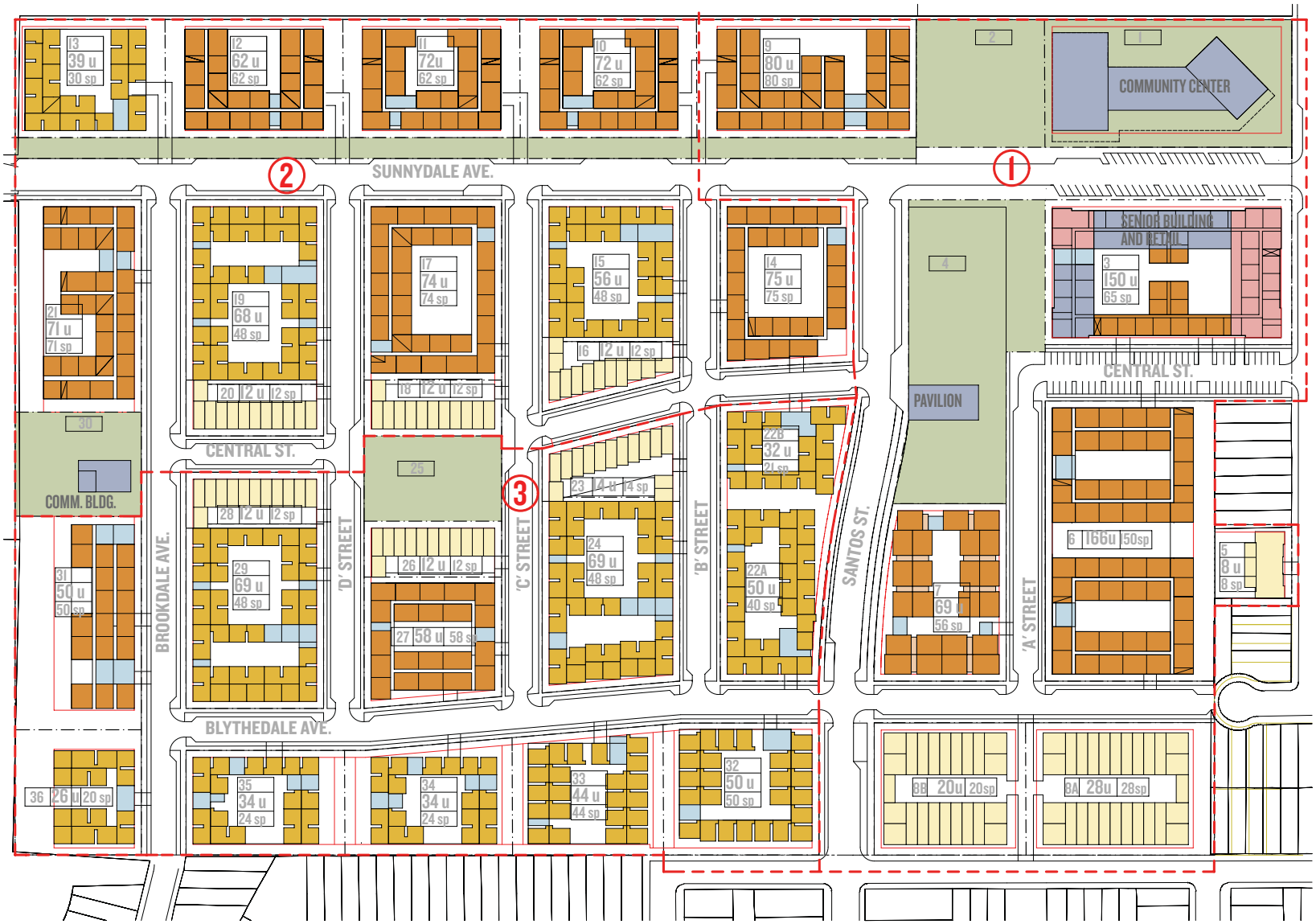
Proposed Project



A NEW SUNNYDALE | CONCEPT PLAN

SAN FRANCISCO, CA | JANUARY 23, 2010 | COMMUNITY WIDE MEETING

Mercy Housing RELATED VAN METER WILLIAMS POLLACK LLP



UNIT CALCS

PHASE	UNITS
1.	521
2.	625
3.	554
Total:	1700

PARKING

1437 Off-Street Parking Spaces
525 On-Street Spaces
1962 Total

HOUSING LEGEND

U= UNITS
SP= OFF STREET PARKING SPACES PER BUILDING

- STACKED FLATS
- TOWNHOUSES OVER FLAT
- TOWNHOUSES WITH TUCK-UNDER PARKING
- LOBBY/ COMMON SPACE
- PARKS

A NEW SUNNYDALE | BUILDING TYPE PLAN

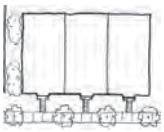
SAN FRANCISCO, CA | FEBRUARY 11, 2011 | MERCY HOUSING, THE RELATED COMPANIES OF CALIFORNIA

mercy HOUSING RELATED VAN METER WILLIAMS POLLACK

BUILDING FORM, TYPE AND DENSITY
VARIETY OF BUILDING TYPES POSSIBLE

Townhouse/Rowhouse

An attached, multistory, single family home (15-25 units/acre)

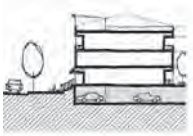






Stacked Flats

One-story apartments arranged one over another (25-35 units/acre)







Podium Building

A building with a parking garage below and residences or other uses above (40-45 units/acre)

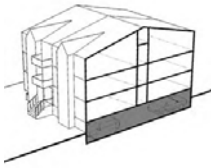






Corridor Building

An apartment building with units accessed from a central corridor (40-60 units/acre)

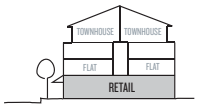






Mixed Use

Retail or public use on ground floor with housing above (50-80 units/acre)







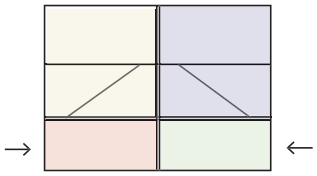
Mercy Housing RELATED
VAN METER WILLIAMS POLLACK LLP

A. TOWNHOUSE OVER FLAT

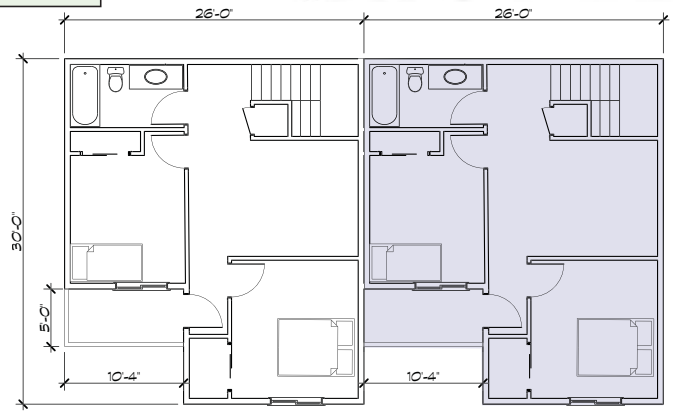
"SOUTH SAN FRANCISCO"
25' X 25'

2 Single Aspect 2 Bedroom Townhouses
2 Single Aspect 1 Bedroom Flats

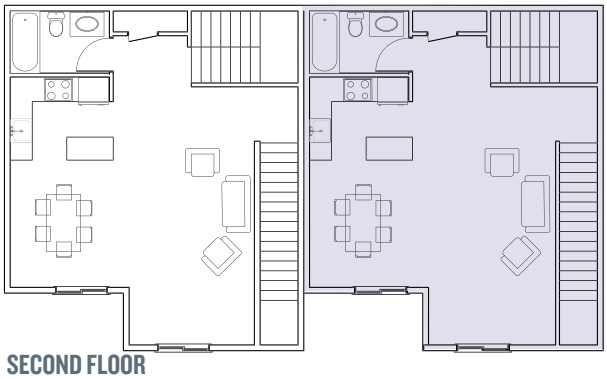
Street or Podium Parked



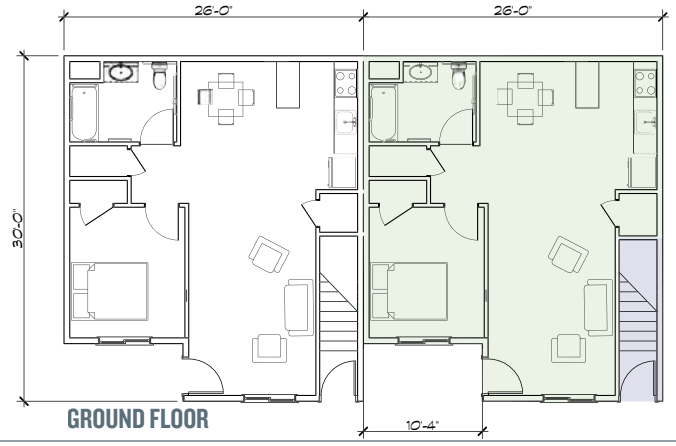




THIRD FLOOR



SECOND FLOOR



GROUND FLOOR

2 BEDROOM TOWNHOUSE
1,175 Square Feet

1 BEDROOM FLAT
625 Square Feet

0 5 10'

A NEW SUNNYDALE | BUILDING PROTOTYPES

SAN FRANCISCO, CA | OCTOBER 7, 2009 | TEAM MEETING

Mercy Housing RELATED

VAN METER WILLIAMS POLLACK LLP

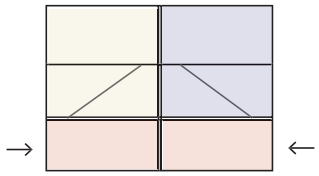
B. TOWNHOUSE OVER FLAT

"NORTH BEACH"

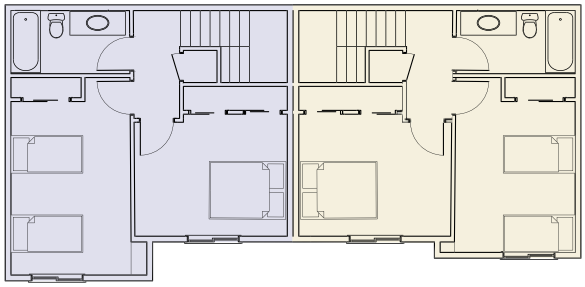
25' X 50'

2 Single Aspect 3 Bedroom Townhouses
1 Single Aspect 3 Bedroom Flat

Podium Parking

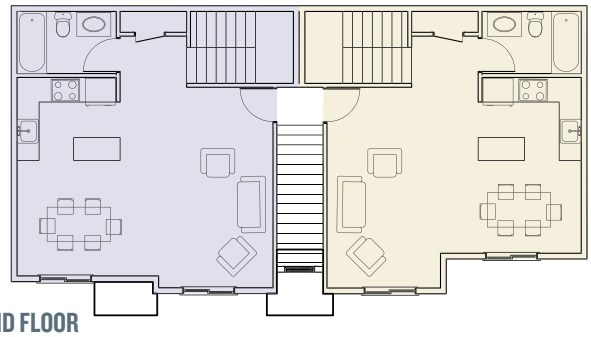






THIRD FLOOR

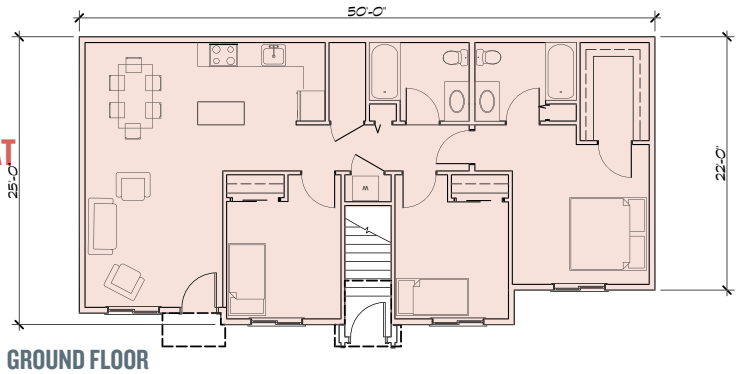
2 BEDROOM TOWNHOUSE
1,135 Square Feet



SECOND FLOOR

2 BEDROOM TOWNHOUSE
1,135 Square Feet

3 BEDROOM FLAT
1,085 Square Feet



GROUND FLOOR

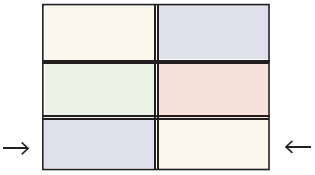
D. STACKED FLATS

30' X 36'

3 Single Aspect 2 Bedroom Flats

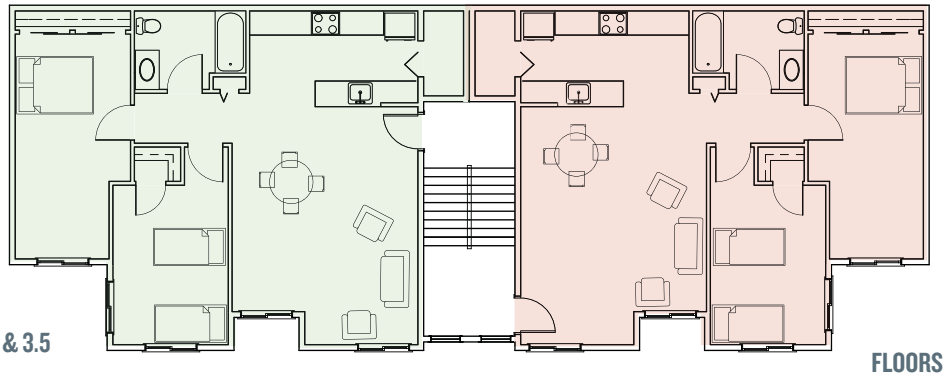
Podium Parking





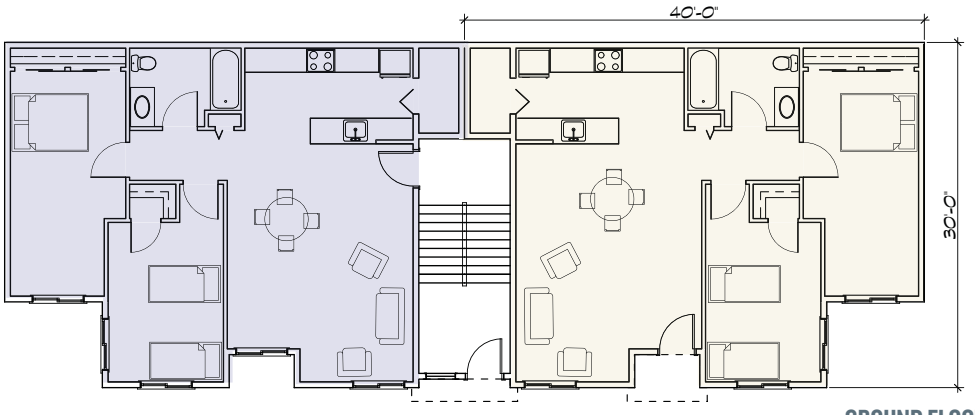
2 BEDROOM FLAT
997 Square Feet

2 BEDROOM FLAT
997 Square Feet



FLOORS 2.5 & 3.5

FLOORS 2 & 3



FLOOR 1.5

GROUND FLOOR

2 BEDROOM FLAT
997 Square Feet

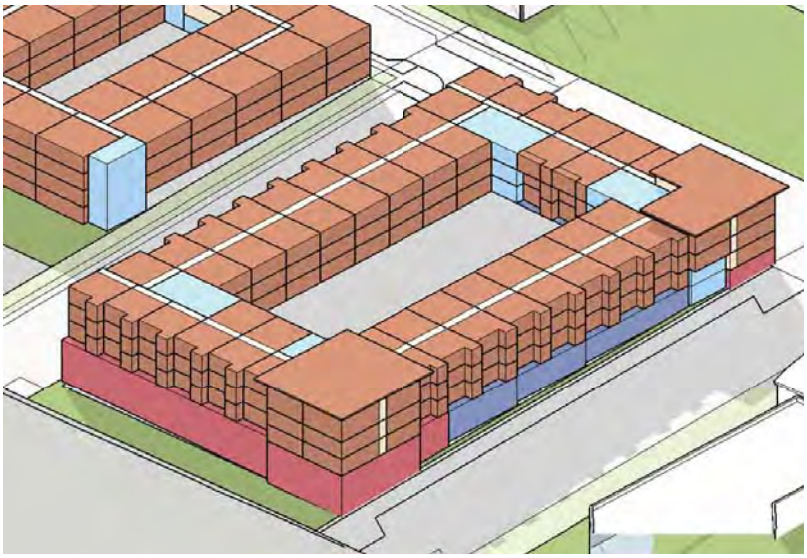
2 BEDROOM FLAT
997 Square Feet

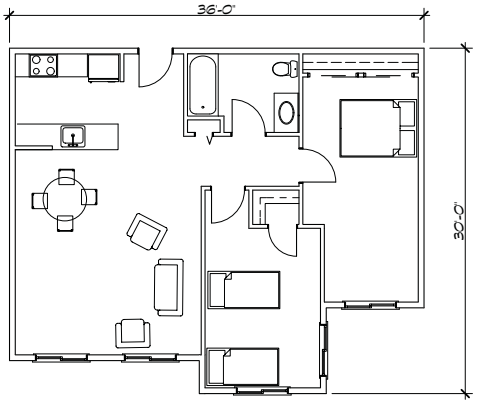
E. SENIOR

25’ X 28’

Single Aspect Double Loaded Corridor I and 2 Bedroom Flats

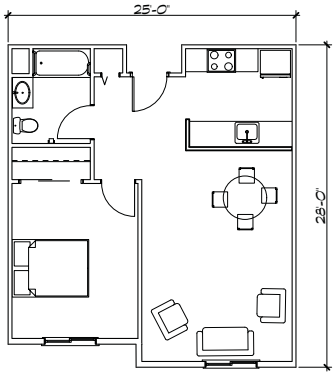
Podium Parking





2 BEDROOM FLAT

970 Square Feet



1 BEDROOM FLAT

675 Square Feet

F. TOWNHOUSE

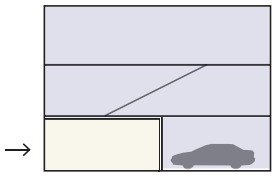
"SANTA CLARA I"

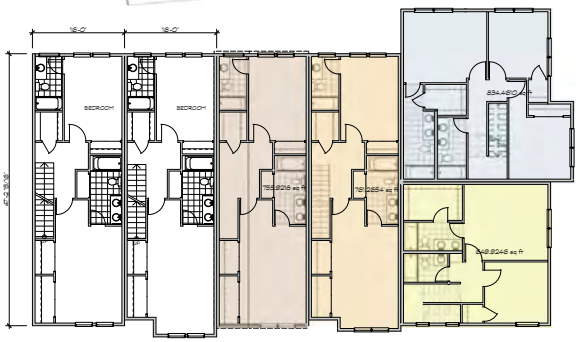
55' X 62'

3 Double Aspect 3 Bedroom Townhouses
1 Double Aspect 2 Bedroom Townhouse

Tuck-Under Parking



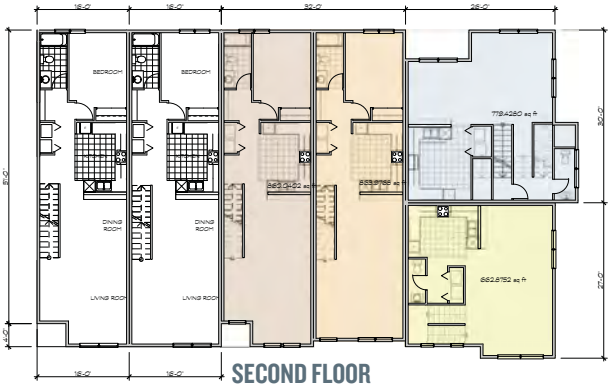




THIRD FLOOR

3 BEDROOM TOWNHOUSE
1,615 Square Feet

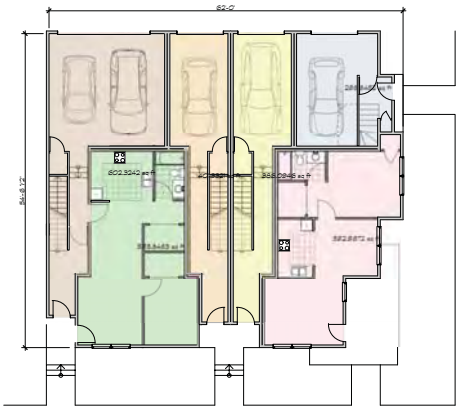
3 BEDROOM TOWNHOUSE
1,625 Square Feet



3 BEDROOM TOWNHOUSE
1,610 Square Feet

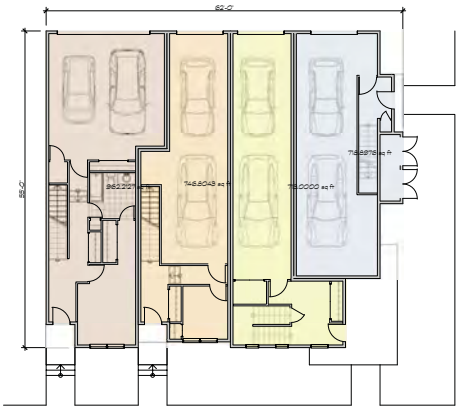
2 BEDROOM TOWNHOUSE
1,313 Square Feet

SECOND FLOOR



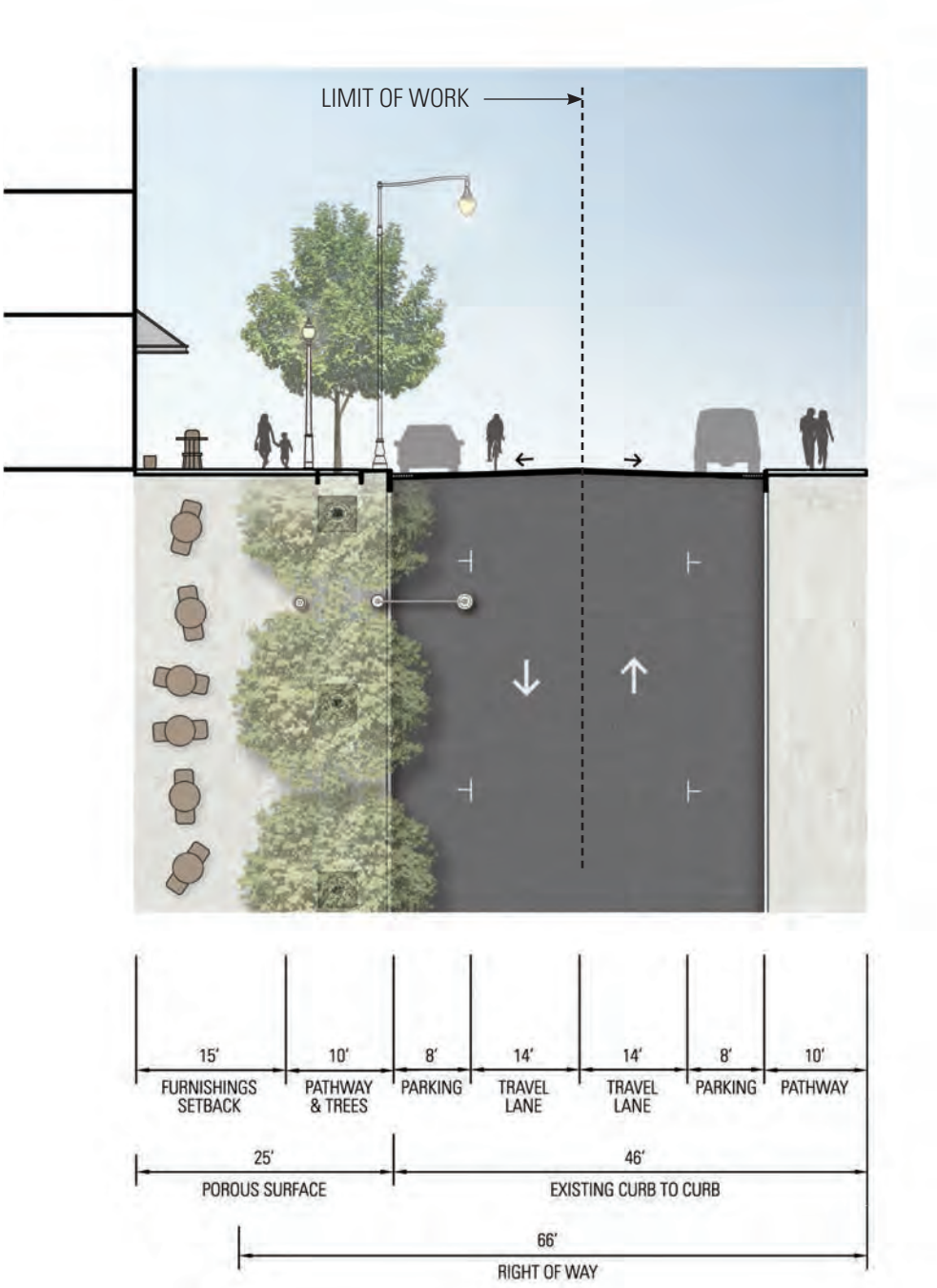
GROUND FLOOR ALTERNATIVE

1 BEDROOM FLAT
595 Square Feet



GROUND FLOOR

1 BEDROOM FLAT
595 Square Feet

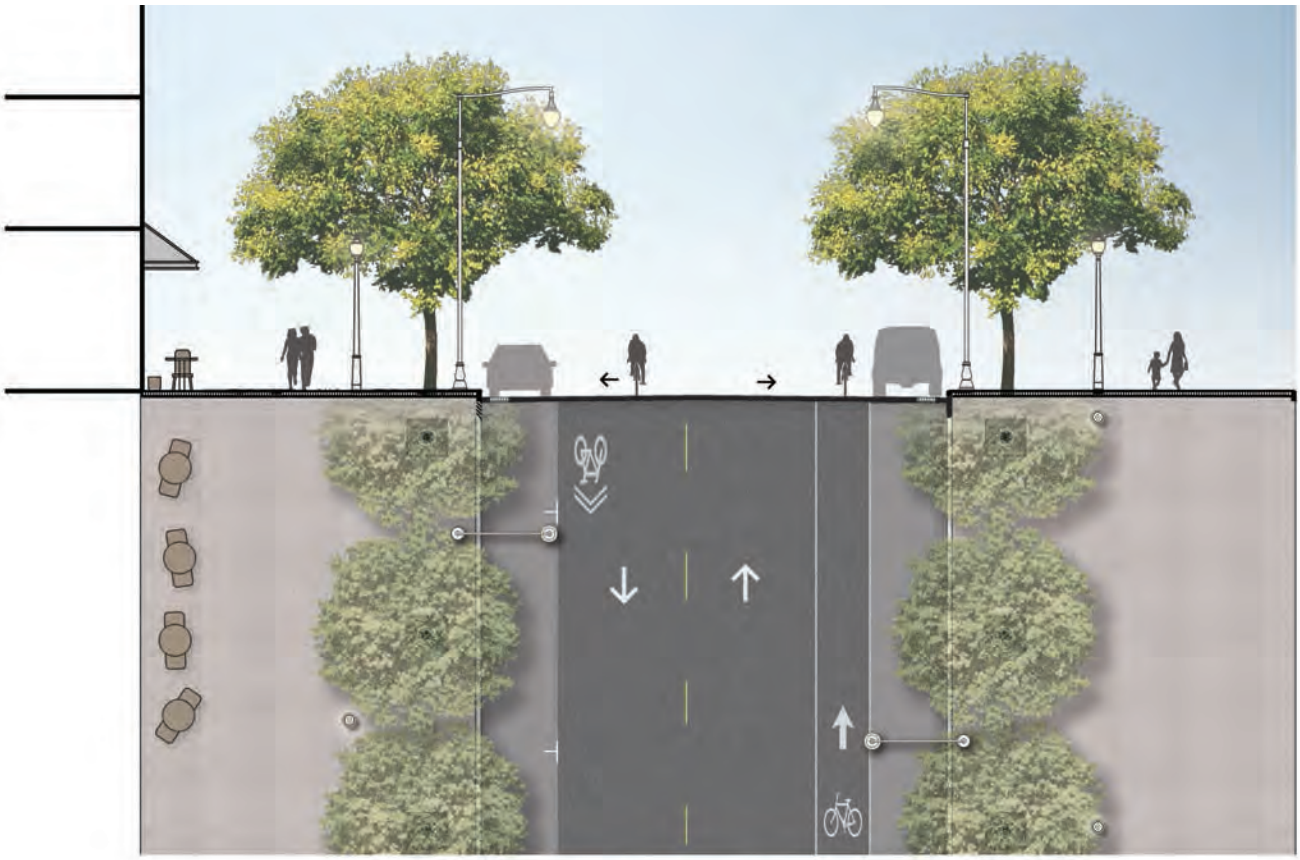


5.2.1 HAHN STREET

Hahn Street will provide the front door to the new Sunnydale neighborhood. At the mixed-use building, retail uses are encouraged to spill out in to the furnishings setback to activate the sidewalk.



KEY PLAN

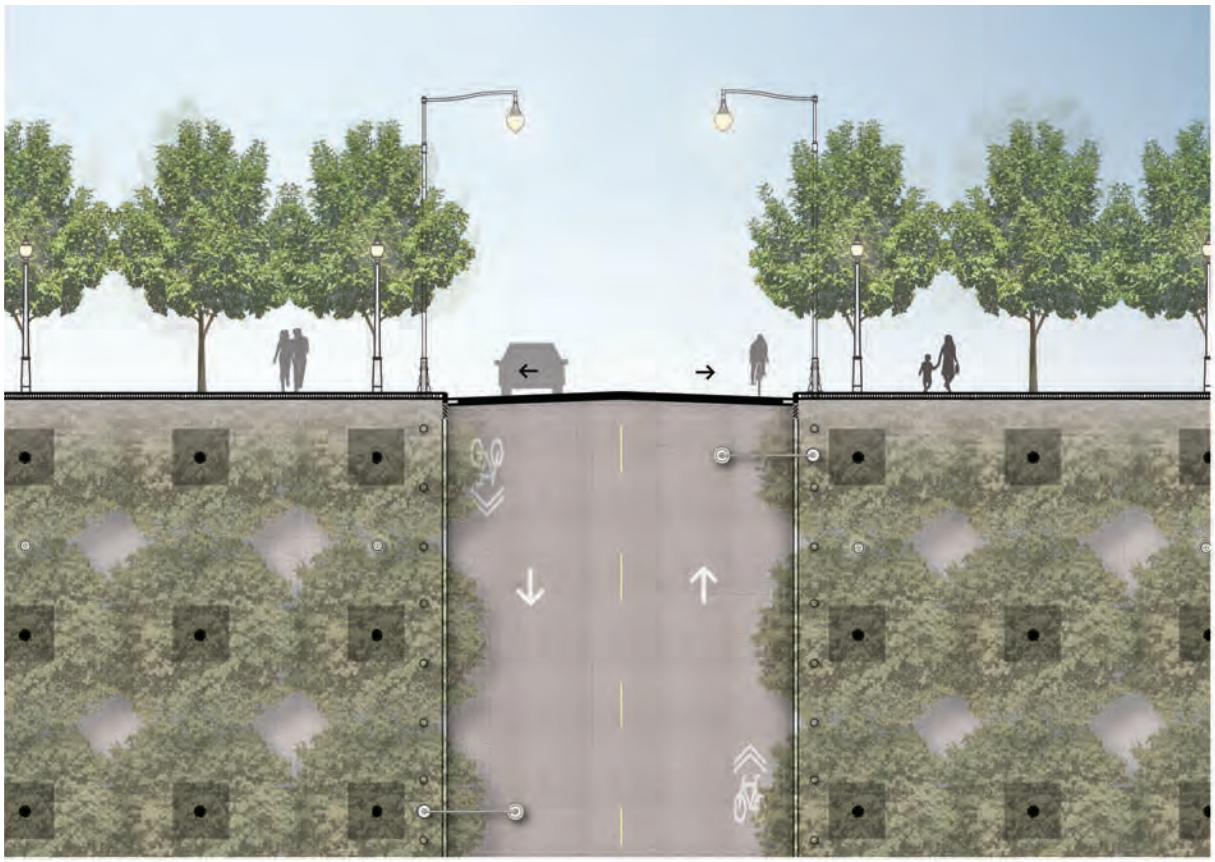




KEY PLAN

5.2.2 SUNNYDALE AVENUE EAST

East of Santos, Sunnydale Avenue will be a more commercial-oriented street with strong connections to the park. Diagonal parking is proposed here to provide more parking for the mixed-use building and community center. While the south side of the street will have swale features in the parking aisle near the mixed-use building, the larger opportunity lies on the north side of the street where more significant stormwater expressions can take place due to the adjacency of the park.



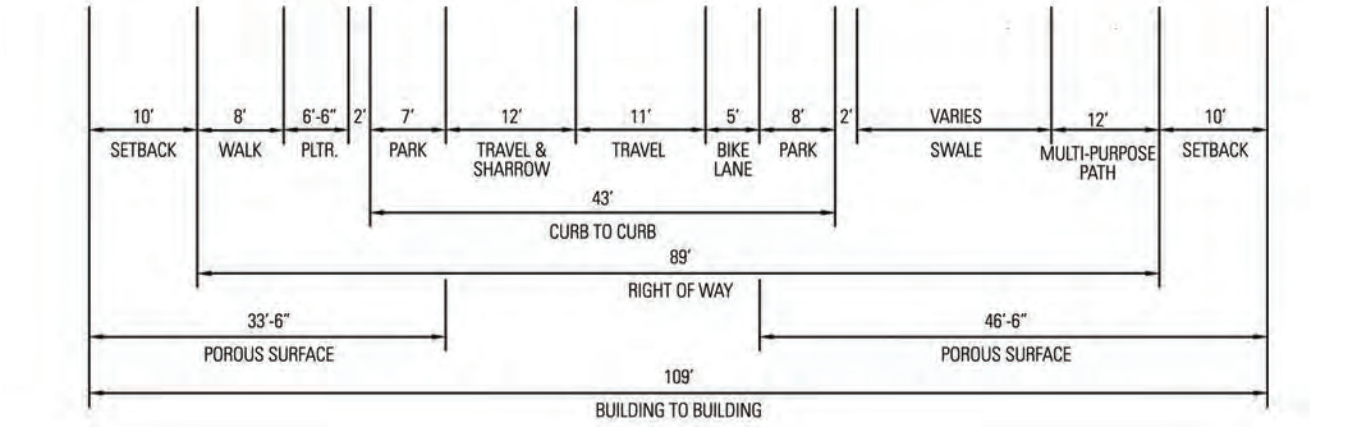
5.2.3 SUNNYDALE AVENUE AT PARK AND ORCHARD

As Sunnydale reaches the orchard and plaza, the pavement changes to emphasize the link from Herz Playground south through the plaza to the neighborhood green and community garden. Although Sunnydale still has curbs at this point, the same paving material will be used on the sidewalk and street to emphasize the connection. Bollards will be placed at the curb line to warn pedestrians at this busy transit intersection.



KEY PLAN





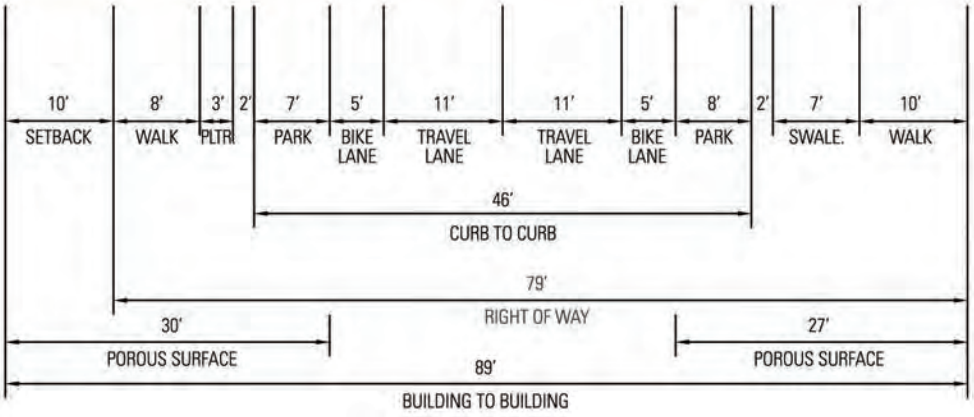


KEY PLAN

5.2.4 SUNNYDALE AVENUE WEST

Sunnydale Avenue West of Santos is a showcase green street traveling up the hill to link to McLaren Park. Using generous setbacks, the street boasts a broad public park/greenway along the north side of the road. Working in tandem a wide sidewalk and a stormwater "stream"–that recalls the historic stream that once flowed nearby–braid in and out of one another.



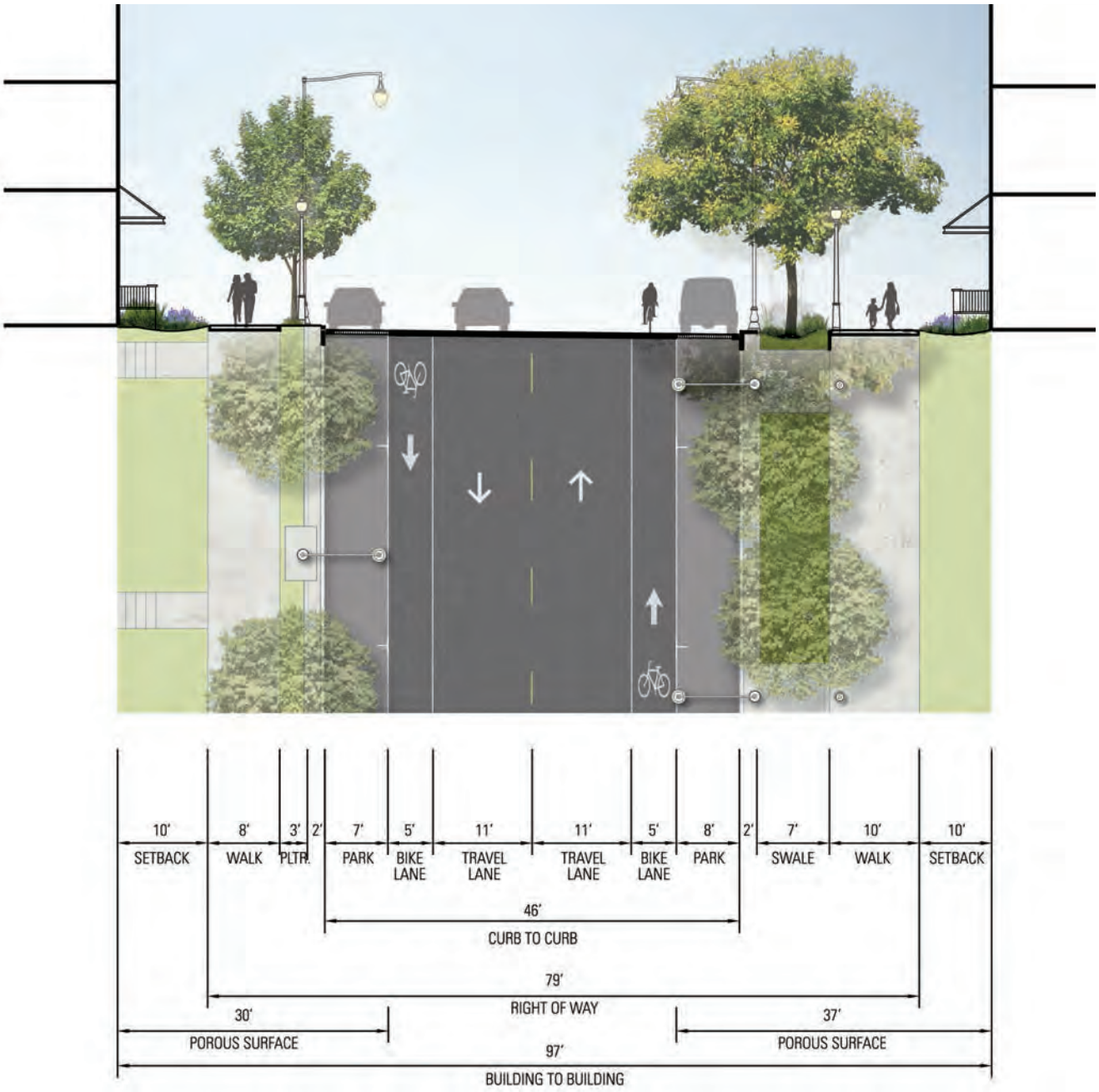


5.2.5 SANTOS STREET AT PARK

Santos is a bus arterial and key community connector. The design of the street tries to humanize what could be a large, unfriendly streetscape. Raingardens with street trees and parking bulb outs will slow traffic, as will the presence of bike lanes. Since one side of Santos abuts the new Central Park, the bike/pedestrian circulation provides a family-friendly wide sidewalk that is buffered from the cars by a shallow stormwater swale. Where feasible, porous paving materials are used.



KEY PLAN





KEY PLAN

5.2.6 SANTOS STREET SOUTH

Santos Street is a bus arterial and key community connector. The design of the street tries to humanize what could be a large, unfriendly streetscape. Raingardens with street trees and parking bulb outs will slow traffic, as will the presence of bike lanes. The looser planting of the park edge trees continues past the residential buildings south of the park, linking to the edge of the development at Velasco Street.

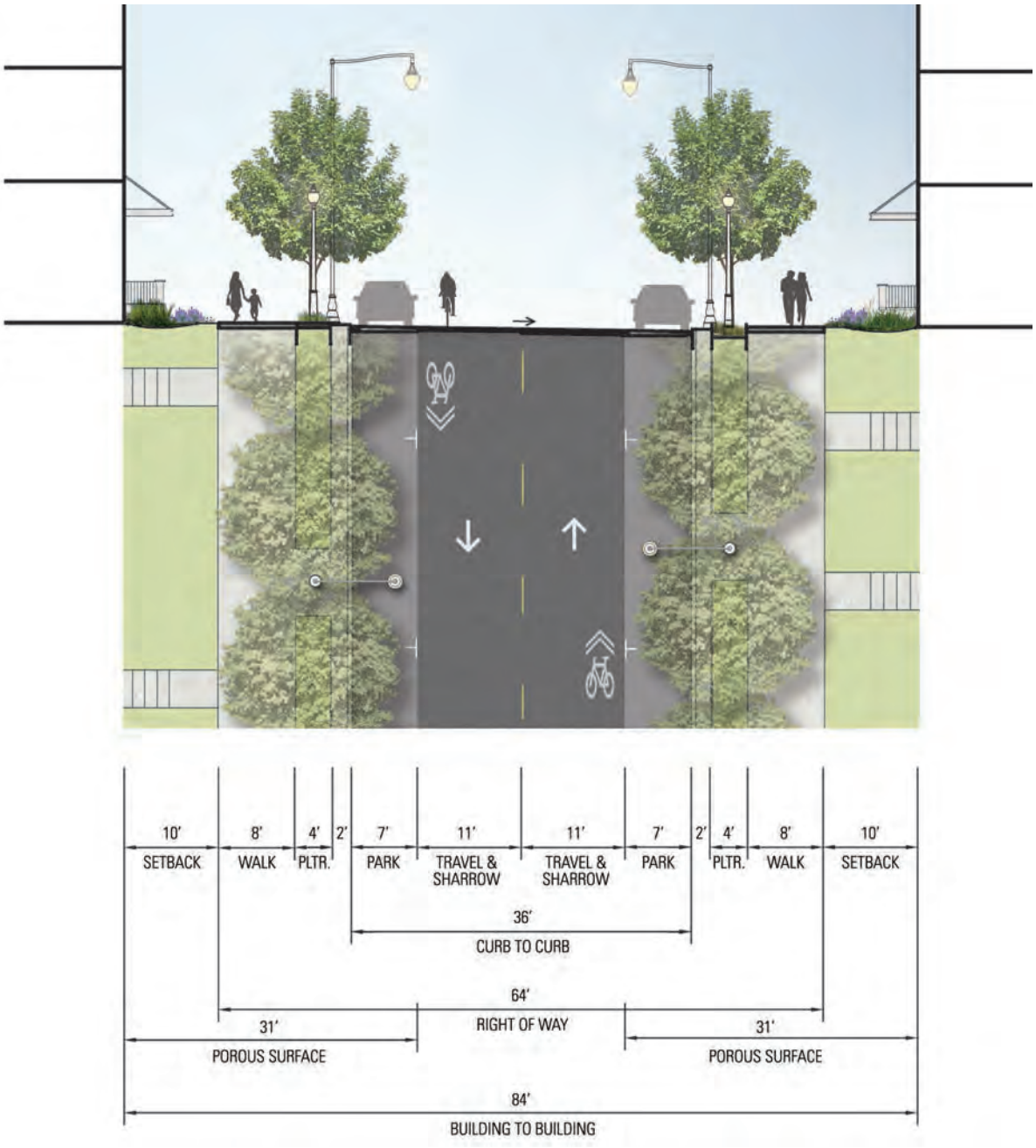


5.2.7 BLYTHEDALE AVENUE AND CONNECTION TO SUNRISE WAY

Blythedale Avenue will be reconfigured to connect to the existing culdesac at Sunrise Way providing an important connection to the neighborhood. Rather than having dedicated bike lanes, bicycle and cars will share marked lanes known as sharrows. Given its steepness, the use of porous paving is limited but is proposed in places where the grade makes it feasible. In addition, structured rain gardens provide an excellent opportunity to provide stormwater treatment, seating opportunities and pedestrian interest.



KEY PLAN

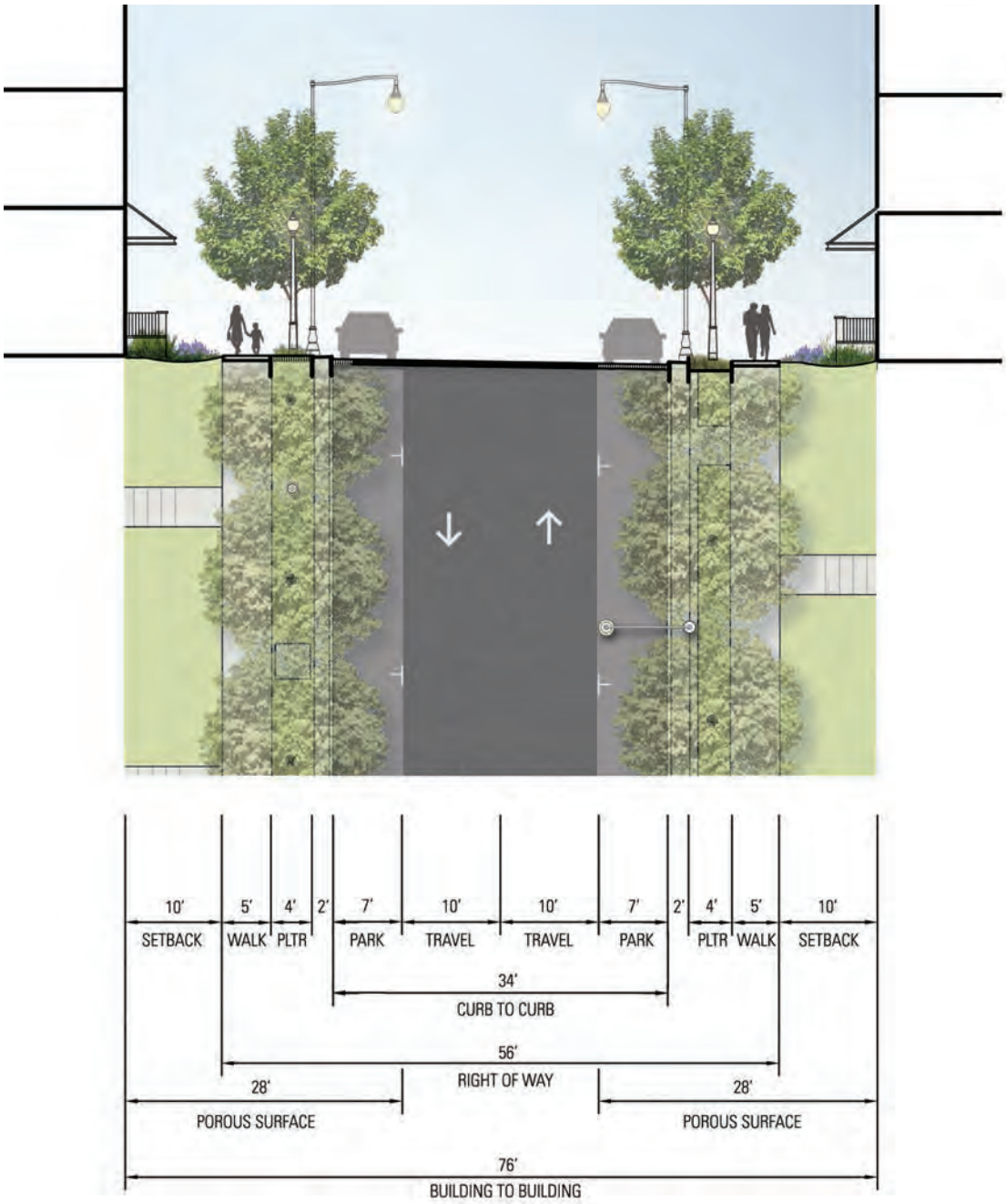




KEY PLAN

5.2.8 BROOKDALE AVENUE

Cutting across the top of the site, Brookdale connects from Sunnydale to the city grid south to Geneva Avenue. Rather than having dedicated bike lanes, sharrows will be used. Porous paving will be used for the parking and sidewalks, and, close to the curb, structured raingardens will help to treat the runoff from the street that is not absorbed by the porous pavement. Outside of the right of way, in the easements in front of the buildings, more naturalized swales buffer between the street and the surrounding buildings.

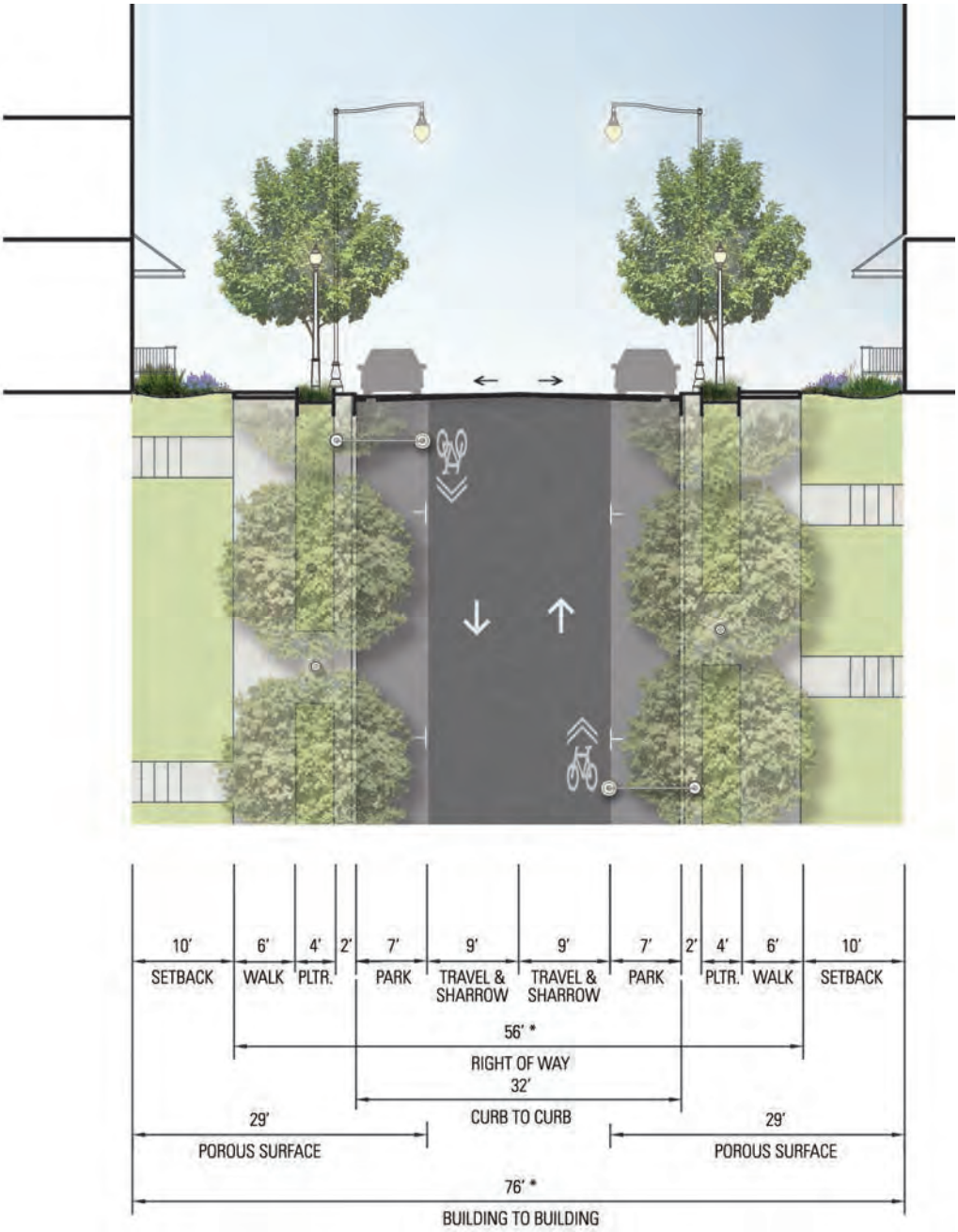


5.2.9 STREETS A-D (NEW NORTH/SOUTH NEIGHBORHOOD STREETS)

The north-south streets between Brookdale and Hahn are envisioned as smaller scale residential streets with little through traffic. These streets make up the heart of the neighborhood and set its residential character. Graded to less than five percent, these streets will also provide an accessible path to almost all of the blocks within Sunnydale.



KEY PLAN





KEY PLAN

5.2.10 CENTER STREET

The new Center Street is a smaller scale street that downplays its role as a movement corridor, and is, instead, part of an exceptional pedestrian circulation system. Again, due to grades, the use of porous pavements may be limited, but should be used when appropriate. The Central Greenway alternative eliminates the driving lanes and creates a pedestrian only linear park with front doors to townhouses stepping up the hill.



Center Street Plan



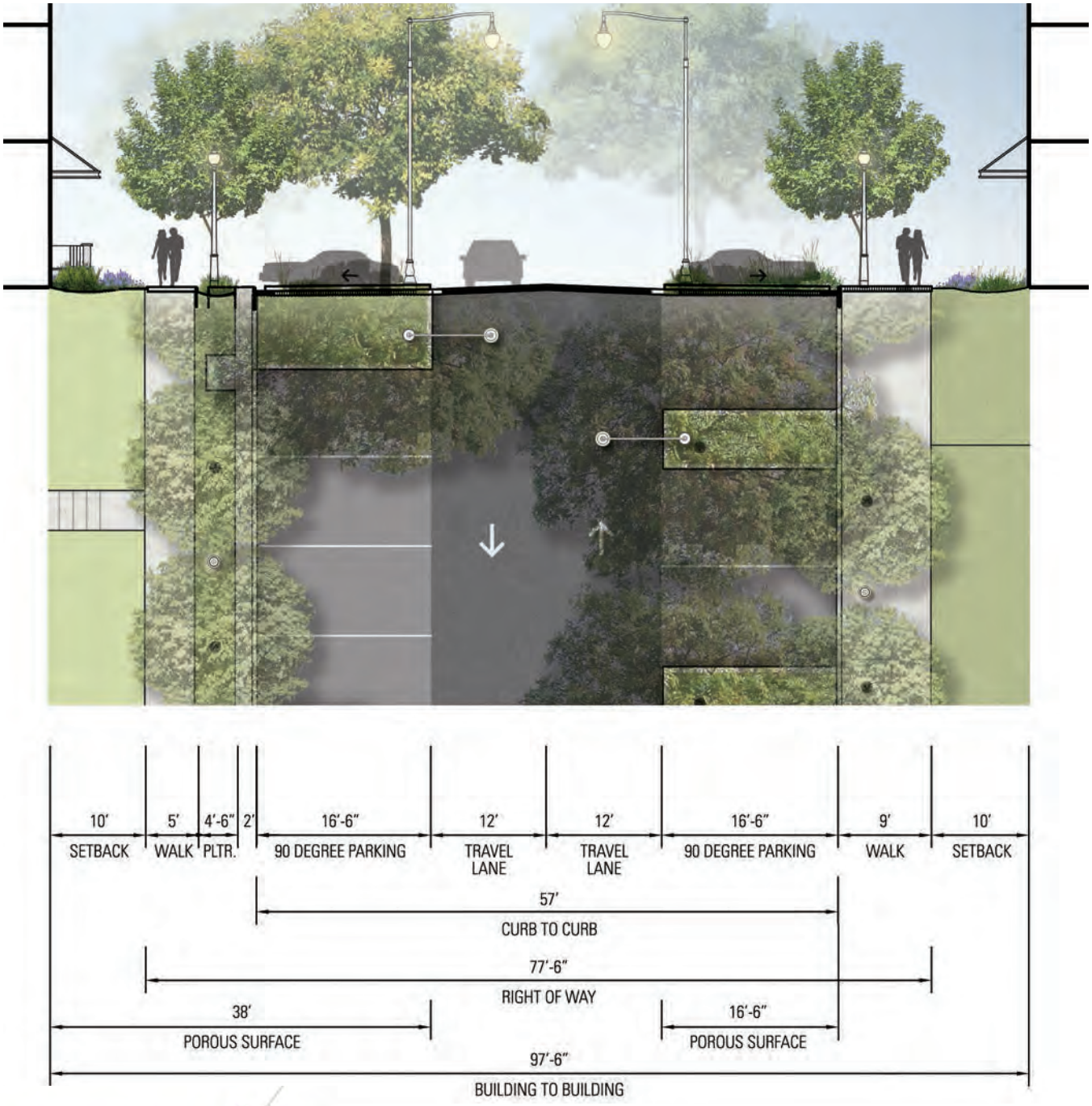
Central Greenway Plan Alternative



View of Central Greenway Alternative up to Overlook Park



View of Center Street up to Overlook Park



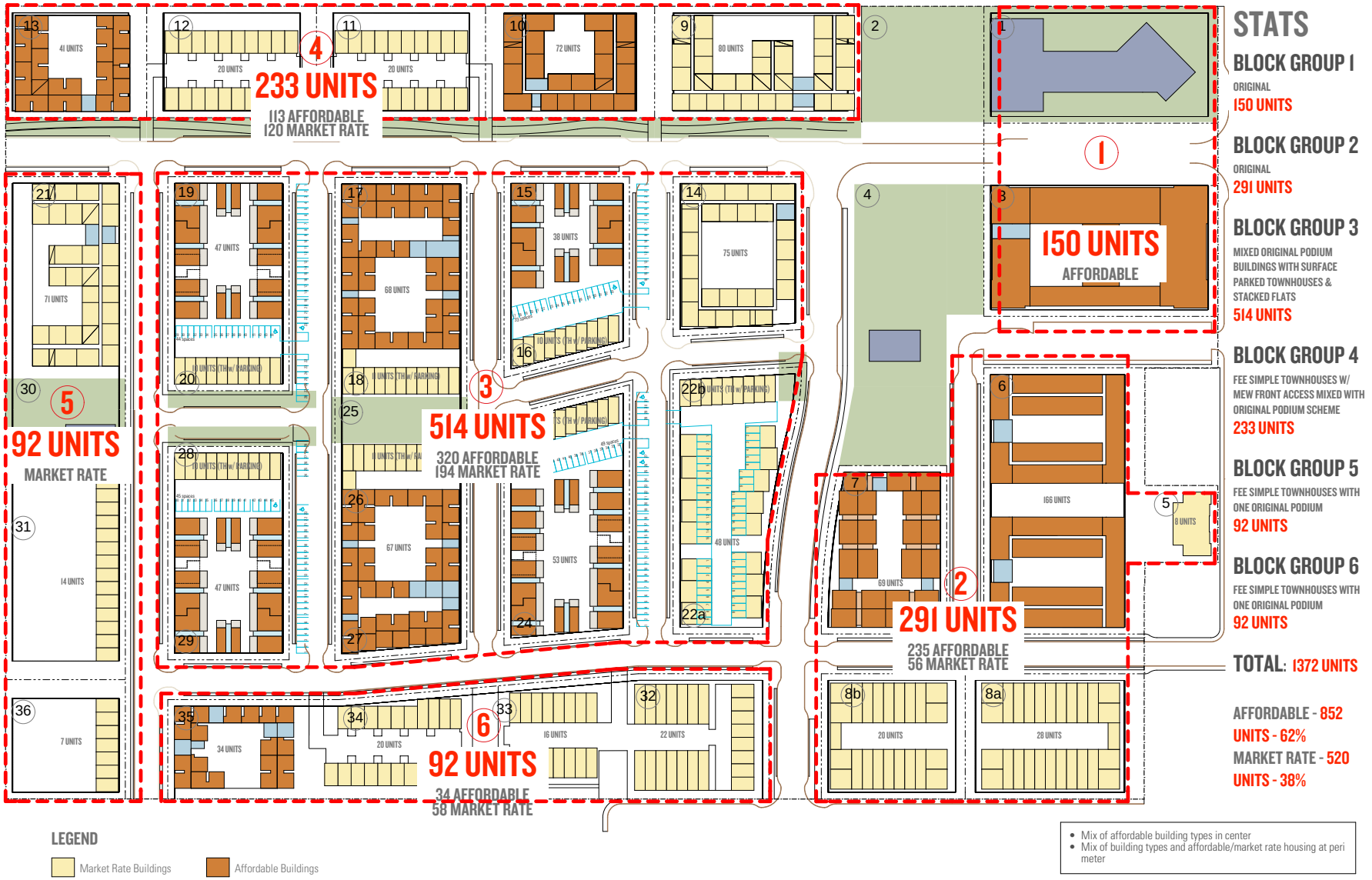


KEY PLAN

5.2.11 LOWER CENTER STREET

The lower Center Street, located between Hahn Street and the new 'A' Street, behind the senior, mixed use building is designed with perpendicular parking to serve the retail and services. Loading for the mixed use building can be accommodated here.

Alternative I



SOURCE: Van Meter Williams Pollack

2010.0305E: Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 2-5

Reduced Development / Density Alternative – Site Plan

APPENDIX B PROJECT SITE STATISTICS

VAN METER WILLIAMS POLLACK LLP

A New Sunnydale Site Statistics **10-Mar-11** yellow is affordable rental

	Block #	Site Area	Acres	Density (du/ac net)	Units	1br	2br	3br	4br	Accessible Units	A-1br	A-2br	A-3br	A-4br	# Spaces	Parking Ratio	Bicycle Parking	Residential SF	Circ/Util	Community	Retail/ Service	Floors	Garage	TOTAL
PHASE 1	**1**	61,708	1.42														6			45,000		2		45,000
	2	32,176	0.74																					
	3	73,325	1.68	89	**150**	120	30			**150**	120	30	0		**65**	0.433	50	103,189	14,871	19,500	16,200	3	25,229	178,989
	4	71,632	1.64																	5,000		3		5,000
	5	12,767	0.29	27	**8**		2	6		**8**		2	6		**8**	1	4	12,960				3		12,960
	6	97,341	2.23	74	**166**	12	102	50	2	**166**	12	102	50	2	**150**	0.904	54	143,597	19,131			3	64,577	227,305
	7	45,747	1.68	41	**69**		48	21		**19**	4	9	6		**56**	0.812	30	80,079				3	21,820	101,899
	8A	41,068	0.94	28	**26**		4	24		**26**		4	24		**28**	1.077	13	82,698				3		82,698
	8B	51,172	1.17	19	**22**		4	16		**22**		4	16		**20**	0.909	11	59,502				3		59,502
	9	52,728	1.21	66	**80**	48	32			**80**	48	32			**80**	1	33	64,887	14,943			3	36,999	116,829
subtotal					**521**	180	222	117	2	**335**	136	141	56	2	**407**			**546,912**	**48,945**	**69,500**	**16,200**		**148,625**	**780,182**
																								0
PHASE 2	**10**	39,777	0.91	79	**72**	15	35	22		**72**	15	35	22		**62**	0.861	31	65,854	11,348			4	26,804	104,006
	11	42,752	0.98	73	**72**	15	35	22		**72**	15	35	22		**62**	0.861	31	65,854	11,348			4	26,804	104,006
	12	42,752	0.98	63	**62**	47	15			**62**	47	15			**62**	1	28	50,553	9,861			3	26,804	87,218
	13	40,117	0.92	45	**41**	2	25	12		**15**	4	0	11		**30**	0.732	21	49,599				3	14,752	64,351
	14	45,202	1.04	72	**75**	50	25			**75**	50	25			**75**	1	31	55,778	9,855			3	31,032	96,665
	15	39,701	0.91	59	**54**	8	31	17		**16**	5	0	11		**48**	0.889	26	66,486				3	20,574	87,060
	16	15,145	0.35	35	**12**	5	7			**0**	0	0			**12**	1	6	21,420				3		21,420
	17	49,659	1.14	65	**74**	55	19			**74**	55	19			**74**	1	31	74,947	10,089			3	29,112	114,148
	18	16,942	0.39	31	**12**	1	11			**0**	0	0			**12**	1	6	22,890				3		22,890
	19	51,776	1.19	57	**68**	6	41	21		**17**	4	0	13		**48**	0.706	30	84,065				3	20,713	104,778
	20	14,764	0.34	35	**12**	1	11			**12**	1	11			**12**	1	6	22,881				3		22,881
	21	54,869	1.26	56	**71**	40	31			**71**	40	31			**71**	1	30	65,261	14,970			3	27,167	107,398
subtotal					**625**	245	286	94		**192**	43	70	79		**568**			**645,588**	**67,471**	**0**	**0**		**223,762**	**936,821**
																								0
PHASE 3	**22A**	39,529	0.91	55	**50**	2	32	16		**19**	5	0	14		**40**	0.8	25	60,142				3	13,926	74,068
	22B	25,198	0.58	55	**32**	2	20	10		**9**	1	0	8		**21**	0.656	16	39,151				3	10,795	49,946
	23	18,923	0.43	32	**14**	3	11			**14**	3	11			**14**	1	7	25,641				3		25,641
	24	53,166	1.22	57	**69**	4	41	19	5	**20**	5	0	15	0	**48**	0.696	30	83,524				3	20,713	104,237
	25	24,028	0.55																					0
	26	15,760	0.36	33	**12**	1	11			**12**	1	11			**12**	1	6	23,106				3		23,106
	27	35,365	0.81	71	**58**	36	22			**58**	36	22			**58**	1	27	54,183	8,580			3	13,683	76,446
	28	14,764	0.34	35	**12**	1	11			**12**	1	11			**12**	1	6	22,881				3		22,881
	29	51,777	1.19	58	**69**	4	41	19	5	**11**	3	0	8	0	**48**	0.696	30	89,740				3	20,713	110,453
	30	26,916	0.62																	3,000				3,000
	31	55,468	1.27	39	**50**	35	15			**50**	35	15			**50**	1	25	39,758	5,670			3	16,322	61,750
	32	42,099	0.97	52	**50**	30	20			**50**	30	20			**50**	1	25	63,231				3	20,762	83,993
	33	38,394	0.88	50	**44**	22	22			**44**	22	22			**44**	1	22	51,921				3	20,276	72,197
	34	37,832	0.87	39	**34**	7	15	12		**10**	5	0	5		**24**	0.706	17	36,966				3	12,833	49,799
	35	34,071	0.78	43	**34**	7	15	12		**10**	5	0	5		**24**	0.706	17	36,966				3	12,833	49,799
	36	32,502	0.75	35	**26**	2	12	12		**4**	0	0	4		**20**	0.769	13	34,440				3	5,233	39,673
subtotal					**554**	156	288	100	10	**83**	24	0	59	0	**465**			**661,650**	**14,250**	**3,000**	**0**		168,089	843,989
																								0
TOTAL		**1,538,912**	35.33	48	**1700**	581	796	311	12	**610**	203	211	194	2	**1440**	0.847	741	**1,854,150**	**130,666**	**72,500**	**16,200**		**540,476**	**2,560,992**

VAN METER WILLIAMS POLLACK LLP ALTERNTATIVE I

A New Sunnydale Site Statistics 1-Feb-13

	Block #	Site Area	Acres	Density (du/ac net)	Units	1br	2br	3br	4br	# Spaces	Parking Ratio	Bicycle Parking	Residential SF	Circ/Util	Community	Retail/ Service	Floors	Garage	TOTAL
PHASE 1	1	61,709	1.42									6			41,764		2		41,764
	2	32,176	0.74																
	3	69,521	1.60	94	150	140	10	0	0	68	0.453	50	90,528	47,261	6,822	36,045	3	27,277	207,933
	4	71,555	1.64												5,000		3		5,000
Market Rate	5	12,767	0.29	27	8		2	6		8	1	4	12,960				3		12,960
	6	97,341	2.23	74	166	12	104	48	2	150	0.904	54	148,418	27,154	17,856	0	3	46,151	239,579
	7	45,747	1.68	41	69	13	35	21	0	57	0.826	30	80,079		1,200		3	21,820	103,099
	8A	41,068	0.94	30	28		4	24		28	1	14	82,698				3		82,698
	8B	51,172	1.17	17	20		4	16		20	1	10	59,502				3		59,502
	9	53,165	1.22	66	80	48	32			80	1	33	64,887	14,943	3,998		3	36,999	120,827
linear park	9A	9,362	0.21																
subtotal parks		174,801	4.01																
subtotal					521	213	191	115	2	411			539,072	89,358	29,876	36,045		132,247	826,598
																			0
PHASE 2	10	42,646	0.98	74	72	15	35	22		62	0.861	31	65,854	11,348	2,376		4	26,804	106,382
linear park	10A	29,346	0.67																
	11	43,106	0.99	20	20	0	16	4		20	1	20	29,200	0	0		2	11,600	40,800
	12	43,172	0.99	20	20	0	16	4		20	1	20	29,200	0	0		2	11,600	40,800
	13	36,254	0.83	49	41	4	25	12		30	0.732	21	49,599		986		3	14,752	65,337
	14	45,202	1.04	72	75	50	25			75	1	31	55,778	9,855	1,598		3	31,032	98,263
	15	36,729	0.84	45	38	12	14	12		33	0.868	22	31,400	9,004	1,000		3	0	41,404
	16	16,112	0.37	27	10	0	10	0		10	1	10	12,794				3	6,397	19,191
	17	45,310	1.04	65	68	6	41	21		48	0.706	30	73,600		2,933		3	20,713	97,246
	18	14,736	0.34	33	11	0	11	0		11	1	6	14,080				3	7,040	21,120
	19	44,998	1.03	45	47	12	20	15		44	0.936	24	39,650	10,479	1,000		3	0	51,129
	20	13,711	0.31	32	10	0	10	0		10	1	10	12,794				3	6,397	19,191
	21	54,869	1.26	56	71	40	31	0		19	0.268	30	25,840	0	0		3	12,920	38,760
subtotal					483	139	254	90		382			439,789	40,686	9,893	0		149,255	639,623
																			0
	22a	25,198	0.58	83	48	0	48	0		48	1	24	79,728		0		4	11,616	91,344
PHASE 3	22b	39,590	0.91	10	9	0	9	0		9	1	15	11,520		0		3	5,760	17,280
	23	16,231	0.37	27	10	0	10	0		10	1	10	12,794				3	6,397	19,191
	24	52,157	1.20	44	53	15	22	16	0	49	0.925	26	44,125	5,746	1,000		3	0	50,871
	25	16,544	0.38																0
	26	14,914	0.34	32	11	0	11	0		11	1	6	14,080				3	6,397	20,477
	27	43,362	1.00	67	67	4	39	24		45	0.672	29	38,000	10,396	1,000		3	0	49,396
	28	14,637	0.34	30	10	0	10	0		10	1	10	12,794				3	6,397	19,191
	29	44,262	1.02	46	47	12	20	15	0	45	0.957	24	39,650	10,479	1,000		3	0	51,129
	30	26,916	0.62												3,375				3,375
	31	55,468	1.27	11	14	0	12	2		14	1	7	19,040	0	0		3	9,520	28,560
	32	42,099	0.97	23	22	0	16	6		22	1	11	36,860		0		3	18,430	55,290
	33	38,394	0.88	18	16	0	12	4		16	1	8	21,760		0		3	10,880	32,640
	34	37,832	0.87	23	20	0	16	4		20	1	10	27,200				3	13,600	40,800
	35	34,071	0.78	43	34	7	15	12		24	0.706	17	36,966		2,999		3	12,833	52,798
	36	32,502	0.75	9	7	0	5	2		7	1	4	9,520		0		3	4,760	14,280
subtotal parks		43,460	1.00	0								0							
subtotal					368	38	245	85	0	330			404,037	26,621	5,999	0		106,590	543,247
	Parks		6																0
TOTAL		1,720,750	39.50	35	1372	390	690	290	2	1123	0.819	654	1,382,898	156,665	45,768	36,045		388,092	2,009,468

520 market rate

APPENDIX C MEMORANDUM ON DEVELOPMENT OF GROWTH RATES

CHS Consulting Group

MEMORANDUM

DATE: September 23, 2010

TO: Sue Mickelson

FROM: Chi-Hsin Shao and Migi Lee

RE: Sunnydale-Velasco Housing Development Traffic Study – Development of Growth Rates

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This memorandum summarizes the methodology used to derive future traffic volumes at the study intersections for the Sunnydale-Velasco Housing Development Traffic Study.

General Approach

The future growth at the study intersections were estimated based on the combination of the traffic forecast data from the *Candlestick Point – Hunters Point Shipyard Phase II Development Plan Transportation Study (Candlestick – Hunters Points Study)* for the three common study intersections and the SF-CHAMP model outputs containing traffic assignments for the PM peak periods for the years 2005 and 2030 for the remaining intersections.

The initial process involved extracting traffic forecast volumes from the *Candlestick – Hunters Points Stud*y by subtracting the existing turning movement counts (2007) from the Cumulative Conditions turning movements (2030) at the following common study intersections:

- Bayshore Boulevard/ Visitacion Avenue
- Bayshore Boulevard/ Sunnydale Avenue
- Bayshore Boulevard/ Geneva Avenue

In order to complement the growth projections in the north-south direction along Schwerin Street, Calgary Street, Sawyer Street, Santos Street, and Brookdale Street, the annual growth rates and increase in volumes of model output for the 2005 to 2030 period for the PM peak hours were calculated for the study intersections.

The volume increases from 2010 to 2030 at these intersections were prorated from both the *Candlestick – Hunters Points Stud*y and the SF-CHAMP model. They were then summarized on a link-by-link basis. **Figure 1** illustrates the volume increases on a link-by-link basis as well as for each intersection. The resulting volume increases were balanced between the east-west and north-south directions to provide for better traffic flow continuity in the future analysis.

Cumulative Base Volumes

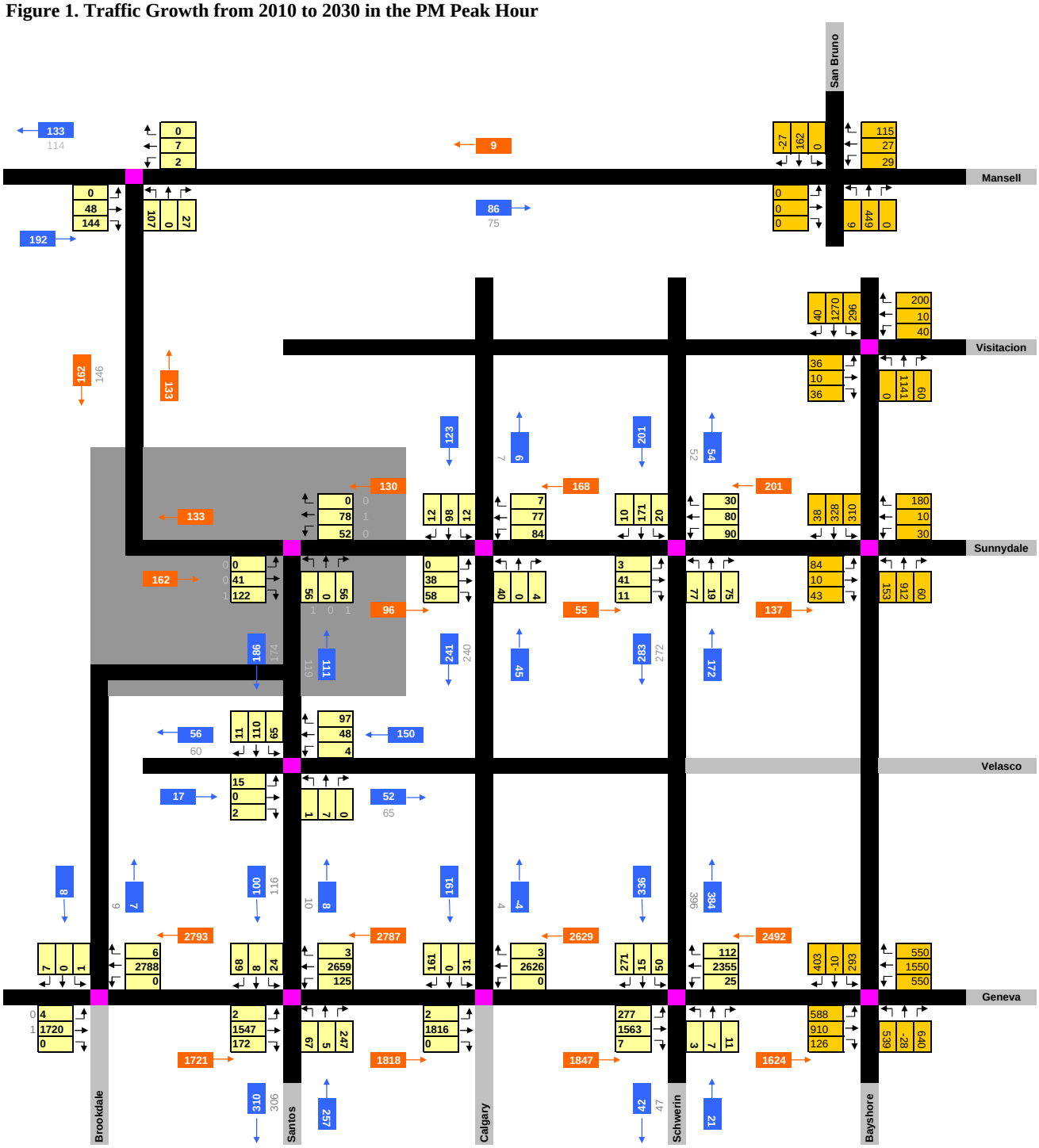
In order to estimate the future background volumes, the volume increases estimated by the methodology described above were added to the existing PM peak hour turning movement counts collected on August 31st, 2010. **Table 1** presents the existing turning movement counts, the estimated volume increases, and the future base volumes which sum the existing counts and the volume increases, at the 12 study intersections.

Table 1 – Turning Movement Volumes (Existing, Growth, Future Baseline)

Existing Volume (8/31/2010)												
	NBL	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
#1 Sunnydale Ave/ Persia St	31		8					193	38	4	308	
#2 Sunnydale Ave/ Sawyer St	11	47	8	9	46	10	8	82	5	15	65	7
#3 Sunnydale Ave/ Schwerin St	34	84	84	4	83	12	13	82	20	80	75	8
#4 Sunnydale Ave/ Bayshore Blvd	32	694	0	16	814	72	131	4	22	6	6	17
#5 Sunnydale Ave/ Santos St	43	0	50					60	51	47	55	
#6 Geneva Ave/ Brookdale Ave				5		31	32	847	0	0	1186	26
#7 Geneva Ave/ Santos St	9	4	22	25	13	67	40	593	92	236	934	48
#8 Geneva Ave/ Calgary St				9		48	72	523	0	0	954	30
#9 Geneva Ave/ Schwerin St	16	33	56	24	28	147	104	405	27	69	896	44
#10 Geneva Ave/ Bayshore Blvd	541	402	0	42	291	491	303		238			
#11 Visitacion Ave/ Bayshore Blvd	0	848	0	13	881	140	117		23	1	1	2
#12 Velasco Ave/ Santos St	4	52	20	8	98	10	15	4	2	16	7	12
Volume Increase from 2010 to 2030												
	NBL	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**
#1 Sunnydale Ave/ Persia St	107		27					48	144	2	7	
#2 Sunnydale Ave/ Sawyer St	40		4	12	98	12		38	58	84	77	7
#3 Sunnydale Ave/ Schwerin St	77	19	75	20	171	10	90	80	30	3	41	11
#4 Sunnydale Ave/ Bayshore Blvd	153	912	60	310	328	38	84	10	43	30	10	180
#5 Sunnydale Ave/ Santos St	56		56					41	122	52	78	
#6 Geneva Ave/ Brookdale Ave	0		0	65	110	11	15	0	2	4	48	97
#7 Geneva Ave/ Santos St	67	5	247	24	8	68	2	1547	172	125	2659	3
#8 Geneva Ave/ Calgary St				31		161	2	1816			2626	3
#9 Geneva Ave/ Schwerin St	3	7	11	50	15	271	277	1563	7	25	2355	112
#10 Geneva Ave/ Bayshore Blvd	539	-28	640	293	-10	403	588	910	126	550	1550	550
#11 Visitacion Ave/ Bayshore Blvd	0	1141	60	296	1270	40	36	10	36	40	10	200
#12 Velasco Ave/ Santos St	1	7		65	110	11	15	0	2	4	48	97

Future (2030) Base Volume												
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#1 Sunnydale Ave/ Persia St	138		35					241	182	6	315	
#2 Sunnydale Ave/ Sawyer St	51	47	12	21	144	22	8	120	63	99	142	14
#3 Sunnydale Ave/ Schwerin St	111	103	159	24	254	22	16	123	31	170	155	38
#4 Sunnydale Ave/ Bayshore Blvd	185	1606	60	326	1142	110	215	14	65	36	16	197
#5 Sunnydale Ave/ Santos St	99		106					101	173	99	133	
#6 Geneva Ave/ Brookdale Ave				6		38	36	2567			3974	32
#7 Geneva Ave/ Santos St	76	9	269	49	21	135	42	2140	264	361	3593	51
#8 Geneva Ave/ Calgary St				40		209	74	2339			3580	33
#9 Geneva Ave/ Schwerin St	19	40	67	74	43	418	381	1968	34	94	3251	156
#10 Geneva Ave/ Bayshore Blvd	1080	402	640	335	291	894	891	910	364	550	1550	550
#11 Visitacion Ave/ Bayshore Blvd		1989	60	309	2151	180	153	10	59	41	11	202
#12 Velasco Ave/ Santos St	5	59	20	73	208	21	30	4	4	20	55	109

Figure 1. Traffic Growth from 2010 to 2030 in the PM Peak Hour



LEGEND

	Growth in Turning Movements from HP/CS EIR
	Estimated Growth in Turning Movements (balanced)
0	Growth in Link Volumes based on HP/CS EIR
0	Growth in Link Volume based on CHAMP Model
	Project Site
	Study Intersection

APPENDIX D SF GENERAL PLAN ROADWAY CLASSIFICATION

Classification of Elements in Vehicle Circulation Plan

(San Francisco General Plan, July 1995)

The San Francisco Planning Department has developed a street hierarchy system for the City and County of San Francisco, in which the function and design of each street are consistent with the character and use of adjacent land. The major classifications in the Vehicle Circulation Plan of the San Francisco General Plan are:

- **Freeways**: Limited access, very high capacity facilities; primary function is to carry intercity traffic; they may, as a result of route location, also serve the secondary function of providing for travel between distant sections of the city.

- **Major Arterials:** Cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of varying capacity depending on the travel demand for the specific direction and adjacent land uses.

- **Transit Conflict Streets**: Streets with a primary transit function, which are not classifies as major arterials but experience significant conflicts with automobile traffic.

- **Secondary Arterials**: Primarily intra-district routes of varying capacity serving as collectors for the major thoroughfares, in some cases supplemental to the major arterial system.

- **Recreational Streets**: A special category of street whose major function is to provide for slow pleasure drives and cyclist and pedestrian use; more highly valued for recreational use than for traffic movement. The order of priority for these streets should be to accommodate: 1) pedestrians, hiking trails or wilderness routes, as appropriate; 2) cyclists; 3) equestrians; 4) automobile scenic driving. This should be slow and consistent with the topography and nature of the area. There should be adequate parking outside of natural areas.

- **Collector Streets**: Relatively low-capacity streets serving local distribution functions primarily in large, low-density areas, connecting to major and secondary arterials.

- **Local Streets**: All other streets intended for access to abutting residential and other land uses, rather than for through traffic; generally of lowest capacity.

In addition to the San Francisco Planning Department's roadway classifications, the freeways, major arterials, and transit conflict streets are included in the Congestion Management Program (CMP) Network and Metropolitan Transportation System (MTS) Network (see below).

Transit Preferential Streets

The Transit Preferential Street network classification system should consider the multi-modal functions of the street, and identifies the major transit routes where general traffic should be routed away from these streets wherever possible. There are two classifications of transit preferential

streets: Primary Transit Streets, which are either transit-oriented or transit-important; and Secondary Transit Streets.

- **Primary Transit Street - Transit-Oriented**: Not major arterials, with either high transit ridership, a high frequency of service, or surface rail. Along these streets, the emphasis should be on moving transit vehicles, and impacts on automobile traffic should be of secondary concern.

- **Primary Transit Street - Transit-Important:** Major arterials, with either high transit ridership, high frequency of service, or surface rail. Along these streets, the goal is to improve the balance between modes of transportation, and the emphasis should be on moving people and goods, rather than on moving vehicles.

- **Secondary Transit Street:** Medium transit ridership and low-to-medium frequency of service, or medium frequency of service and low-to-medium transit ridership, or connects two or more major destinations.

In general, it is City policy that preferential treatments should be concentrated on the most important transit streets, and the treatments applied should respond to all transportation needs of the street. For example, on streets that are major arterials for transit and not for automobile traffic, treatments should emphasize transit priority; on streets that are major arterials for both transit and automobiles treatments should emphasize a balance between the modes. It is also a City policy that automobile facility features (such as driveways and loading docks) should be reduced, relocated or prohibited on transit preferential streets in order to avoid traffic conflicts and automobile congestion.

Citywide Pedestrian Network

The Citywide Pedestrian Network is a classification of streets throughout the City used to identify streets devoted to or primarily oriented to pedestrian use. The main classifications are:

- **Citywide Pedestrian Network Street:** An inter-neighborhood connection with "citywide significance" includes both exclusive pedestrian and pedestrian-oriented vehicular streets. These streets include the Bay, Ridge, and Coast trails, and are used by commuters, tourists, general public, and connect major institutions with transit facilities.

- **Neighborhood Network Street:** A neighborhood Commercial, residential or transit street that serves pedestrians from the general vicinity. Some streets classified as **Neighborhood Commercial Streets** are intra-neighborhood connection streets that connect neighborhood destinations.

In general, it is City policy that sufficient pedestrian movement space should be provided to minimize pedestrian congestion, sidewalks should be widened where intensive Commercial, recreational or institutional activity is present, and efforts should be made to ensure convenient and safe pedestrian crossings at intersections.

Congestion Management Program (CMP) Network

The CMP Network is the network of freeways, state highways, major arterials and transit conflict streets (see Roadway Classifications, above) established in accordance with state Congestion Management legislation. As part of the CMP, the San Francisco County Transportation Authority is required to determine the level of service (LOS) for the CMP Network streets every two years. The LOS is based on the average travel speed for each roadway segment during both the AM and PM peak periods. The level of service standard is LOS E, except for roadway segments that operated at LOS F in 1991 (when the first study was performed). The CMP requires development of "Deficiency Plans" for any CMP-designated roadway that operate at LOS F. These plans include an analysis of the causes of the deficiency, a list of improvements that would have to be made to prevent the deficiency from occurring (including cost estimates), a list of improvements proposed as part of the plan, and an action plan for implementation of the improvements (including an implementation schedule).

Metropolitan Transportation System (MTS) Network

Metropolitan Transportation Commission (MTC) defines the MTS Network as part of Regional Transportation Plan. The MTS is a regional network of roadways, transit corridors and transfer points, identified by the MTC on the basis of specific criteria. The criteria identified facilities that provide relief to congested corridors, improve connectivity, accommodate travel demand and serve a regional transportation function. The State highways and major thoroughfares designated in San Francisco's CMP roadway network are all included in the regional MTS network. There are a few instances in which the local CMP network is not identical to the MTS network due to differences in the criteria used to define each network.

APPENDIX E INTERSECTION TURNING MOVEMENT COUNTS

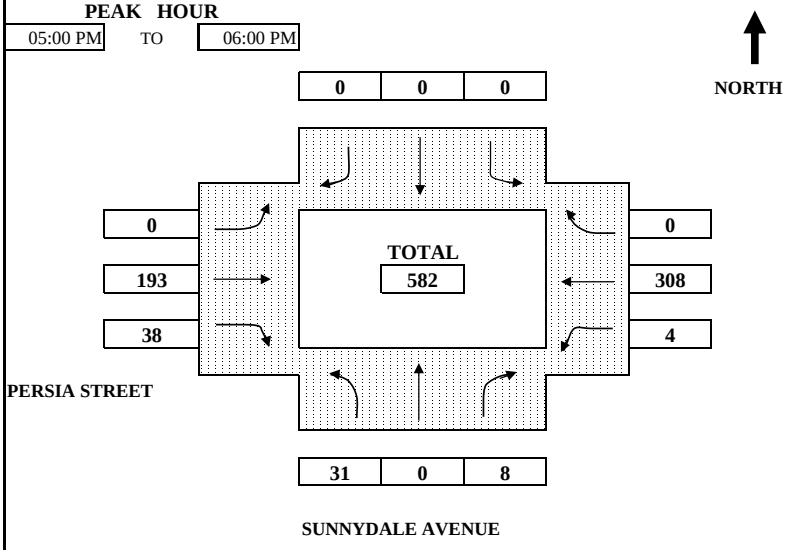
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

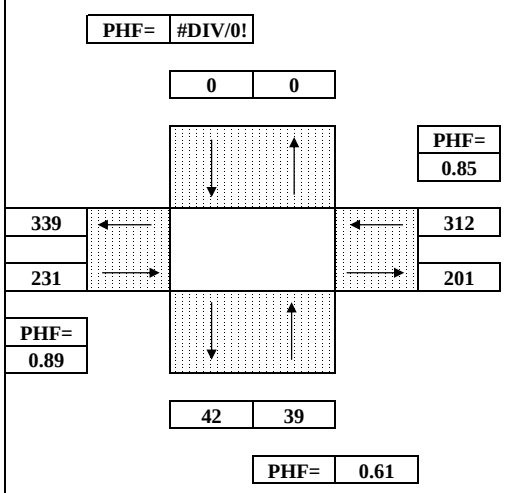
PROJECT:	SUNNYDALE HOUSING	**SURVEY DATE:**	8/31/201(	**DAY:**	TUESDAY
N-S APPROACH:	SUNNYDALE AVENUE	**SURVEY TIME:**	4:00 PM	**TO**	6:00 PM
E-W APPROACH:	PERSIA STREET	**CITY:**	SAN FRANCISCO	**FILE:**	3008054-1PM

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		To	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	8	0	1	0	0	0	0	45	7	4	60	0	***125***
4:15 PM	---	4:30 PM	22	0	3	0	0	0	0	84	20	4	114	0	***247***
4:30 PM	---	4:45 PM	33	0	4	0	0	0	0	134	35	4	172	0	***382***
4:45 PM	---	5:00 PM	43	0	7	0	0	0	0	176	50	5	227	0	***508***
5:00 PM	---	5:15 PM	54	0	9	0	0	0	0	222	66	6	302	0	***659***
5:15 PM	---	5:30 PM	62	0	11	0	0	0	0	270	75	8	365	0	***791***
5:30 PM	---	5:45 PM	67	0	13	0	0	0	0	327	82	9	443	0	***941***
5:45 PM	---	6:00 PM	74	0	15	0	0	0	0	369	88	9	535	0	***1,090***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	8	0	1	0	0	0	0	45	7	4	60	0	***125***
4:15 PM	---	4:30 PM	14	0	2	0	0	0	0	39	13	0	54	0	***122***
4:30 PM	---	4:45 PM	11	0	1	0	0	0	0	50	15	0	58	0	***135***
4:45 PM	---	5:00 PM	10	0	3	0	0	0	0	42	15	1	55	0	***126***
5:00 PM	---	5:15 PM	11	0	2	0	0	0	0	46	16	1	75	0	***151***
5:15 PM	---	5:30 PM	8	0	2	0	0	0	0	48	9	2	63	0	***132***
5:30 PM	---	5:45 PM	5	0	2	0	0	0	0	57	7	1	78	0	***150***
5:45 PM	---	6:00 PM	7	0	2	0	0	0	0	42	6	0	92	0	***149***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	43	0	7	0	0	0	0	176	50	5	227	0	***508***
4:15 PM	---	5:15 PM	46	0	8	0	0	0	0	177	59	2	242	0	***534***
4:30 PM	---	5:30 PM	40	0	8	0	0	0	0	186	55	4	251	0	***544***
4:45 PM	---	5:45 PM	34	0	9	0	0	0	0	193	47	5	271	0	***559***
5:00 PM	---	6:00 PM	31	0	8	0	0	0	0	193	38	4	308	0	***582***

Telephone: (510)232-1271 **Fax: (510)232-1272**

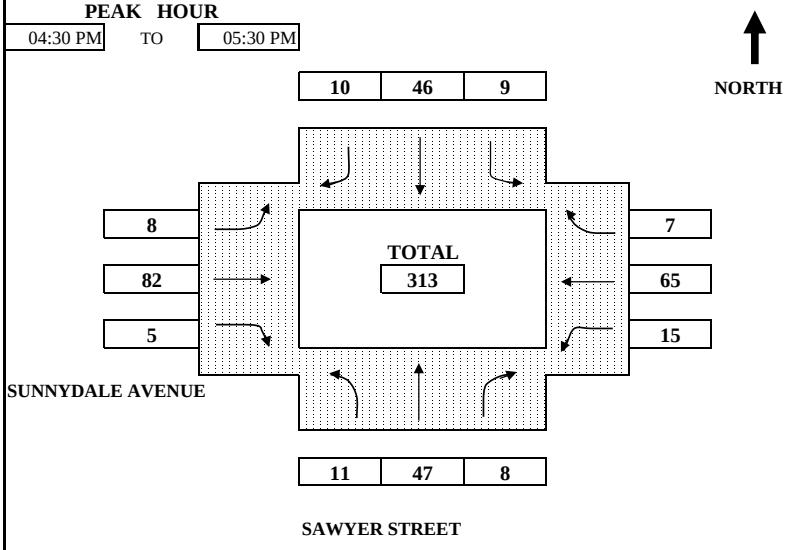
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

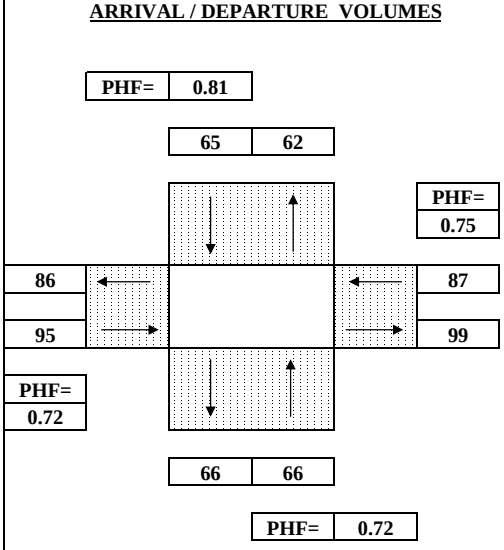
PROJECT:	**SUNNYDALE HOUSING**	**SURVEY DATE: 9/1/2010**		**DAY:**	**WEDNESDAY**
N-S APPROACH:	**SAWYER STREET**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**SUNNYDALE AVENUE**	**CITY:**	**SAN FRANCISCO**	**FILE:**	**3008054-2PM**

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		**To**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**TOTAL**
SURVEY DATA															
4:00 PM	---	4:15 PM	0	12	1	2	10	1	2	19	1	1	12	2	***63***
4:15 PM	---	4:30 PM	0	23	9	6	16	1	3	41	3	4	21	6	***133***
4:30 PM	---	4:45 PM	2	33	12	7	24	4	6	58	3	7	41	8	***205***
4:45 PM	---	5:00 PM	5	45	13	11	36	8	8	75	3	13	61	11	***289***
5:00 PM	---	5:15 PM	6	59	15	14	50	10	10	95	4	17	70	12	***362***
5:15 PM	---	5:30 PM	11	70	17	15	62	11	11	123	8	19	86	13	***446***
5:30 PM	---	5:45 PM	11	79	17	16	77	13	12	141	10	20	99	15	***510***
5:45 PM	---	6:00 PM	11	98	21	22	89	14	12	163	11	25	109	19	***594***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	12	1	2	10	1	2	19	1	1	12	2	***63***
4:15 PM	---	4:30 PM	0	11	8	4	6	0	1	22	2	3	9	4	***70***
4:30 PM	---	4:45 PM	2	10	3	1	8	3	3	17	0	3	20	2	***72***
4:45 PM	---	5:00 PM	3	12	1	4	12	4	2	17	0	6	20	3	***84***
5:00 PM	---	5:15 PM	1	14	2	3	14	2	2	20	1	4	9	1	***73***
5:15 PM	---	5:30 PM	5	11	2	1	12	1	1	28	4	2	16	1	***84***
5:30 PM	---	5:45 PM	0	9	0	1	15	2	1	18	2	1	13	2	***64***
5:45 PM	---	6:00 PM	0	19	4	6	12	1	0	22	1	5	10	4	***84***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	5	45	13	11	36	8	8	75	3	13	61	11	***289***
4:15 PM	---	5:15 PM	6	47	14	12	40	9	8	76	3	16	58	10	***299***
4:30 PM	---	5:30 PM	11	47	8	9	46	10	8	82	5	15	65	7	***313***
4:45 PM	---	5:45 PM	9	46	5	9	53	9	6	83	7	13	58	7	***305***
5:00 PM	---	6:00 PM	6	53	8	11	53	6	4	88	8	12	48	8	***305***

Telephone: (510)232-1271 **Fax: (510)232-1272**

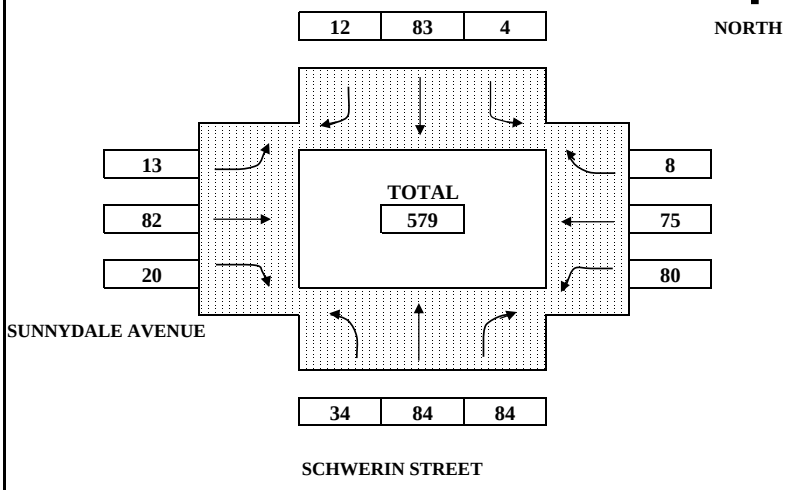
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

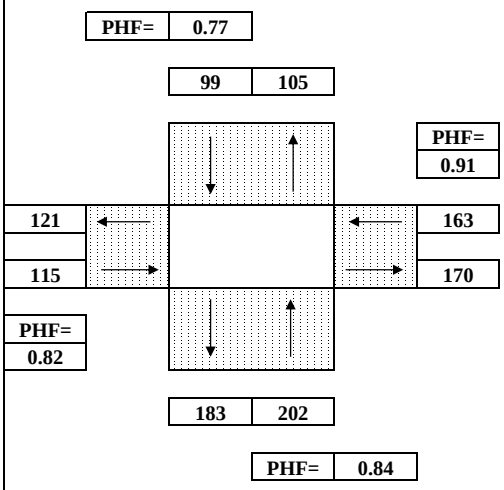
PROJECT:	**SUNNYDALE HOUSING**	**SURVEY DATE: 9/1/2010**		**DAY:**	**WEDNESDAY**
N-S APPROACH:	**SCHWERIN STREET**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**SUNNYDALE AVENUE**	**CITY:**	**SAN FRANCISCO**	**FILE:**	**3008054-3PM**

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		To	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	6	21	16	2	14	2	1	18	0	17	19	2	***118***
4:15 PM	---	4:30 PM	11	40	39	3	22	2	2	47	5	32	29	3	***235***
4:30 PM	---	4:45 PM	22	55	54	6	30	5	4	64	11	50	45	4	***350***
4:45 PM	---	5:00 PM	31	79	77	8	56	9	8	80	18	71	65	6	***508***
5:00 PM	---	5:15 PM	37	101	97	8	80	11	11	105	21	94	85	8	***658***
5:15 PM	---	5:30 PM	44	114	115	9	99	12	13	125	24	109	103	10	***777***
5:30 PM	---	5:45 PM	56	139	138	10	113	17	17	146	31	130	120	12	***929***
5:45 PM	---	6:00 PM	60	157	154	11	131	21	18	159	41	146	130	14	***1,042***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	6	21	16	2	14	2	1	18	0	17	19	2	***118***
4:15 PM	---	4:30 PM	5	19	23	1	8	0	1	29	5	15	10	1	***117***
4:30 PM	---	4:45 PM	11	15	15	3	8	3	2	17	6	18	16	1	***115***
4:45 PM	---	5:00 PM	9	24	23	2	26	4	4	16	7	21	20	2	***158***
5:00 PM	---	5:15 PM	6	22	20	0	24	2	3	25	3	23	20	2	***150***
5:15 PM	---	5:30 PM	7	13	18	1	19	1	2	20	3	15	18	2	***119***
5:30 PM	---	5:45 PM	12	25	23	1	14	5	4	21	7	21	17	2	***152***
5:45 PM	---	6:00 PM	4	18	16	1	18	4	1	13	10	16	10	2	***113***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	31	79	77	8	56	9	8	80	18	71	65	6	***508***
4:15 PM	---	5:15 PM	31	80	81	6	66	9	10	87	21	77	66	6	***540***
4:30 PM	---	5:30 PM	33	74	76	6	77	10	11	78	19	77	74	7	***542***
4:45 PM	---	5:45 PM	34	84	84	4	83	12	13	82	20	80	75	8	***579***
5:00 PM	---	6:00 PM	29	78	77	3	75	12	10	79	23	75	65	8	***534***

Telephone: (510)232-1271 **Fax: (510)232-1272**

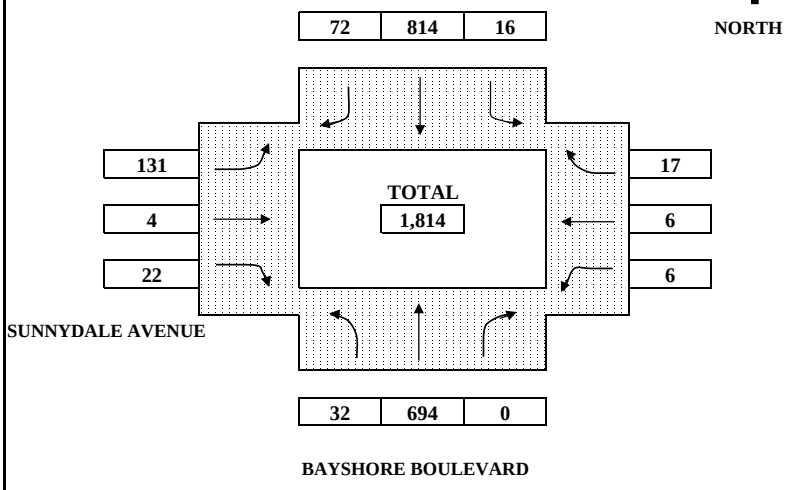
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

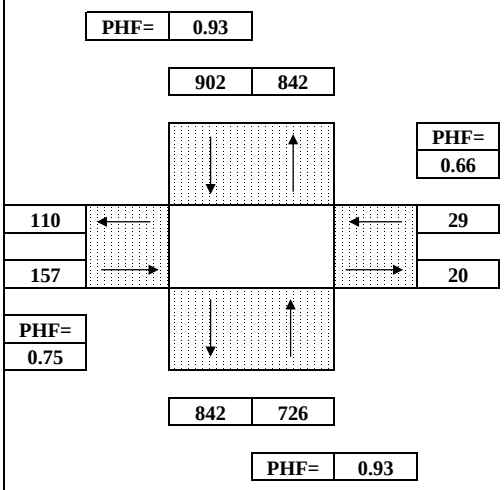
PROJECT:	**SUNNYDALE HOUSING**	**SURVEY DATE:**	**9/1/2010**	**DAY:**	**WEDNESDAY**
N-S APPROACH:	**BAYSHORE BOULEVARD**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**SUNNYDALE AVENUE**	**CITY:**	**SAN FRANCISCO**	**FILE:**	**3008054-4PM**

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		**To**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**TOTAL**
SURVEY DATA															
4:00 PM	---	4:15 PM	10	137	2	2	155	35	33	1	12	1	1	2	***391***
4:15 PM	---	4:30 PM	22	314	3	5	306	51	78	1	19	3	1	5	***808***
4:30 PM	---	4:45 PM	25	449	4	8	439	68	103	3	23	3	3	5	***1,133***
4:45 PM	---	5:00 PM	37	593	4	10	626	87	127	4	28	3	5	9	***1,533***
5:00 PM	---	5:15 PM	43	782	4	19	812	102	167	7	35	5	6	17	***1,999***
5:15 PM	---	5:30 PM	52	963	4	22	1,033	120	195	7	39	8	8	20	***2,471***
5:30 PM	---	5:45 PM	57	1,143	4	24	1,253	140	234	7	45	9	9	22	***2,947***
5:45 PM	---	6:00 PM	73	1,291	4	28	1,426	161	253	9	47	11	11	25	***3,339***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	10	137	2	2	155	35	33	1	12	1	1	2	***391***
4:15 PM	---	4:30 PM	12	177	1	3	151	16	45	0	7	2	0	3	***417***
4:30 PM	---	4:45 PM	3	135	1	3	133	17	25	2	4	0	2	0	***325***
4:45 PM	---	5:00 PM	12	144	0	2	187	19	24	1	5	0	2	4	***400***
5:00 PM	---	5:15 PM	6	189	0	9	186	15	40	3	7	2	1	8	***466***
5:15 PM	---	5:30 PM	9	181	0	3	221	18	28	0	4	3	2	3	***472***
5:30 PM	---	5:45 PM	5	180	0	2	220	20	39	0	6	1	1	2	***476***
5:45 PM	---	6:00 PM	16	148	0	4	173	21	19	2	2	2	2	3	***392***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	37	593	4	10	626	87	127	4	28	3	5	9	***1,533***
4:15 PM	---	5:15 PM	33	645	2	17	657	67	134	6	23	4	5	15	***1,608***
4:30 PM	---	5:30 PM	30	649	1	17	727	69	117	6	20	5	7	15	***1,663***
4:45 PM	---	5:45 PM	32	694	0	16	814	72	131	4	22	6	6	17	***1,814***
5:00 PM	---	6:00 PM	36	698	0	18	800	74	126	5	19	8	6	16	***1,806***

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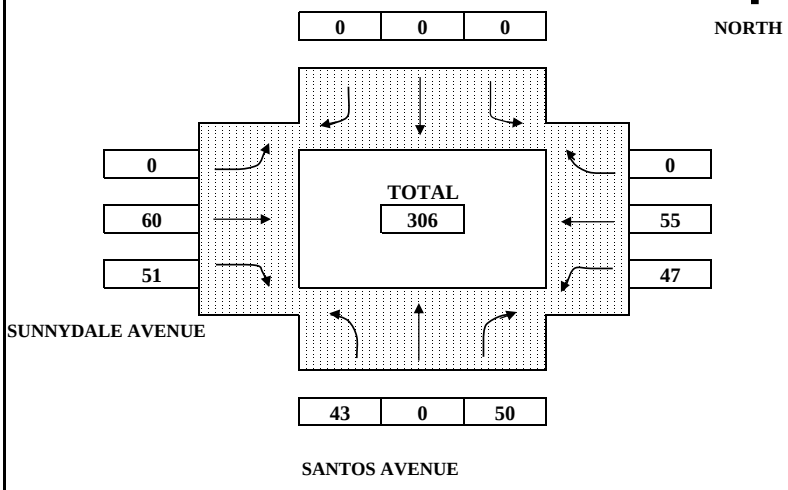
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

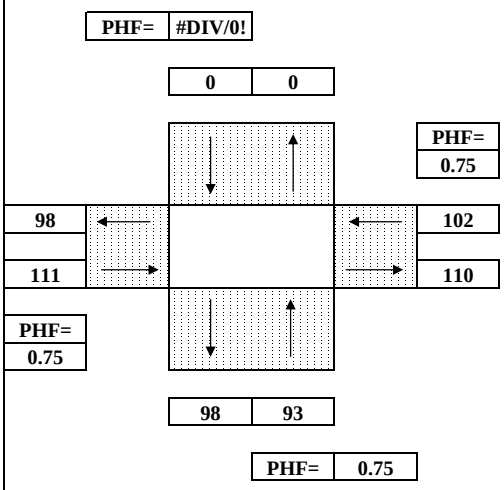
PROJECT:	SUNNYDALE HOUSING	**SURVEY DATE:**	8/31/201(	**DAY:**	TUESDAY
N-S APPROACH:	SANTOS AVENUE	**SURVEY TIME:**	4:00 PM	**TO**	6:00 PM
E-W APPROACH:	SUNNYDALE AVENUE	**CITY:**	SAN FRANCISCO	**FILE:**	3008054-5PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		To	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	12	0	18	0	0	0	0	9	9	16	8	0	***72***
4:15 PM	---	4:30 PM	26	0	35	0	0	0	0	20	24	28	30	0	***163***
4:30 PM	---	4:45 PM	35	0	49	0	0	0	0	36	34	43	38	0	***235***
4:45 PM	---	5:00 PM	44	0	57	0	0	0	0	49	43	53	51	0	***297***
5:00 PM	---	5:15 PM	55	0	68	0	0	0	0	69	60	63	63	0	***378***
5:15 PM	---	5:30 PM	69	0	82	0	0	0	0	82	72	76	74	0	***455***
5:30 PM	---	5:45 PM	77	0	101	0	0	0	0	98	86	93	83	0	***538***
5:45 PM	---	6:00 PM	87	0	110	0	0	0	0	102	98	110	92	0	***599***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	12	0	18	0	0	0	0	9	9	16	8	0	***72***
4:15 PM	---	4:30 PM	14	0	17	0	0	0	0	11	15	12	22	0	***91***
4:30 PM	---	4:45 PM	9	0	14	0	0	0	0	16	10	15	8	0	***72***
4:45 PM	---	5:00 PM	9	0	8	0	0	0	0	13	9	10	13	0	***62***
5:00 PM	---	5:15 PM	11	0	11	0	0	0	0	20	17	10	12	0	***81***
5:15 PM	---	5:30 PM	14	0	14	0	0	0	0	13	12	13	11	0	***77***
5:30 PM	---	5:45 PM	8	0	19	0	0	0	0	16	14	17	9	0	***83***
5:45 PM	---	6:00 PM	10	0	9	0	0	0	0	4	12	17	9	0	***61***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	44	0	57	0	0	0	0	49	43	53	51	0	***297***
4:15 PM	---	5:15 PM	43	0	50	0	0	0	0	60	51	47	55	0	***306***
4:30 PM	---	5:30 PM	43	0	47	0	0	0	0	62	48	48	44	0	***292***
4:45 PM	---	5:45 PM	42	0	52	0	0	0	0	62	52	50	45	0	***303***
5:00 PM	---	6:00 PM	43	0	53	0	0	0	0	53	55	57	41	0	***302***

Telephone: (510)232-1271 **Fax: (510)232-1272**

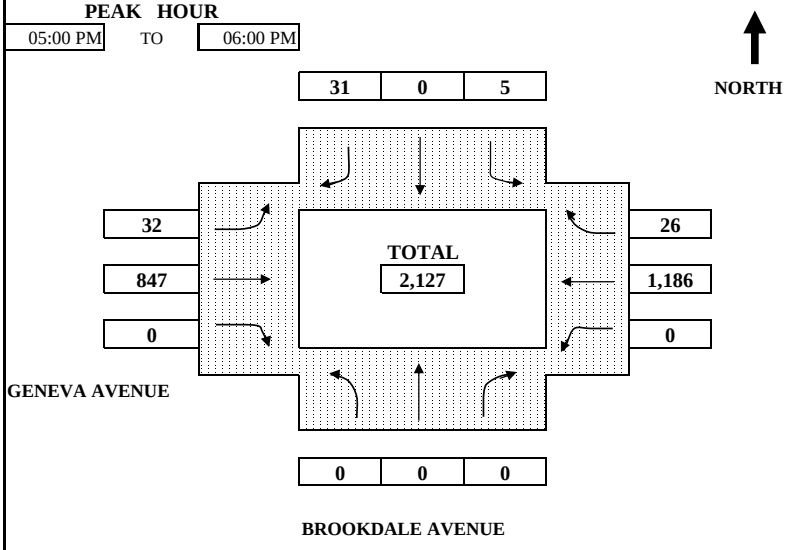
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

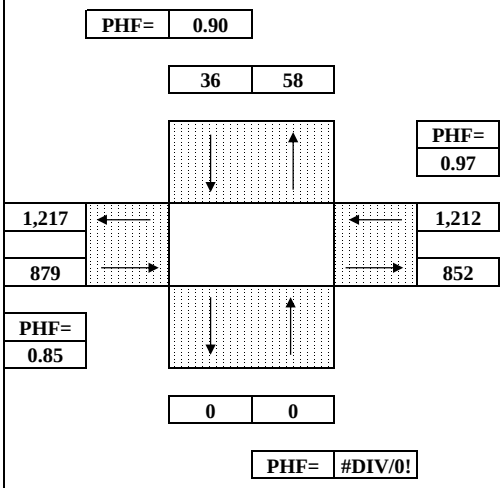
PROJECT:	SUNNYDALE HOUSING	**SURVEY DATE:**	8/31/201(	**DAY:**	TUESDAY
N-S APPROACH:	BROOKDALE AVENUE	**SURVEY TIME:**	4:00 PM	**TO**	6:00 PM
E-W APPROACH:	GENEVA AVENUE	**CITY:**	SAN FRANCISCO	**FILE:**	3008054-6PM

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		To	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	0	0	0	4	0	2	7	184	0	0	160	5	***362***
4:15 PM	---	4:30 PM	0	0	0	9	0	5	12	363	0	0	384	7	***780***
4:30 PM	---	4:45 PM	0	0	0	12	0	9	20	545	0	0	612	11	***1,209***
4:45 PM	---	5:00 PM	0	0	0	15	0	14	27	744	0	0	859	17	***1,676***
5:00 PM	---	5:15 PM	0	0	0	17	0	22	34	916	0	0	1,156	26	***2,171***
5:15 PM	---	5:30 PM	0	0	0	18	0	31	41	1,115	0	0	1,466	28	***2,699***
5:30 PM	---	5:45 PM	0	0	0	18	0	37	52	1,362	0	0	1,766	35	***3,270***
5:45 PM	---	6:00 PM	0	0	0	20	0	45	59	1,591	0	0	2,045	43	***3,803***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	0	0	4	0	2	7	184	0	0	160	5	***362***
4:15 PM	---	4:30 PM	0	0	0	5	0	3	5	179	0	0	224	2	***418***
4:30 PM	---	4:45 PM	0	0	0	3	0	4	8	182	0	0	228	4	***429***
4:45 PM	---	5:00 PM	0	0	0	3	0	5	7	199	0	0	247	6	***467***
5:00 PM	---	5:15 PM	0	0	0	2	0	8	7	172	0	0	297	9	***495***
5:15 PM	---	5:30 PM	0	0	0	1	0	9	7	199	0	0	310	2	***528***
5:30 PM	---	5:45 PM	0	0	0	0	0	6	11	247	0	0	300	7	***571***
5:45 PM	---	6:00 PM	0	0	0	2	0	8	7	229	0	0	279	8	***533***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	0	0	0	15	0	14	27	744	0	0	859	17	***1,676***
4:15 PM	---	5:15 PM	0	0	0	13	0	20	27	732	0	0	996	21	***1,809***
4:30 PM	---	5:30 PM	0	0	0	9	0	26	29	752	0	0	1,082	21	***1,919***
4:45 PM	---	5:45 PM	0	0	0	6	0	28	32	817	0	0	1,154	24	***2,061***
5:00 PM	---	6:00 PM	0	0	0	5	0	31	32	847	0	0	1,186	26	***2,127***

Telephone: (510)232-1271 **Fax: (510)232-1272**

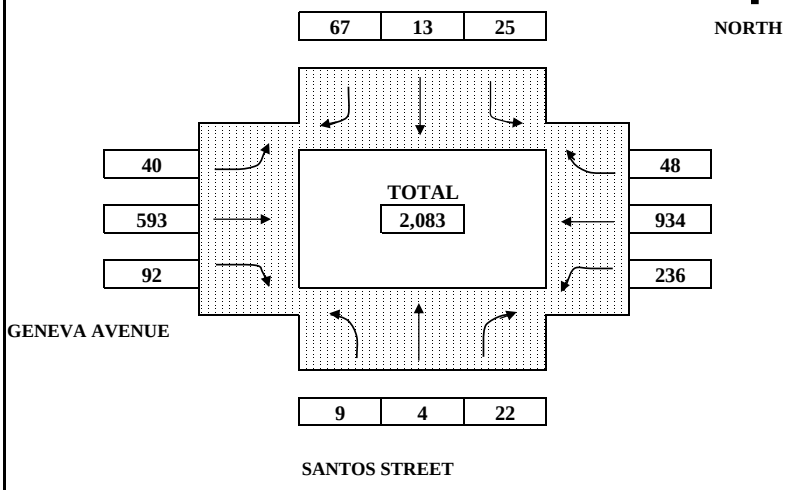
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

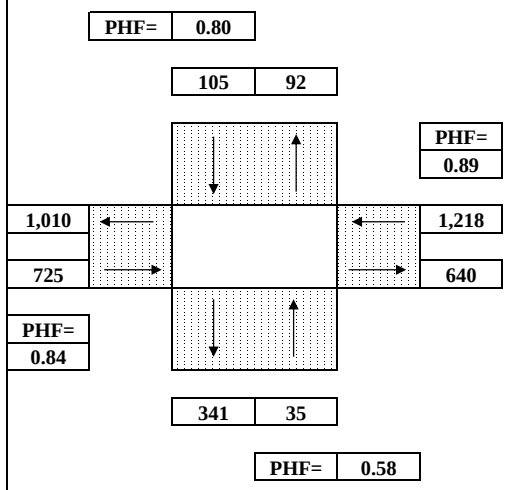
PROJECT:	SUNNYDALE HOUSING	**SURVEY DATE:**	8/31/201(	**DAY:**	TUESDAY
N-S APPROACH:	SANTOS STREET	**SURVEY TIME:**	4:00 PM	**TO**	6:00 PM
E-W APPROACH:	GENEVA AVENUE	**CITY:**	SAN FRANCISCO	**FILE:**	3008054-7PM

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		To	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	1	0	3	6	1	13	8	145	11	18	132	12	***350***
4:15 PM	---	4:30 PM	2	2	6	14	1	30	23	285	23	59	333	23	***801***
4:30 PM	---	4:45 PM	3	2	7	17	1	46	33	420	35	100	529	30	***1,223***
4:45 PM	---	5:00 PM	5	2	10	26	4	54	41	553	63	132	710	42	***1,642***
5:00 PM	---	5:15 PM	8	5	19	35	4	72	50	687	79	169	948	52	***2,128***
5:15 PM	---	5:30 PM	8	5	23	38	7	90	58	828	102	220	1,181	68	***2,628***
5:30 PM	---	5:45 PM	11	6	28	47	10	111	70	1,006	127	281	1,399	79	***3,175***
5:45 PM	---	6:00 PM	14	6	32	51	17	121	81	1,146	155	368	1,644	90	***3,725***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	1	0	3	6	1	13	8	145	11	18	132	12	***350***
4:15 PM	---	4:30 PM	1	2	3	8	0	17	15	140	12	41	201	11	***451***
4:30 PM	---	4:45 PM	1	0	1	3	0	16	10	135	12	41	196	7	***422***
4:45 PM	---	5:00 PM	2	0	3	9	3	8	8	133	28	32	181	12	***419***
5:00 PM	---	5:15 PM	3	3	9	9	0	18	9	134	16	37	238	10	***486***
5:15 PM	---	5:30 PM	0	0	4	3	3	18	8	141	23	51	233	16	***500***
5:30 PM	---	5:45 PM	3	1	5	9	3	21	12	178	25	61	218	11	***547***
5:45 PM	---	6:00 PM	3	0	4	4	7	10	11	140	28	87	245	11	***550***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	5	2	10	26	4	54	41	553	63	132	710	42	***1,642***
4:15 PM	---	5:15 PM	7	5	16	29	3	59	42	542	68	151	816	40	***1,778***
4:30 PM	---	5:30 PM	6	3	17	24	6	60	35	543	79	161	848	45	***1,827***
4:45 PM	---	5:45 PM	8	4	21	30	9	65	37	586	92	181	870	49	***1,952***
5:00 PM	---	6:00 PM	9	4	22	25	13	67	40	593	92	236	934	48	***2,083***

Telephone: (510)232-1271 **Fax: (510)232-1272**

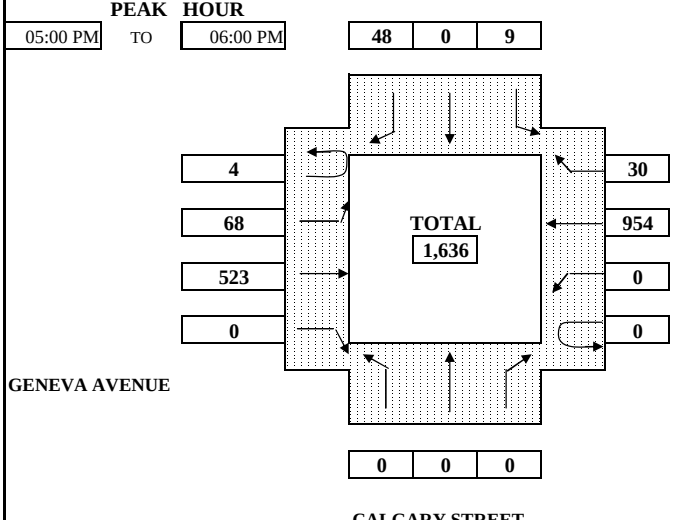
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

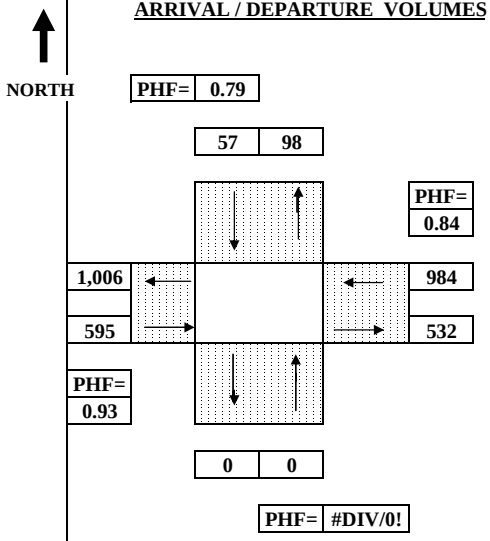
PROJECT:	**SUNNYDALE HOUSING**	**SURVEY DATE:**	**9/1/2010**	**DAY:**	**WEDNESDAY**
N-S APPROACH:	**CALGARY STREET**	**SURVEY TIM**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH	**GENEVA AVENUE**	**CITY:**	**SAN FRANCISCO**	**FILE:**	**3008054-8PM**

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND				WESTBOUND				
From		To	Left	Thru	Right	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	TOTAL
SURVEY DATA																	
4:00 PM	---	4:15 PM	0	0	0	1	0	11	5	13	108	0	1	0	145	9	***293***
4:15 PM	---	4:30 PM	0	0	0	5	0	21	8	32	233	0	2	0	303	11	***615***
4:30 PM	---	4:45 PM	0	0	0	8	0	34	8	46	355	0	4	0	529	17	***1,001***
4:45 PM	---	5:00 PM	0	0	0	11	0	42	9	59	454	0	4	0	741	19	***1,339***
5:00 PM	---	5:15 PM	0	0	0	12	0	57	9	82	591	0	4	0	1,025	27	***1,807***
5:15 PM	---	5:30 PM	0	0	0	14	0	64	9	100	724	0	4	0	1,240	34	***2,189***
5:30 PM	---	5:45 PM	0	0	0	17	0	79	10	110	842	0	4	0	1,469	37	***2,568***
5:45 PM	---	6:00 PM	0	0	0	20	0	90	13	127	977	0	4	0	1,695	49	***2,975***
TOTAL BY PERIOD																	
4:00 PM	---	4:15 PM	0	0	0	1	0	11	5	13	108	0	1	0	145	9	***293***
4:15 PM	---	4:30 PM	0	0	0	4	0	10	3	19	125	0	1	0	158	2	***322***
4:30 PM	---	4:45 PM	0	0	0	3	0	13	0	14	122	0	2	0	226	6	***386***
4:45 PM	---	5:00 PM	0	0	0	3	0	8	1	13	99	0	0	0	212	2	***338***
5:00 PM	---	5:15 PM	0	0	0	1	0	15	0	23	137	0	0	0	284	8	***468***
5:15 PM	---	5:30 PM	0	0	0	2	0	7	0	18	133	0	0	0	215	7	***382***
5:30 PM	---	5:45 PM	0	0	0	3	0	15	1	10	118	0	0	0	229	3	***379***
5:45 PM	---	6:00 PM	0	0	0	3	0	11	3	17	135	0	0	0	226	12	***407***
HOURLY TOTALS																	
4:00 PM	---	5:00 PM	0	0	0	11	0	42	9	59	454	0	4	0	741	19	***1,339***
4:15 PM	---	5:15 PM	0	0	0	11	0	46	4	69	483	0	3	0	880	18	***1,514***
4:30 PM	---	5:30 PM	0	0	0	9	0	43	1	68	491	0	2	0	937	23	***1,574***
4:45 PM	---	5:45 PM	0	0	0	9	0	45	2	64	487	0	0	0	940	20	***1,567***
5:00 PM	---	6:00 PM	0	0	0	9	0	48	4	68	523	0	0	0	954	30	***1,636***

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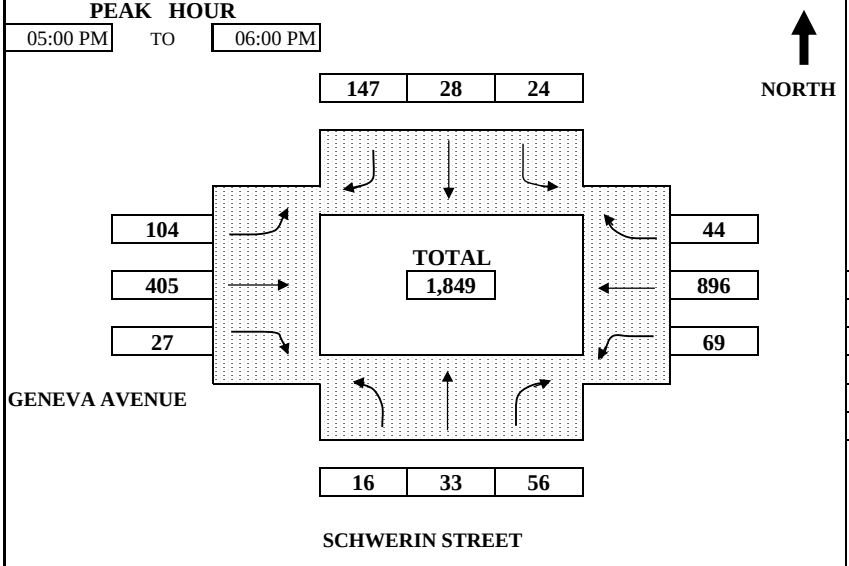
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

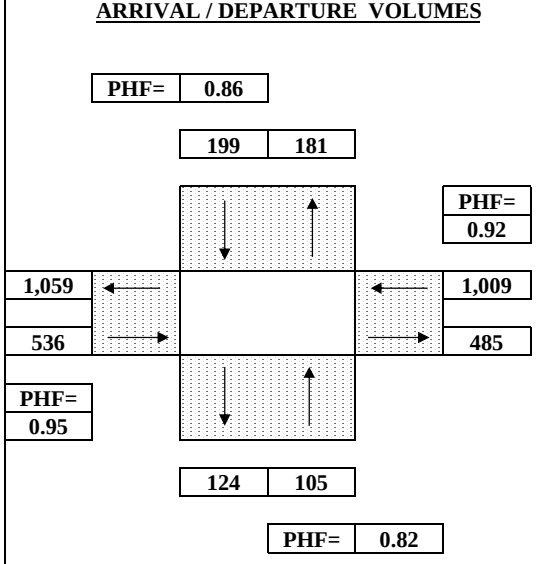
PROJECT:	**SUNNYDALE HOUSING**	**SURVEY DATE: 9/1/2010**		**DAY:**	**WEDNESDAY**
N-S APPROACH:	**SCHWERIN STREET**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**GENEVA AVENUE**	**CITY:**	**SAN FRANCISCO**	**FILE:**	**3008054-9PM**

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		To	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	5	4	14	3	3	26	32	91	6	16	156	8	***364***
4:15 PM	---	4:30 PM	10	7	33	8	4	41	56	181	9	29	295	17	***690***
4:30 PM	---	4:45 PM	16	11	46	16	14	66	80	270	14	37	488	28	***1,086***
4:45 PM	---	5:00 PM	21	20	60	19	24	104	108	362	20	58	671	37	***1,504***
5:00 PM	---	5:15 PM	25	31	71	26	34	145	132	464	23	80	912	47	***1,990***
5:15 PM	---	5:30 PM	30	41	88	30	43	182	158	572	30	103	1,153	57	***2,487***
5:30 PM	---	5:45 PM	35	46	103	35	46	220	181	679	37	116	1,355	66	***2,919***
5:45 PM	---	6:00 PM	37	53	116	43	52	251	212	767	47	127	1,567	81	***3,353***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	5	4	14	3	3	26	32	91	6	16	156	8	***364***
4:15 PM	---	4:30 PM	5	3	19	5	1	15	24	90	3	13	139	9	***326***
4:30 PM	---	4:45 PM	6	4	13	8	10	25	24	89	5	8	193	11	***396***
4:45 PM	---	5:00 PM	5	9	14	3	10	38	28	92	6	21	183	9	***418***
5:00 PM	---	5:15 PM	4	11	11	7	10	41	24	102	3	22	241	10	***486***
5:15 PM	---	5:30 PM	5	10	17	4	9	37	26	108	7	23	241	10	***497***
5:30 PM	---	5:45 PM	5	5	15	5	3	38	23	107	7	13	202	9	***432***
5:45 PM	---	6:00 PM	2	7	13	8	6	31	31	88	10	11	212	15	***434***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	21	20	60	19	24	104	108	362	20	58	671	37	***1,504***
4:15 PM	---	5:15 PM	20	27	57	23	31	119	100	373	17	64	756	39	***1,626***
4:30 PM	---	5:30 PM	20	34	55	22	39	141	102	391	21	74	858	40	***1,797***
4:45 PM	---	5:45 PM	19	35	57	19	32	154	101	409	23	79	867	38	***1,833***
5:00 PM	---	6:00 PM	16	33	56	24	28	147	104	405	27	69	896	44	***1,849***

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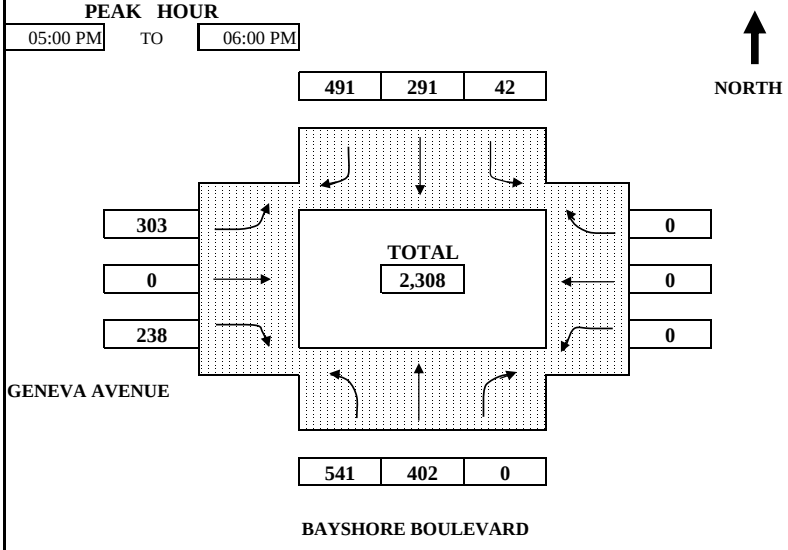
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

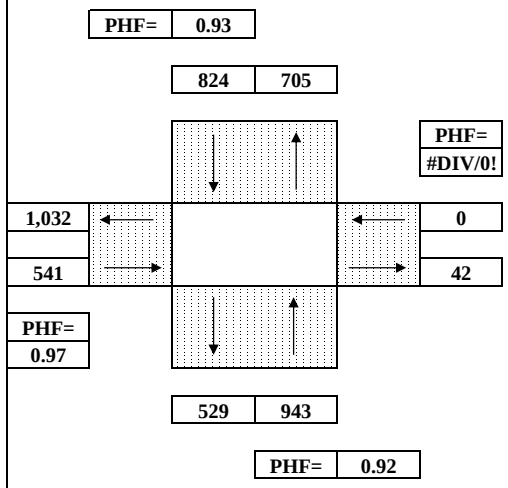
PROJECT:	**SUNNYDALE HOUSING**	**SURVEY DATE: 9/1/2010**		**DAY:**	**WEDNESDAY**
N-S APPROACH:	**BAYSHORE BOULEVARD**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**GENEVA AVENUE**	**CITY:**	**SAN FRANCISCO**	**FILE:**	**3008054-10PM**

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		**To**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**TOTAL**
SURVEY DATA															
4:00 PM	---	4:15 PM	72	77	0	13	54	91	76	0	45	0	0	0	***428***
4:15 PM	---	4:30 PM	174	162	0	22	120	162	154	0	103	0	0	0	***897***
4:30 PM	---	4:45 PM	285	273	0	31	183	253	228	0	147	0	0	0	***1,400***
4:45 PM	---	5:00 PM	385	345	0	38	230	352	299	0	195	0	0	0	***1,844***
5:00 PM	---	5:15 PM	532	453	0	58	308	475	381	0	247	0	0	0	***2,454***
5:15 PM	---	5:30 PM	664	548	0	70	380	601	451	0	309	0	0	0	***3,023***
5:30 PM	---	5:45 PM	786	668	0	74	463	736	519	0	380	0	0	0	***3,626***
5:45 PM	---	6:00 PM	926	747	0	80	521	843	602	0	433	0	0	0	***4,152***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	72	77	0	13	54	91	76	0	45	0	0	0	***428***
4:15 PM	---	4:30 PM	102	85	0	9	66	71	78	0	58	0	0	0	***469***
4:30 PM	---	4:45 PM	111	111	0	9	63	91	74	0	44	0	0	0	***503***
4:45 PM	---	5:00 PM	100	72	0	7	47	99	71	0	48	0	0	0	***444***
5:00 PM	---	5:15 PM	147	108	0	20	78	123	82	0	52	0	0	0	***610***
5:15 PM	---	5:30 PM	132	95	0	12	72	126	70	0	62	0	0	0	***569***
5:30 PM	---	5:45 PM	122	120	0	4	83	135	68	0	71	0	0	0	***603***
5:45 PM	---	6:00 PM	140	79	0	6	58	107	83	0	53	0	0	0	***526***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	385	345	0	38	230	352	299	0	195	0	0	0	***1,844***
4:15 PM	---	5:15 PM	460	376	0	45	254	384	305	0	202	0	0	0	***2,026***
4:30 PM	---	5:30 PM	490	386	0	48	260	439	297	0	206	0	0	0	***2,126***
4:45 PM	---	5:45 PM	501	395	0	43	280	483	291	0	233	0	0	0	***2,226***
5:00 PM	---	6:00 PM	541	402	0	42	291	491	303	0	238	0	0	0	***2,308***

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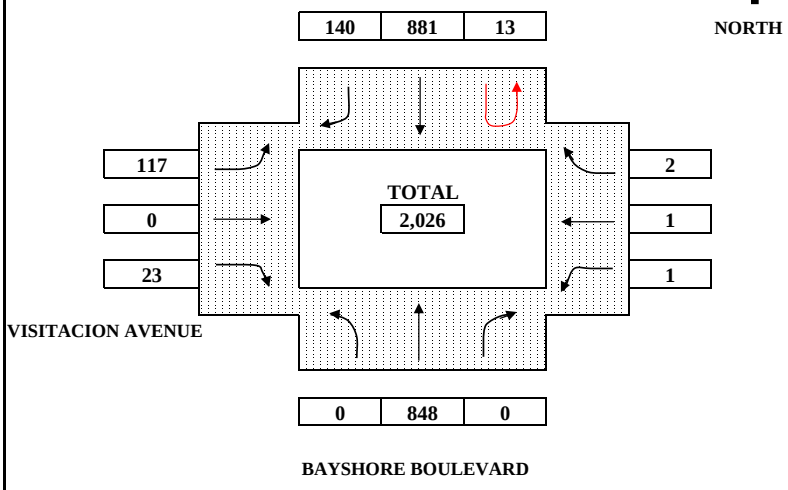
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

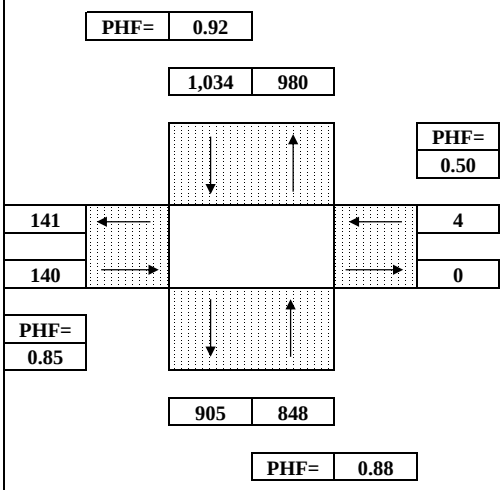
PROJECT:	**SUNNYDALE HOUSING**	**SURVEY DATE:**	**9/1/2010**	**DAY:**	**WEDNESDAY**
N-S APPROACH:	**BAYSHORE BOULEVARD**	**SURVEY TIME:**	**4:00 PM**	**TO**	**6:00 PM**
E-W APPROACH:	**VISITACION AVENUE**	**CITY:**	**SAN FRANCISCO**	**FILE:**	**3008054-11PM**

PEAK HOUR

04:45 PM TO 05:45 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		**To**	**Left**	**Thru**	**Right**	**U-Turn**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**Left**	**Thru**	**Right**	**TOTAL**
SURVEY DATA															
4:00 PM	---	4:15 PM	0	169	0	3	184	29	27	0	5	0	0	0	***417***
4:15 PM	---	4:30 PM	0	394	1	9	354	68	52	0	9	0	0	1	***888***
4:30 PM	---	4:45 PM	0	554	1	13	500	96	81	0	10	0	0	1	***1,256***
4:45 PM	---	5:00 PM	0	725	1	14	709	142	108	0	15	0	0	1	***1,715***
5:00 PM	---	5:15 PM	0	967	1	17	911	171	133	0	20	0	0	3	***2,223***
5:15 PM	---	5:30 PM	0	1,182	1	21	1,142	198	166	0	28	0	0	3	***2,741***
5:30 PM	---	5:45 PM	0	1,402	1	26	1,381	236	198	0	33	1	1	3	***3,282***
5:45 PM	---	6:00 PM	0	1,572	1	29	1,572	275	221	0	37	1	1	3	***3,712***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	169	0	3	184	29	27	0	5	0	0	0	***417***
4:15 PM	---	4:30 PM	0	225	1	6	170	39	25	0	4	0	0	1	***471***
4:30 PM	---	4:45 PM	0	160	0	4	146	28	29	0	1	0	0	0	***368***
4:45 PM	---	5:00 PM	0	171	0	1	209	46	27	0	5	0	0	0	***459***
5:00 PM	---	5:15 PM	0	242	0	3	202	29	25	0	5	0	0	2	***508***
5:15 PM	---	5:30 PM	0	215	0	4	231	27	33	0	8	0	0	0	***518***
5:30 PM	---	5:45 PM	0	220	0	5	239	38	32	0	5	1	1	0	***541***
5:45 PM	---	6:00 PM	0	170	0	3	191	39	23	0	4	0	0	0	***430***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	0	725	1	14	709	142	108	0	15	0	0	1	***1,715***
4:15 PM	---	5:15 PM	0	798	1	14	727	142	106	0	15	0	0	3	***1,806***
4:30 PM	---	5:30 PM	0	788	0	12	788	130	114	0	19	0	0	2	***1,853***
4:45 PM	---	5:45 PM	0	848	0	13	881	140	117	0	23	1	1	2	***2,026***
5:00 PM	---	6:00 PM	0	847	0	15	863	133	113	0	22	1	1	2	***1,997***

Telephone: (510)232-1271 **Fax: (510)232-1272**

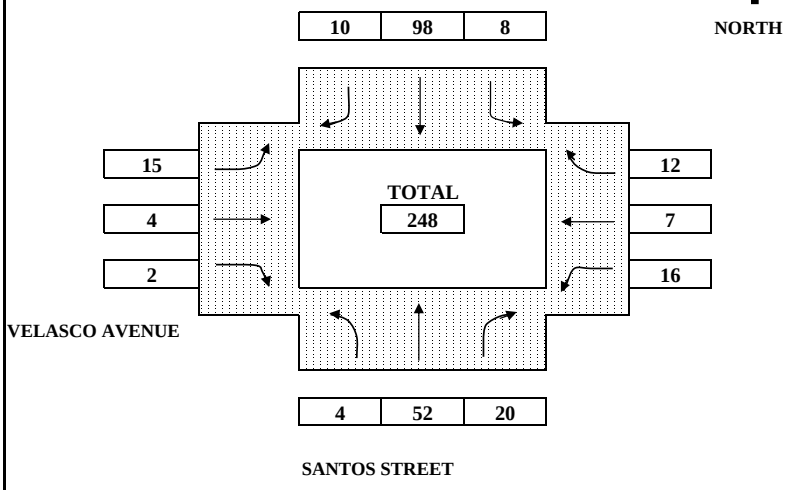
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

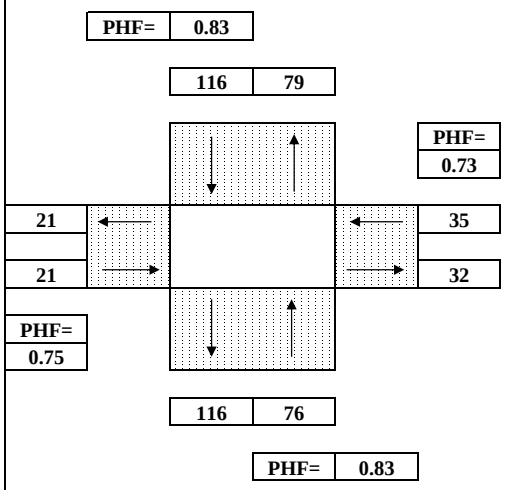
PROJECT:	SUNNYDALE HOUSING	**SURVEY DATE:**	8/31/201(	**DAY:**	TUESDAY
N-S APPROACH:	SANTOS STREET	**SURVEY TIME:**	4:00 PM	**TO**	6:00 PM
E-W APPROACH:	VELASCO AVENUE	**CITY:**	SAN FRANCISCO	**FILE:**	3008054-12PM

PEAK HOUR

05:00 PM TO 06:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD			NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
From		To	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	2	13	5	2	21	4	0	0	1	0	0	2	***50***
4:15 PM	---	4:30 PM	2	35	6	2	38	4	1	0	3	1	0	9	***101***
4:30 PM	---	4:45 PM	2	44	11	6	54	4	5	1	4	6	0	14	***151***
4:45 PM	---	5:00 PM	2	56	16	6	74	5	7	1	5	8	2	16	***198***
5:00 PM	---	5:15 PM	3	69	23	10	102	6	12	2	6	12	3	18	***266***
5:15 PM	---	5:30 PM	5	78	29	11	125	6	17	3	6	13	5	21	***319***
5:30 PM	---	5:45 PM	5	92	34	12	153	12	19	4	7	19	7	23	***387***
5:45 PM	---	6:00 PM	6	108	36	14	172	15	22	5	7	24	9	28	***446***
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	2	13	5	2	21	4	0	0	1	0	0	2	***50***
4:15 PM	---	4:30 PM	0	22	1	0	17	0	1	0	2	1	0	7	***51***
4:30 PM	---	4:45 PM	0	9	5	4	16	0	4	1	1	5	0	5	***50***
4:45 PM	---	5:00 PM	0	12	5	0	20	1	2	0	1	2	2	2	***47***
5:00 PM	---	5:15 PM	1	13	7	4	28	1	5	1	1	4	1	2	***68***
5:15 PM	---	5:30 PM	2	9	6	1	23	0	5	1	0	1	2	3	***53***
5:30 PM	---	5:45 PM	0	14	5	1	28	6	2	1	1	6	2	2	***68***
5:45 PM	---	6:00 PM	1	16	2	2	19	3	3	1	0	5	2	5	***59***
HOURLY TOTALS															
4:00 PM	---	5:00 PM	2	56	16	6	74	5	7	1	5	8	2	16	***198***
4:15 PM	---	5:15 PM	1	56	18	8	81	2	12	2	5	12	3	16	***216***
4:30 PM	---	5:30 PM	3	43	23	9	87	2	16	3	3	12	5	12	***218***
4:45 PM	---	5:45 PM	3	48	23	6	99	8	14	3	3	13	7	9	***236***
5:00 PM	---	6:00 PM	4	52	20	8	98	10	15	4	2	16	7	12	***248***

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APPENDIX F INTERSECTION LEVEL OF SERVICE (LOS) DEFINITIONS

SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS BASED ON DELAY

Level of Service	Control Delay (sec/veh)	Typical Traffic Condition
A	≦ 10	**Insignificant Delays:** Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
B	> 10 - 20	**Minimal Delays:** Generally good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay. Drivers begin to feel restricted.
C	> 20 - 35	**Acceptable Delays:** Fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear, though many still pass through the intersection without stopping. Most drivers feel somewhat restricted.
D	> 35 - 55	**Tolerable Delays:** The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. Queues may develop but dissipate rapidly, without excessive delays.
E	> 55 - 80	**Significant Delays:** Considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles and long queues of vehicles form upstream.
F	> 80	**Excessive Delays:** Considered to be unacceptable to most drivers. Often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay levels. Queues may block upstream intersections.

Sources: *Highway Capacity Manual 2000*, Transportation Research Board, National Research Council, Washington, D.C. 2000.

TWO-WAY STOP-CONTROLLED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Average Control Delay (sec/veh)	Typical Traffic Condition
A	0 - 10	Little or no delay.
B	> 10 - 15	Short traffic delays.
C	> 15 - 25	Average traffic delays.
D	> 25 - 35	Long traffic delays.
E	> 35 - 50	Very long traffic delays.
F	> 50	*

* Level of Service F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches.

Source: *Highway Capacity Manual 2000*, Transportation Research Board, National Research Council, Washington D.C. 2000.

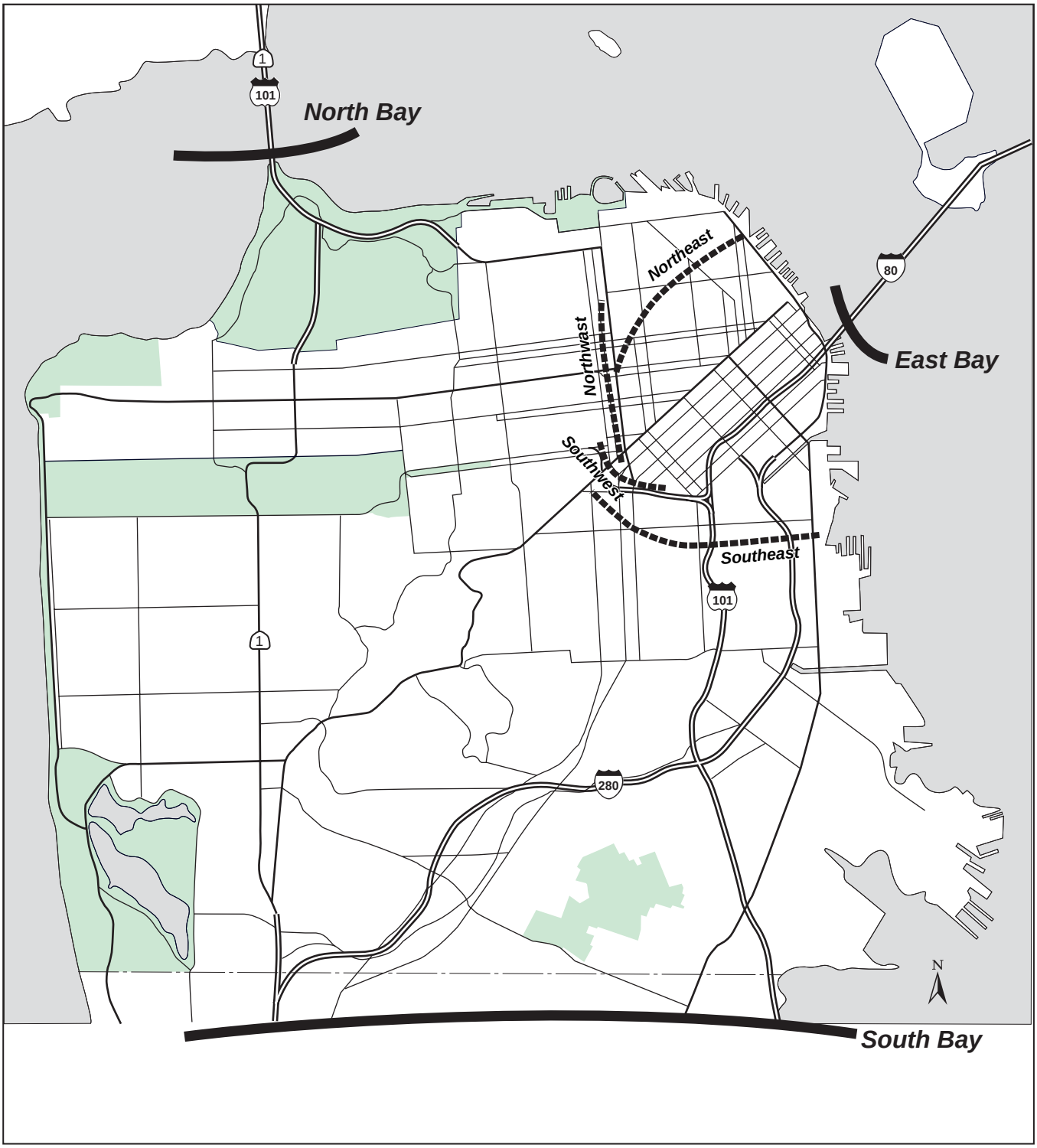
ALL-WAY STOP-CONTROLLED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Control Delay (sec/veh)	Typical Traffic Condition
A	0 - 10	Little or no delay.
B	> 10 - 15	Short traffic delays.
C	> 15 - 25	Average traffic delays.
D	> 25 - 35	Long traffic delays.
E	> 35 - 50	Very long traffic delays.
F	> 50	*

* When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement to the intersection.

Source: *Highway Capacity Manual 2000*, Transportation Research Board, National Research Council, Washington D.C. 2000.

APPENDIX G DOWNTOWN SCREENLINES



Source: Transbay Redevelopment Area Plan
EIR Transportation Study, April 1998

MUNI Screenline

Regional Screenline

CHS Consulting Group

TRANSIT SCREENLINES

APPENDIX H PARKING SURVEY DATA

BAYMETRICS

PARKING OCCUPANCY SURVEY SUMMARY

PROJECT : SUNNYDALE HOUSING PROJECT | **SURVEY DATE:** 8/31/2010 | **DAY:** TUESDAY
SURVEY TIME: 1:30 to 3:00PM & 6:30-8:00PM
CITY: SAN FRANCISCO | **FILE:** 3008054 - PS

	PARKING ALONG (NAME OF STREET)	SURVEY DATA BY SEGMENT														SUMMARY				
		SEGMENT					SEGMENT					SEGMENT					TOTAL	NOON 1:30PM to 3:00PM		PM 6:30PM to 8:00PM	
		FROM TO		SUPPLY	NOON OCCUP	PM OCCUP	FROM TO		SUPPLY	NOON OCCUP	PM OCCUP	FROM TO		SUPPLY	NOON OCCUP	PM OCCUP	SUPPLY	OCCUP	% OCCUP	OCCUP	% OCCUP
1	**Sunnydale Avenue**	Sunnydale Avenue	N	17	8	6	Santos Street	N	24	14	13	Hahn Street	N	9	5	5	151	81	54%	85	56%
		Santos Street	S	69	35	38	Hahn Street	S	22	13	16	Sawyer	S	10	6	7					
2	**Brookdale Avenue**	Geneva Avenue	W	29	20	26	Blythedale Avenue	N	57	10	29						161	63	39%	98	61%
		Blythedale Avenue	E	26	14	18	Santos Street	S	49	19	25										
3	**Blythedale Avenue**	Brookdale Avenue	N	43	12	16	Santos Street	N	30	13	18						134	54	40%	69	51%
		Santos Street	S	37	16	20	Hahn Street	S	24	13	15										
4	**Geneva Avenue**	Brookdale Avenue	N	17	6	10	Parque Drive	N	6	2	5	Cielito Drive	N	5	4	4	131	63	48%	115	88%
		Parque Drive	S	15	7	10	Cielito Drive	S	8	4	5	Esquina Drive	S	8	6	10					
		Esquina Drive	N	6	5	6	Carrizal Street	N	5	3	3	Santos Street	N	0	1	0					
		Carrizal Street	S	10	4	8	Santos Street	S	5	2	9	Pasadena Street	S	0	0	0					
		Pasadena Street	N	6	5	10	Castillo Street	N	6	1	3	Pueblo Street	N	8	4	6					
		Castillo Street	S	3	0	5	Pueblo Street	S	10	1	10	Calgary Street	S	13	8	11					
5	**Parque Drive**	Geneva Avenue	E	20	17	19	Cielito Drive	N	6	2	5	Esquina Drive	N	7	5	6	72	44	61%	65	90%
		Cielito Drive	W	23	14	21	Esquina Drive	S	9	3	8	Carrizal Street	S	7	3	6					
6	**Cielito Drive**	Geneva Avenue	E	16	13	12											29	27	93%	26	90%
		Parque Drive	W	13	14	14															
7	**Esquina Drive**	Geneva Avenue	E	15	12	14											29	20	69%	26	90%
		Parque Drive	W	14	8	12															
8	**Carrizal Street - Velasco Avenue**	Geneva Avenue	E	18	16	18	Parque Drive	N	4	1	3	Santos Street	N	21	15	16	121	81	67%	103	85%
		Parque Drive	W	19	12	17	Santos Street	S	11	4	8	Castillo Street	S	16	9	11					
		Castillo Street	N	10	8	8	Pueblo Street	N	7	5	7										
		Pueblo Street	S	8	5	8	Calgary Street	S	7	6	7										
9	**Santos Street**	Geneva Avenue	E	18	9	17	Velasco Avenue	E	10	1	4	Blythedale Avenue	E	17	12	12	85	46	54%	70	82%
		Velasco Avenue	W	15	8	15	Blythedale Avenue	W	12	3	7	Brookdale Avenue	W	7	8	9					
		Brookdale Avenue	E	0	0	0															
		Sunnydale Avenue	W	6	5	6															
10	**Pasadena Street**	Geneva Avenue	E	18	11	18											33	25	76%	36	109%
		Pasadena Street	W	15	14	18															
11	**Castillo Street**	Geneva Avenue	E	21	16	21											26	23	88%	29	112%
		Velasco Avenue	W	5	7	8															
12	**Pueblo Street**	Geneva Avenue	E	11	10	10											32	31	97%	32	100%
		Velasco Avenue	W	21	21	22															
13	**Calgary Street - Sawyer Street**	Geneva Avenue	E	18	12	15	Velasco Avenue	E	6	3	5	Sunrise Way	E	26	13	14	146	90	62%	110	75%
		Velasco Avenue	W	19	10	18	Sunrise Way	W	8	4	5	Sunnydale Avenue	W	29	21	25					
		Sunnydale Avenue	E	20	12	10															
		Visitacion Avenue	W	20	15	18															
14	**Hahn Street - Visitacion Avenue**	Sunrise Way	E	26	12	24	Sunnydale Avenue	E	26	14	17	Hahn Street	N	7	2	7	116	47	41%	84	72%
		Sunnydale Avenue	W	28	8	17	Visitacion Avenue	W	20	10	16	Sawyer Street	S	9	1	3					
15	**Sunrise Way**	Sunrise Way	N	16	4	9											37	10	27%	21	57%
		Sunrise Way	S	21	6	12															

TEL: (510) 232 - 1271 FAX: (510) 232 - 1272

APPENDIX I TRIP GENERATION WORKSHEETS

Proposed Project

TRIP DISTRIBUTION & MODE SPLIT

LAND USE: RETAIL (WORK TRIPS)

Proposed Size:	**16,200**	gsf
Daily Person-Trip Generation Rate: [1]	150.00	trips/1,000 gsf
Daily Person-Trips	2430	person-trips
Daily Work Trips (4%): [2]	97	person-trips
PM Peak Hour Peson Trip Generation Rate (9% of Daily): [1]	13.5	trips/1,000 gsf
Total PM Peak Hour Person-Trips:	219	person-trips
PM Peak Hour Work Trips (4%): [2]	9	person-trips

					DAILY		PM PEAK HOUR	
ORIGINS	**DISTRIBUTION [3**	**MODE**	**PERCENT [3]**	**V.O.R. [3]**	**PERSON TRIPS**	**AUTO TRIPS**	**PERSON TRIPS**	**AUTO TRIPS**
Superdistrict 1	8.3%	Auto	46.9%	1.23	4	**3**	0	**0**
		Transit	32.7%		3		0	
		Walk	17.7%		1		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***8***		***1***	**0**
Superdistrict 2	10.6%	Auto	64.6%	1.30	7	**5**	1	**0**
		Transit	26.4%		3		0	
		Walk	6.9%		1		0	
		Other	2.1%		0		0	
		TOTAL	***100.0%***		***10***		***1***	**0**
Superdistrict 3	23.9%	Auto	59.7%	1.26	14	**11**	1	**1**
		Transit	20.6%		5		0	
		Walk	15.1%		4		0	
		Other	4.6%		1		0	
		TOTAL	***100.0%***		***23***		***2***	**1**
Superdistrict 4	7.9%	Auto	75.7%	1.25	6	**5**	1	**0**
		Transit	21.5%		2		0	
		Walk	0.0%		0		0	
		Other	2.8%		0		0	
		TOTAL	***100.0%***		***8***		***1***	**0**
East Bay	14.3%	Auto	68.8%	1.48	10	**6**	1	**1**
		Transit	29.7%		4		0	
		Walk	0.0%		0		0	
		Other	1.5%		0		0	
		TOTAL	***100.0%***		***14***		***1***	**1**
North Bay	5.6%	Auto	86.9%	1.61	5	**3**	0	**0**
		Transit	10.5%		1		0	
		Walk	0.0%		0		0	
		Other	2.6%		0		0	
		TOTAL	***100.0%***		***5***		***0***	**0**
South Bay	26.9%	Auto	88.5%	1.44	23	**16**	2	**1**
		Transit	8.8%		2		0	
		Walk	0.0%		0		0	
		Other	2.7%		1		0	
		TOTAL	***100.0%***		***26***		***2***	**1**
Out of Region	2.5%	Auto	61.8%	1.56	2	**1**	0	**0**
		Transit	35.3%		1		0	
		Walk	0.0%		0		0	
		Other	2.9%		0		0	
		TOTAL	***100.0%***		***2***		***0***	**0**
TOTAL	100.0%	Auto	71.0%		69	**50**	6	**5**
		Transit	20.2%		20		2	
		Walk	5.8%		6		1	
		Other	2.9%		3		0	
		TOTAL			***97***	**50**	***9***	**5**

Notes:

[1] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-1 Retail

[2] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-2 General Retail

[3] Source: San Francisco Guidelines for Environmental Review, Appendix E - Table E-5 Work Trips to SD-3 All

TRIP DISTRIBUTION & MODE SPLIT

LAND USE: RETAIL (NON-WORK TRIPS)

Proposed Size:	**16,200**	gsf
Daily Person-Trip Generation Rate: [1]	150.00	trips/1,000 gsf
Daily Person-Trips	2430	person-trips
Daily Non-Work Trips (96%): [2]	2,333	person-trips
PM Peak Hour Peson Trip Generation Rate (9% of Daily): [1]	13.5	trips/1,000 gsf
Total PM Peak Hour Person-Trips:	219	person-trips
PM Peak Hour Non-Work Trips (96%): [2]	210	person-trips

					DAILY		PM PEAK HOUR	
ORIGINS	**DISTRIBUTION [3]**	**MODE**	**PERCENT [3]**	**V.O.R. [3]**	**PERSON TRIPS**	**AUTO TRIPS**	**PERSON TRIPS**	**AUTO TRIPS**
Superdistrict 1	6.0%	Auto	45.0%	1.76	63	**36**	6	**3**
		Transit	29.0%		41		4	
		Walk	22.0%		31		3	
		Other	4.0%		6		1	
		TOTAL	***100.0%***		***140***		***13***	**3**
Superdistrict 2	9.0%	Auto	61.8%	1.52	130	**85**	12	**8**
		Transit	15.3%		32		3	
		Walk	19.8%		42		4	
		Other	3.1%		7		1	
		TOTAL	***100.0%***		***210***		***19***	**8**
Superdistrict 3	61.0%	Auto	60.4%	2.04	859	**421**	77	**38**
		Transit	9.5%		135		12	
		Walk	28.7%		408		37	
		Other	1.4%		20		2	
		TOTAL	***100.0%***		***1,423***		***128***	**38**
Superdistrict 4	5.0%	Auto	84.7%	1.78	99	**56**	9	**5**
		Transit	9.7%		11		1	
		Walk	2.8%		3		0	
		Other	2.8%		3		0	
		TOTAL	***100.0%***		***117***		***10***	**5**
East Bay	3.0%	Auto	75.0%	1.77	52	**30**	5	**3**
		Transit	12.5%		9		1	
		Walk	12.5%		9		1	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***70***		***6***	**3**
North Bay	2.0%	Auto	87.5%	1.44	41	**28**	4	**3**
		Transit	12.5%		6		1	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***47***		***4***	**3**
South Bay	9.0%	Auto	86.4%	1.98	181	**92**	16	**8**
		Transit	9.1%		19		2	
		Walk	3.2%		7		1	
		Other	1.3%		3		0	
		TOTAL	***100.0%***		***210***		***19***	**8**
Out of Region	5.0%	Auto	59.2%	1.69	69	**41**	6	**4**
		Transit	16.9%		20		2	
		Walk	19.7%		23		2	
		Other	4.2%		5		0	
		TOTAL	***100.0%***		***117***		***10***	**4**
TOTAL	100.0%	Auto	64.1%		1,495	**788**	135	**71**
		Transit	11.7%		273		25	
		Walk	22.4%		522		47	
		Other	1.8%		43		4	
		TOTAL			***2,333***	**788**	***210***	**71**

Notes:

[1] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-1 Retail

[2] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-2 General Retail

[3] Source: San Francisco Guidelines for Environmental Review, Appendix E - Table E-14 Visitor Trips to SD-3 Retail

TRIP DISTRIBUTION & MODE SPLIT

LAND USE: ALL OTHER - RECREATIONAL COMMUNITY CENTER (NON-WORK TRIPS)

Proposed Size:	**43,224**	gsf
Daily Person-Trip Generation Rate: [1]	22.88	trips/1,000 gsf
Daily Person-Trips	989	person-trips
Daily Non-Work Trips (100%): [2]	989	person-trips
PM Peak Hour Peson Trip Generation Rate: [1]	1.5	trips/1,000 gsf
Total PM Peak Hour Person-Trips:	63	person-trips
PM Peak Hour Non-Work Trips (100%): [2]	63	person-trips

					DAILY		PM PEAK HOUR	
ORIGINS	**DISTRIBUTION [3]**	**MODE**	**PERCENT [3]**	**V.O.R. [3]**	**PERSON TRIPS**	**AUTO TRIPS**	**PERSON TRIPS**	**AUTO TRIPS**
Superdistrict 1	13.0%	Auto	36.0%	2.03	46	**23**	3	**1**
		Transit	19.2%		25		2	
		Walk	33.3%		43		3	
		Other	11.5%		15		1	
		TOTAL	***100.0%***		***129***		***8***	**1**
Superdistrict 2	14.0%	Auto	68.6%	1.97	95	**48**	6	**3**
		Transit	14.5%		20		1	
		Walk	2.4%		3		0	
		Other	14.5%		20		1	
		TOTAL	***100.0%***		***138***		***9***	**3**
Superdistrict 3	44.0%	Auto	43.7%	2.43	190	**78**	12	**5**
		Transit	21.5%		94		6	
		Walk	25.4%		111		7	
		Other	9.4%		41		3	
		TOTAL	***100.0%***		***435***		***28***	**5**
Superdistrict 4	7.0%	Auto	67.4%	2.51	47	**19**	3	**1**
		Transit	16.3%		11		1	
		Walk	7.0%		5		0	
		Other	9.3%		6		0	
		TOTAL	***100.0%***		***69***		***4***	**1**
East Bay	9.0%	Auto	68.4%	2.59	61	**24**	4	**1**
		Transit	29.8%		27		2	
		Walk	1.8%		2		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***89***		***6***	**1**
North Bay	1.0%	Auto	100.0%	2.11	10	**5**	1	**0**
		Transit	0.0%		0		0	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***10***		***1***	**0**
South Bay	9.0%	Auto	94.6%	2.28	84	**37**	5	**2**
		Transit	3.6%		3		0	
		Walk	1.8%		2		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***89***		***6***	**2**
Out of Region	3.0%	Auto	73.6%	1.68	22	**13**	1	**1**
		Transit	21.1%		6		0	
		Walk	0.0%		0		0	
		Other	5.3%		2		0	
		TOTAL	***100.0%***		***30***		***2***	**1**
TOTAL	100.0%	Auto	56.1%		555	**246**	35	**16**
		Transit	18.8%		186		12	
		Walk	16.7%		165		10	
		Other	8.5%		84		5	
		TOTAL			***989***	**246**	***63***	**16**

Notes:

[1] Source: ITE Trip Generation 8th Edition, Code 495 Recreational Community Center

[2] Source: Assume 100% Non-Work Trips

[3] Source: San Francisco Guidelines for Environmental Review, Appendix E - Table E-15 Visitor Trips to SD-3 All Other

TRIP DISTRIBUTION & MODE SPLIT (Tract 605.02 used for anlaysis)

LAND USE: RESIDENTIAL

Census Tract 605.02 is bound by McLaruen Park to north; Brookdale Ave to west; Geneva Ave to south; and Hahn and Santos Streets to east.

P28. PLACE OF WORK FOR WORKERS 16 YEARS AND OVER--MSA/PMSA LEVEL [25] - Universe: Workers 16 years and over

Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data

	Census Tract 605.02, San Francisco County, California		Percent
Total:	818	persons	100%
Living in an MSA/PMSA:	818	persons	100%
Living in a central city:	818	persons	100%
Worked in MSA/PMSA of residence:	733	persons	**90%**
Central city	591	persons	**72%**
Remainder of this MSA/PMSA	142	persons	**17%**
Worked outside MSA/PMSA of residence:	85	persons	**10%**
Worked in a different MSA/PMSA:	85	persons	10%
Central city	47	persons	6%
Remainder of different MSA/PMSA	38	persons	5%
Worked outside any MSA/PMSA	0	persons	0%
Living in remainder of an MSA/PMSA:	0	persons	0%
Worked in MSA/PMSA of residence:	0	persons	0%
Central city	0	persons	
Remainder of this MSA/PMSA	0	persons	
Worked outside MSA/PMSA of residence:	0	persons	
Worked in a different MSA/PMSA:	0	persons	
Central city	0	persons	
Remainder of different MSA/PMSA	0	persons	
Worked outside any MSA/PMSA	0	persons	
Not living in an MSA/PMSA:	0	persons	
Worked in an MSA/PMSA:	0	persons	
Central city	0	persons	
Remainder of MSA/PMSA	0	persons	
Worked outside any MSA/PMSA	0	persons	

Work in San Francisco
Work in SD1
Work in rest of SF (SD2, SD3, SD4)
Work outside SF (EB, NB, SB)

Conclusion (605.02)		Percent
SD1	**72%**	100%
SD2	**6%**	100%
SD3	**6%**	100%
SD4	**6%**	**91%**
EB	**3%**	**72%**
NB	**3%**	**19%**
SB	**3%**	**9%**
Outside	**0%**	9%
Total	**100%**	5%
		4%
		0%
		0%
		0%

U.S. Census Bureau
Census 2000

P30. MEANS OF TRANSPORTATION TO WORK FOR WORKERS 16 YEARS AND OVER [16] - Universe: Workers 16 years and over

Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data

	Census Tract 605.02, San Francisco County, California		
Total:	818	persons	100%
Car, truck, or van:	433	persons	53%
Drove alone	325	persons	**40%**
Carpooled	108	persons	**13%**
Public transportation:	357	persons	**44%**
Bus or trolley bus	339	persons	41%
Streetcar or trolley car (publico in Puerto Rico)	0	persons	0%
Subway or elevated	9	persons	1%
Railroad	9	persons	1%
Ferryboat	0	persons	0%
Taxicab	0	persons	0%
Motorcycle	0	persons	0%
Bicycle	7	persons	1%
Walked	6	persons	1%
Other means	9	persons	1%
Worked at home	6	persons	1%
U.S. Census Bureau			100%

Conclusion (605.02)		
Drive Alone	**40%**	100%
Carpool	**13%**	71%
Transit	**44%**	**49%**
Bus	**41%**	**22%**
Lightrail	**1%**	**24%**
Rail	**1%**	21%
Bike	**1%**	1%
Walk	**1%**	2%
Other	**2%**	1%
Total	**100%**	0%
		0%
		0%
		0%
		1%
		1%
		3%
		100%

Census 2000

P35. PRIVATE VEHICLE OCCUPANCY FOR WORKERS 16 YEARS AND OVER [10] - Universe: Workers 16 years and over

Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data

	Census Tract 605.02, San Francisco County, California			No. of All POV	No. of Carpool POV
Total:	818	persons	100%		
Car, truck, or van:	433	persons	53%		
Drove alone	**325**	persons	40%	325	
Carpooled:	**108**	persons	13%		
In 2-person carpool	28	persons	3%	14	14
In 3-person carpool	28	persons	3%	9	9
In 4-person carpool	37	persons	5%	9	9
In 5- or 6-person carpool	15	persons	2%	3	3
In 7-or-more-person carpool	0	persons	0%	0	0
Other means (including those who worked at home)	385	persons	47%	0	0
U.S. Census Bureau			100%	360	35

Conclusion (605.02)			No. of All POV	No. of Carpool POV
VOR	VOR	100%		
Including DA	Carpl Only	71%		
1.2	**3.1**	49%	736	
		22%		
		15%	117	117
		5%	23	23
		2%	8	8
		0%	0	0
		0%	0	0
		29%	0	0
		100%	884	148

Census 2000

TRIP DISTRIBUTION & MODE SPLIT (Tract 264.01 included for reference only)
LAND USE: RESIDENTIAL

Census Tract 264.01 is bound by Campbell Ave to north; Hahn St to west; Sunnydale Ave to south; and Rutland St to east. Included for reference only.

P28. PLACE OF WORK FOR WORKERS 16 YEARS AND OVER--MSA/PMSA LEVEL [25] - Universe: Workers 16 years and over
Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data

	Census Tract 264.01, San Francisco County, California		Percent
Total:	1,511	persons	100%
Living in an MSA/PMSA:	1,511	persons	100%
Living in a central city:	1,511	persons	100%
Worked in MSA/PMSA of residence:	1,375	persons	**90%**
Central city	1,089	persons	**72%**
Remainder of this MSA/PMSA	286	persons	**17%**
Worked outside MSA/PMSA of residence:	136	persons	**10%**
Worked in a different MSA/PMSA:	136	persons	10%
Central city	71	persons	6%
Remainder of different MSA/PMSA	65	persons	5%
Worked outside any MSA/PMSA	0	persons	0%
Living in remainder of an MSA/PMSA:	0	persons	0%
Worked in MSA/PMSA of residence:	0	persons	0%
Central city	0	persons	
Remainder of this MSA/PMSA	0	persons	
Worked outside MSA/PMSA of residence:	0	persons	
Worked in a different MSA/PMSA:	0	persons	
Central city	0	persons	
Remainder of different MSA/PMSA	0	persons	
Worked outside any MSA/PMSA	0	persons	
Not living in an MSA/PMSA:	0	persons	
Worked in an MSA/PMSA:	0	persons	
Central city	0	persons	
Remainder of MSA/PMSA	0	persons	
Worked outside any MSA/PMSA	0	persons	
U.S. Census Bureau			
Census 2000			

Work in San Francisco
Work in SD1
Work in rest of SF (SD2, SD3, SD4)
Work outside SF (EB, NB, SB)

Conclusion (264.01)		Percent
SD1	**72.1%**	100%
SD2	**6%**	100%
SD3	**6%**	100%
SD4	**6%**	**83%**
EB	**3%**	**67%**
NB	**3%**	**16%**
SB	**3%**	**17%**
Outside	**0%**	17%
Total	**100%**	7%
		10%
		0%
		0%
		0%

P30. MEANS OF TRANSPORTATION TO WORK FOR WORKERS 16 YEARS AND OVER [16] - Universe: Workers 16 years and over
Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data

	Census Tract 264.01, San Francisco County, California		
Total:	1,511	persons	100%
Car, truck, or van:	1,071	persons	53%
Drove alone	736	persons	**40%**
Carpooled	335	persons	**13%**
Public transportation:	370	persons	**44%**
Bus or trolley bus	315	persons	41%
Streetcar or trolley car (publico in Puerto Rico)	14	persons	0%
Subway or elevated	30	persons	1%
Railroad	11	persons	1%
Ferryboat	0	persons	0%
Taxicab	0	persons	0%
Motorcycle	0	persons	0%
Bicycle	0	persons	1%
Walked	12	persons	1%
Other means	13	persons	1%
Worked at home	45	persons	1%
U.S. Census Bureau			100%
Census 2000			

Conclusion (264.01)		
Drive Alone	**49%**	100%
Carpool	**22%**	76%
Transit	**24%**	**55%**
Bus	**21%**	**21%**
Lightrail	**2%**	**22%**
Rail	**1%**	16%
Bike	**0%**	0%
Walk	**1%**	6%
Other	**4%**	0%
Total	**100%**	0%
		0%
		0%
		0%
		0%
		2%
		100%

P35. PRIVATE VEHICLE OCCUPANCY FOR WORKERS 16 YEARS AND OVER [10] - Universe: Workers 16 years and over
Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data

	Census Tract 264.01, San Francisco County, California			No. of All POV	No. of Carpool POV
Total:	1,511	persons	100%		
Car, truck, or van:	1,071	persons	53%		
Drove alone	**736**	persons	40%	325	
Carpooled:	**335**	persons	13%		
In 2-person carpool	234	persons	3%	14	14
In 3-person carpool	70	persons	3%	9	9
In 4-person carpool	31	persons	5%	9	9
In 5- or 6-person carpool	0	persons	2%	3	3
In 7-or-more-person carpool	0	persons	0%	0	0
Other means (including those who worked at home)	440	persons	47%	0	0
U.S. Census Bureau			100%	360	35
Census 2000					

Conclusion (264.01)			No. of All POV	No. of Carpool POV
VOR	VOR	100%		
Including DA	Carpl Only	76%		
1.2	**2.3**	55%	536	
		21%		
		16%	77	77
		2%	7	7
		3%	7	7
		0%	0	0
		1%	1	1
		24%	0	0
		100%	627	91

TRIP DISTRIBUTION

Work/Non-Work Trip Splits

	Retail	Residential	Recreation/ Community
PM Peak-hour VT	75	530	16
Work	3	265	16
Non-Work	72	265	

Work/Non-Work Split			
	Commercial	Residential	Rec/ Comm
Work	4%	50%	N/A
Non-Work	96%	50%	N/A

Source: SF Guidelins, October 2002, Tables C-1 and C-2.

Trip Distribution Patterns

	Retail			Recreation/
Origin	Work Trips	Non-Work Trips	Residents	Community Center
Superdistrict 1	8.3%	6%	72.2%	13%
Superdistrict 2	10.6%	9%	5.8%	14%
Superdistrict 3	23.9%	61%	5.8%	44%
Superdistrict 4	7.9%	5%	5.8%	7%
East Bay	14.3%	3%	3.5%	9%
North Bay	5.6%	2%	3.5%	1%
South Bay	26.9%	9%	3.5%	9%
Other	2.5%	5%	0.0%	3%
Total	100%	100%	100%	100%

Source: SF Guidelines, October 2002, Appendix E Tables E-5, E-14, and E-15, and US Census 2000.

Inbound/Outbound Trip Splits

	Commercial		Residential		Rec
PM Peak-hour	Work	Non-Work	Work	Non-Work	W & NW
Inbound	0%	50%	100%	33%	37%
Outbound	100%	50%	0%	67%	63%
Total	100%	100%	100%	100%	100%

Source: SF Guidelines, October 2002 Table C-2; ITE Trip Generation 8th Edition.

Weekday PM Peak-hour Vehicle Trips and Origins

	Retail		Residential		Recreation/	Total	
Origin	Work	Non-Work	Work	Non-Work	Community Center	Inbound	Outbound
Superdistrict 1	0	4	192	192	2	258	132
Superdistrict 2	0	6	16	16	2	25	15
Superdistrict 3	1	44	15	15	7	45	37
Superdistrict 4	0	4	15	15	1	22	13
East Bay	0	2	9	9	1	13	8
North Bay	1	1	9	9	1	13	8
South Bay	1	7	9	9	1	16	11
Other	0	4	0	0	1	2	3
Total	**3**	**72**	**265**	**265**	**16**	**394**	**227**

Source: SF Guidelines, October 2002 Table C-2; ITE Trip Generation 8th Edition.

Vehicle Trip Distribution

Existing and Existing Plus Project Conditions (2010)

NG=North Gate; SG=South Gate; EG=East Gate; WG=West Gate

Origin	Inbound (Trips)	Inbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	258	65%	65.4%				
Superdistrict 2	25	6%		6.3%			
Superdistrict 3	45	11%	5.6%	5.6%			
Superdistrict 4	22	6%		5.7%			
East Bay	13	3%	3.4%				
North Bay	13	3%	3.3%				
South Bay	16	4%			2.0%		2.0%
Other	2	1%			0.3%		0.3%
Total	394	100%	**78%**	**18%**	**2%**	**0%**	**2%**
Total (Trips)			307	70	9	0	9

Destination	Outbound (Trips)	Outbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	132	58%	58.2%				
Superdistrict 2	15	7%		6.6%			
Superdistrict 3	37	17%	8.3%	8.3%			
Superdistrict 4	13	6%		5.6%			
East Bay	8	3%	3.4%				
North Bay	8	4%	3.6%				
South Bay	11	5%			2.5%		2.5%
Other	3	1%			0.6%		0.6%
Total	227	100%	**73%**	**20%**	**3%**	**0%**	**3%**
Total (Trips)			166	46	7	0	7

Vehicle Trip Distribution

Future Cumulative and Future Cumulative Plus Project Conditions (2030

Origin	Inbound (Trips)	Inbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	258	65%	32.7%			32.7%	
Superdistrict 2	25	6%		6.3%			
Superdistrict 3	45	11%	5.6%	5.6%			
Superdistrict 4	22	6%		5.7%			
East Bay	13	3%	1.7%			1.7%	
North Bay	13	3%	1.6%			1.6%	
South Bay	16	4%			2.0%	2.0%	
Other	2	1%			0.3%	0.3%	
Total	394	100%	**42%**	**18%**	**2%**	**38%**	**0%**
Total (Trips)			164	70	9	151	0

Destination	Outbound (Trips)	Outbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	132	58%	29.1%			29.1%	
Superdistrict 2	15	7%		6.6%			
Superdistrict 3	37	17%	8.3%	8.3%			
Superdistrict 4	13	6%		5.6%			
East Bay	8	3%	1.7%			1.7%	
North Bay	8	4%	1.8%			1.8%	
South Bay	11	5%			2.5%	2.5%	
Other	3	1%			0.6%	0.6%	
Total	227	100%	**41%**	**20%**	**3%**	**36%**	**0%**
Total (Trips)			93	46	7	81	0

Trip Distribution Patterns (Person Trips)

Origin/Dest	Retail		Residents	Rec/ Comm Ctr
	Work	Non-Work		
Superdistrict 1	8.3%	6%	72.2%	13%
Superdistrict 2	10.6%	9%	5.8%	14%
Superdistrict 3	23.9%	61%	5.8%	44%
Superdistrict 4	7.9%	5%	5.8%	7%
East Bay	14.3%	3%	3.5%	9%
North Bay	5.6%	2%	3.5%	1%
South Bay	26.9%	9%	3.5%	9%
Other	2.5%	5%	0.0%	3%
Total	100%	100%	100%	100%

Source: SF Guidelines, October 2002, Appendix E Tables E-5, E-14, and E-15, and US Census 2000.

Work vs. Non-work Split

	Commercial		Residential		Rec
PM Peak-hour	Work	Non-Work	Work	Non-Work	W/NW
Inbound	0%	50%	100%	33%	37%
Outbound	100%	50%	0%	67%	63%
Total	100%	100%	100%	100%	100%

Weekday PM Peak-hour Transit Trips and Origins

Origin/Dest	Retail		Residential		Rec/ Comm Ctr	Total	
	Work	Non-Work	Work	Non-Work		In	Out
Superdistrict 1	0	2	189	189	2	253	129
Superdistrict 2	0	2	15	15	2	22	12
Superdistrict 3	0	15	15	15	5	30	21
Superdistrict 4	0	1	15	15	1	21	11
East Bay	0	1	9	9	1	13	7
North Bay	0	1	9	9	0	12	6
South Bay	0	2	9	9	1	14	8
Other	0	1	0	0	0	1	1
Total	**1**	**25**	**262**	**262**	**12**	**366**	**197**

Source: SF Guidelines, October 2002 Table C-2; ITE Trip Generation 8th Edition.

Weekday Trip Distribution (Percent)

	PM Peak-Hour							AM Peak-Hour						
Origin	9-San Bruno Outbound	8X Express Inbound (from BART)	8X Express **Outbound**	8BX "B" Express **Outbound**	56-Rutland Inbound (from Caltrain)	T-Third Inbound (to Sunnydale)	Total	9-San Bruno Outbound	8X Express Outbound	8X Express **Inbound** (from BART)	8BX "B" Express **Inbound** (from BART)	56-Rutland Inbound (from Caltrain)	T-Third Inbound (to Sunnydale)	Total
Superdistrict 1	20%	30%		40%		10%	100%	20%	40%		30%		10%	100%
Superdistrict 2		50%		50%			100%		50%		50%			100%
Superdistrict 3	20%			70%		10%	100%	20%	70%				10%	100%
Superdistrict 4		100%					100%				100%			100%
East Bay		100%					100%				100%			100%
North Bay		50%		50%			100%		50%		50%			100%
South Bay					100%		100%					100%		100%
Other	100%						100%	100%						100%
Total														
Destination	9-San Bruno Inbound	8X Express Inbound	8BX "B" Express **Inbound** (from BART)	8BX "B" Express **Outbound** (to BART)	56-Rutland Outbound (to Caltrain)	T-Third Outbound (to Downtown)	Total	9-San Bruno Inbound	8X Express Outbound (to BART)	8BX "B" Express **Outbound** (to BART)	8BX "B" Express **Inbound**	56-Rutland Outbound (to Caltrain)	T-Third Outbound (to Downtown)	Total
Superdistrict 1	20%	40%		30%		10%	100%	20%	30%		40%		10%	100%
Superdistrict 2		50%		50%			100%		50%		50%			100%
Superdistrict 3	20%	70%				10%	100%	20%			70%		10%	100%
Superdistrict 4				100%			100%		100%					100%
East Bay				100%			100%		100%					100%
North Bay		50%		50%			100%		50%		50%			100%
South Bay					100%		100%					100%		100%
Other	100%						100%	100%						100%
Total														

Weekday Trip Distribution (Trips)

	PM Peak-Hour Trips								AM Peak-Hour Trips							
Origin	PM Peak-Hour Trips	Percent	9 Outbound	8X Inbound (from BART)	8X Outbound	8BX Outbound	56 Inbound	T Third Inbound	AM Peak-Hour Trips	Percent	9 Outbound	8X Outbound	8X Inbound	8BX Inbound (from BART)	56 Inbound	T-Third Inbound
Superdistrict 1	253	69%	51	76	0	101	0	25	129	65%	26	51	0	39	0	13
Superdistrict 2	22	6%	0	11	0	11	0	0	12	6%	0	6	0	6	0	0
Superdistrict 3	30	8%	6	0	0	21	0	3	21	11%	4	15	0	0	0	2
Superdistrict 4	21	6%	0	21	0	0	0	0	11	6%	0	0	0	11	0	0
East Bay	13	4%	0	13	0	0	0	0	7	4%	0	0	0	7	0	0
North Bay	12	3%	0	6	0	6	0	0	6	3%	0	3	0	3	0	0
South Bay	14	4%	0	0	0	0	14	0	8	4%	0	0	0	0	8	0
Other	1	0%	1	0	0	0	0	0	1	0%	1	0	0	0	0	0
Total	**366**	**100%**	**57**	**127**	**0**	**139**	**14**	**28**	**197**	**100%**	**31**	**76**	**0**	**67**	**8**	**15**
Destination	PM Peak-Hour Trips	Percent	9 Inbound	8X Inbound	8BX Inbound	8BX Outbound (to BART)	56 Outbound	T Third Outbound	AM Peak-Hour Trips	Percent	9 Inbound	8X Outbound (to BART)	8BX Outbound (to BART)	8BX Inbound	56 Outbound	T-Third Outbound
Superdistrict 1	129	65%	26	51	0	39	0	13	253	69%	51	76	0	101	0	25
Superdistrict 2	12	6%	0	6	0	6	0	0	22	6%	0	11	0	11	0	0
Superdistrict 3	21	11%	4	15	0	0	0	2	30	8%	6	0	0	21	0	3
Superdistrict 4	11	6%	0	0	0	11	0	0	21	6%	0	21	0	0	0	0
East Bay	7	4%	0	0	0	7	0	0	13	4%	0	13	0	0	0	0
North Bay	6	3%	0	3	0	3	0	0	12	3%	0	6	0	6	0	0
South Bay	8	4%	0	0	0	0	8	0	14	4%	0	0	0	0	14	0
Other	1	0%	1	0	0	0	0	0	1	0%	1	0	0	0	0	0
Total	**197**	**100%**	**31**	**76**	**0**	**67**	**8**	**15**	**366**	**100%**	**57**	**127**	**0**	**139**	**14**	**28**
	562		88	203	0	206	22	43	562		88	203	0	206	22	43

AM (IB)	PM (OB)	
225	225	Project trips crossing **Southeast** Screenline
22	22	Project trips crossing **Northwest** Screenline
7	7	Project trips crossing **Easy Bay** Screenline
6	6	Project trips crossing **North Bay** Screenline
8	8	Project trips crossing **South Bay** Screenline

Alternative I

TRIP DISTRIBUTION & MODE SPLIT_Alternative I

LAND USE: RETAIL (WORK TRIPS)

Proposed Size:	**16,200**	gsf
Daily Person-Trip Generation Rate: [1]	150.00	trips/1,000 gsf
Daily Person-Trips	2430	person-trips
Daily Work Trips (4%): [2]	97	person-trips
PM Peak Hour Peson Trip Generation Rate (9% of Daily): [1]	13.5	trips/1,000 gsf
Total PM Peak Hour Person-Trips:	219	person-trips
PM Peak Hour Work Trips (4%): [2]	9	person-trips

					DAILY		PM PEAK HOUR	
ORIGINS	**DISTRIBUTION [3**	**MODE**	**PERCENT [3]**	**V.O.R. [3]**	**PERSON TRIPS**	**AUTO TRIPS**	**PERSON TRIPS**	**AUTO TRIPS**
Superdistrict 1	8.3%	Auto	46.9%	1.23	4	**3**	0	**0**
		Transit	32.7%		3		0	
		Walk	17.7%		1		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***8***		***1***	**0**
Superdistrict 2	10.6%	Auto	64.6%	1.30	7	**5**	1	**0**
		Transit	26.4%		3		0	
		Walk	6.9%		1		0	
		Other	2.1%		0		0	
		TOTAL	***100.0%***		***10***		***1***	**0**
Superdistrict 3	23.9%	Auto	59.7%	1.26	14	**11**	1	**1**
		Transit	20.6%		5		0	
		Walk	15.1%		4		0	
		Other	4.6%		1		0	
		TOTAL	***100.0%***		***23***		***2***	**1**
Superdistrict 4	7.9%	Auto	75.7%	1.25	6	**5**	1	**0**
		Transit	21.5%		2		0	
		Walk	0.0%		0		0	
		Other	2.8%		0		0	
		TOTAL	***100.0%***		***8***		***1***	**0**
East Bay	14.3%	Auto	68.8%	1.48	10	**6**	1	**1**
		Transit	29.7%		4		0	
		Walk	0.0%		0		0	
		Other	1.5%		0		0	
		TOTAL	***100.0%***		***14***		***1***	**1**
North Bay	5.6%	Auto	86.9%	1.61	5	**3**	0	**0**
		Transit	10.5%		1		0	
		Walk	0.0%		0		0	
		Other	2.6%		0		0	
		TOTAL	***100.0%***		***5***		***0***	**0**
South Bay	26.9%	Auto	88.5%	1.44	23	**16**	2	**1**
		Transit	8.8%		2		0	
		Walk	0.0%		0		0	
		Other	2.7%		1		0	
		TOTAL	***100.0%***		***26***		***2***	**1**
Out of Region	2.5%	Auto	61.8%	1.56	2	**1**	0	**0**
		Transit	35.3%		1		0	
		Walk	0.0%		0		0	
		Other	2.9%		0		0	
		TOTAL	***100.0%***		***2***		***0***	**0**
TOTAL	100.0%	Auto	71.0%		69	**50**	6	**5**
		Transit	20.2%		20		2	
		Walk	5.8%		6		1	
		Other	2.9%		3		0	
		TOTAL			***97***	**50**	***9***	**5**

Notes:

[1] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-1 Retail

[2] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-2 General Retail

[3] Source: San Francisco Guidelines for Environmental Review, Appendix E - Table E-5 Work Trips to SD-3 All

TRIP DISTRIBUTION & MODE SPLIT_Alternative I

LAND USE: RETAIL (NON-WORK TRIPS)

Proposed Size:	**16,200**	gsf
Daily Person-Trip Generation Rate: [1]	150.00	trips/1,000 gsf
Daily Person-Trips	2430	person-trips
Daily Non-Work Trips (96%): [2]	2,333	person-trips
PM Peak Hour Peson Trip Generation Rate (9% of Daily): [1]	13.5	trips/1,000 gsf
Total PM Peak Hour Person-Trips:	219	person-trips
PM Peak Hour Non-Work Trips (96%): [2]	210	person-trips

					DAILY		PM PEAK HOUR	
ORIGINS	**DISTRIBUTION [3]**	**MODE**	**PERCENT [3]**	**V.O.R. [3]**	**PERSON TRIPS**	**AUTO TRIPS**	**PERSON TRIPS**	**AUTO TRIPS**
Superdistrict 1	6.0%	Auto	45.0%	1.76	63	**36**	6	**3**
		Transit	29.0%		41		4	
		Walk	22.0%		31		3	
		Other	4.0%		6		1	
		TOTAL	***100.0%***		***140***		***13***	**3**
Superdistrict 2	9.0%	Auto	61.8%	1.52	130	**85**	12	**8**
		Transit	15.3%		32		3	
		Walk	19.8%		42		4	
		Other	3.1%		7		1	
		TOTAL	***100.0%***		***210***		***19***	**8**
Superdistrict 3	61.0%	Auto	60.4%	2.04	859	**421**	77	**38**
		Transit	9.5%		135		12	
		Walk	28.7%		408		37	
		Other	1.4%		20		2	
		TOTAL	***100.0%***		***1,423***		***128***	**38**
Superdistrict 4	5.0%	Auto	84.7%	1.78	99	**56**	9	**5**
		Transit	9.7%		11		1	
		Walk	2.8%		3		0	
		Other	2.8%		3		0	
		TOTAL	***100.0%***		***117***		***10***	**5**
East Bay	3.0%	Auto	75.0%	1.77	52	**30**	5	**3**
		Transit	12.5%		9		1	
		Walk	12.5%		9		1	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***70***		***6***	**3**
North Bay	2.0%	Auto	87.5%	1.44	41	**28**	4	**3**
		Transit	12.5%		6		1	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***47***		***4***	**3**
South Bay	9.0%	Auto	86.4%	1.98	181	**92**	16	**8**
		Transit	9.1%		19		2	
		Walk	3.2%		7		1	
		Other	1.3%		3		0	
		TOTAL	***100.0%***		***210***		***19***	**8**
Out of Region	5.0%	Auto	59.2%	1.69	69	**41**	6	**4**
		Transit	16.9%		20		2	
		Walk	19.7%		23		2	
		Other	4.2%		5		0	
		TOTAL	***100.0%***		***117***		***10***	**4**
TOTAL	100.0%	Auto	64.1%		1,495	**788**	135	**71**
		Transit	11.7%		273		25	
		Walk	22.4%		522		47	
		Other	1.8%		43		4	
		TOTAL			***2,333***	**788**	***210***	**71**

Notes:

[1] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-1 Retail

[2] Source: San Francisco Guidelines for Environmental Review, Appendix C - Table C-2 General Retail

[3] Source: San Francisco Guidelines for Environmental Review, Appendix E - Table E-14 Visitor Trips to SD-3 Retail

TRIP DISTRIBUTION & MODE SPLIT_Alternative I

LAND USE: ALL OTHER - RECREATIONAL COMMUNITY CENTER (NON-WORK TRIPS)

Proposed Size:	**43,224**	gsf
Daily Person-Trip Generation Rate: [1]	22.88	trips/1,000 gsf
Daily Person-Trips	989	person-trips
Daily Non-Work Trips (100%): [2]	989	person-trips
PM Peak Hour Peson Trip Generation Rate: [1]	1.5	trips/1,000 gsf
Total PM Peak Hour Person-Trips:	63	person-trips
PM Peak Hour Non-Work Trips (100%): [2]	63	person-trips

					DAILY		PM PEAK HOUR	
ORIGINS	**DISTRIBUTION [3]**	**MODE**	**PERCENT [3]**	**V.O.R. [3]**	**PERSON TRIPS**	**AUTO TRIPS**	**PERSON TRIPS**	**AUTO TRIPS**
Superdistrict 1	13.0%	Auto	36.0%	2.03	46	**23**	3	**1**
		Transit	19.2%		25		2	
		Walk	33.3%		43		3	
		Other	11.5%		15		1	
		TOTAL	***100.0%***		***129***		***8***	**1**
Superdistrict 2	14.0%	Auto	68.6%	1.97	95	**48**	6	**3**
		Transit	14.5%		20		1	
		Walk	2.4%		3		0	
		Other	14.5%		20		1	
		TOTAL	***100.0%***		***138***		***9***	**3**
Superdistrict 3	44.0%	Auto	43.7%	2.43	190	**78**	12	**5**
		Transit	21.5%		94		6	
		Walk	25.4%		111		7	
		Other	9.4%		41		3	
		TOTAL	***100.0%***		***435***		***28***	**5**
Superdistrict 4	7.0%	Auto	67.4%	2.51	47	**19**	3	**1**
		Transit	16.3%		11		1	
		Walk	7.0%		5		0	
		Other	9.3%		6		0	
		TOTAL	***100.0%***		***69***		***4***	**1**
East Bay	9.0%	Auto	68.4%	2.59	61	**24**	4	**1**
		Transit	29.8%		27		2	
		Walk	1.8%		2		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***89***		***6***	**1**
North Bay	1.0%	Auto	100.0%	2.11	10	**5**	1	**0**
		Transit	0.0%		0		0	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***10***		***1***	**0**
South Bay	9.0%	Auto	94.6%	2.28	84	**37**	5	**2**
		Transit	3.6%		3		0	
		Walk	1.8%		2		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***89***		***6***	**2**
Out of Region	3.0%	Auto	73.6%	1.68	22	**13**	1	**1**
		Transit	21.1%		6		0	
		Walk	0.0%		0		0	
		Other	5.3%		2		0	
		TOTAL	***100.0%***		***30***		***2***	**1**
TOTAL	100.0%	Auto	56.1%		555	**246**	35	**16**
		Transit	18.8%		186		12	
		Walk	16.7%		165		10	
		Other	8.5%		84		5	
		TOTAL			***989***	**246**	***63***	**16**

Notes:

[1] Source: ITE Trip Generation 8th Edition, Code 495 Recreational Community Center

[2] Source: Assume 100% Non-Work Trips

[3] Source: San Francisco Guidelines for Environmental Review, Appendix E - Table E-15 Visitor Trips to SD-3 All Other

TRIP DISTRIBUTION_Alternative I

Work/Non-Work Trip Splits

	Retail	Residential	Recreation/ Community
PM Peak-hour VT	75	324	16
Work	3	162	16
Non-Work	72	162	

Work/Non-Work Split	Commercial	Residential	Rec/ Comm
Work	4%	50%	N/A
Non-Work	96%	50%	N/A

Source: SF Guidelins, October 2002, Tables C-1 and C-2.

Trip Distribution Patterns

	Retail			Recreation/
Origin	Work Trips	Non-Work Trips	Residents	Community Center
Superdistrict 1	8.3%	6%	72.2%	13%
Superdistrict 2	10.6%	9%	5.8%	14%
Superdistrict 3	23.9%	61%	5.8%	44%
Superdistrict 4	7.9%	5%	5.8%	7%
East Bay	14.3%	3%	3.5%	9%
North Bay	5.6%	2%	3.5%	1%
South Bay	26.9%	9%	3.5%	9%
Other	2.5%	5%	0.0%	3%
Total	100%	100%	100%	100%

Source: SF Guidelines, October 2002, Appendix E Tables E-5, E-14, and E-15, and US Census 2000.

Inbound/Outbound Trip Splits

	Commercial		Residential		Rec
PM Peak-hour	Work	Non-Work	Work	Non-Work	W & NW
Inbound	0%	50%	100%	33%	37%
Outbound	100%	50%	0%	67%	63%
Total	100%	100%	100%	100%	100%

Source: SF Guidelines, October 2002 Table C-2; ITE Trip Generation 8th Edition.

Alternative I Weekday PM Peak-hour Vehicle Trips and Origins

	Retail		Residential		Recreation/	Total	
Origin	Work	Non-Work	Work	Non-Work	Community Center	Inbound	Outbound
Superdistrict 1	0	4	117	117	2	158	82
Superdistrict 2	0	6	9	9	2	16	10
Superdistrict 3	1	44	9	9	7	37	33
Superdistrict 4	0	4	9	9	1	14	9
East Bay	0	2	6	6	1	9	6
North Bay	1	1	6	6	1	9	6
South Bay	1	7	6	6	1	12	9
Other	0	4	0	0	1	2	3
Total	**3**	**72**	**162**	**162**	**16**	**257**	**158**

Source: SF Guidelines, October 2002 Table C-2; ITE Trip Generation 8th Edition.

Vehicle Trip Distribution

Existing and Existing Plus Alternative I Conditions (2010)

NG=North Gate; SG=South Gate; EG=East Gate; WG=West Gate

Origin	Inbound (Trips)	Inbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	158	62%	61.5%				
Superdistrict 2	16	6%		6.1%			
Superdistrict 3	37	14%	7.1%	7.1%			
Superdistrict 4	14	6%		5.6%			
East Bay	9	4%	3.6%				
North Bay	9	3%	3.4%				
South Bay	12	5%			2.3%		2.3%
Other	2	1%			0.5%		0.5%
Total	257	100%	**76%**	**19%**	**3%**	**0%**	**3%**
Total (Trips)			195	48	7	0	7

Destination	Outbound (Trips)	Outbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	82	52%	51.7%				
Superdistrict 2	10	7%		6.5%			
Superdistrict 3	33	21%	10.6%	10.6%			
Superdistrict 4	9	5%		5.5%			
East Bay	6	4%	3.6%				
North Bay	6	4%	3.9%				
South Bay	9	6%			2.9%		2.9%
Other	3	2%			0.9%		0.9%
Total	158	100%	**70%**	**23%**	**4%**	**0%**	**4%**
Total (Trips)			110	36	6	0	6

Vehicle Trip Distribution

Future Cumulative and Future Cumulative Plus Alternative I Conditions (2030

Origin	Inbound (Trips)	Inbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	158	62%	30.8%			30.8%	
Superdistrict 2	16	6%		6.1%			
Superdistrict 3	37	14%	7.1%	7.1%			
Superdistrict 4	14	6%		5.6%			
East Bay	9	4%	1.8%			1.8%	
North Bay	9	3%	1.7%			1.7%	
South Bay	12	5%			2.3%	2.3%	
Other	2	1%			0.5%	0.5%	
Total	257	100%	**41%**	**19%**	**3%**	**37%**	**0%**
Total (Trips)			107	48	7	95	0

Destination	Outbound (Trips)	Outbound (%)	Bayshore NG	Sunnydale WG	Geneva WG	Geneva EG	Bayshore SG
Superdistrict 1	82	52%	25.8%			25.8%	
Superdistrict 2	10	7%		6.5%			
Superdistrict 3	33	21%	10.6%	10.6%			
Superdistrict 4	9	5%		5.5%			
East Bay	6	4%	1.8%			1.8%	
North Bay	6	4%	1.9%			1.9%	
South Bay	9	6%			2.9%	2.9%	
Other	3	2%			0.9%	0.9%	
Total	158	100%	**40%**	**23%**	**4%**	**33%**	**0%**
Total (Trips)			63	36	6	53	0

Trip Distribution Patterns (Person Trips) _Alternative I

Origin/Dest	Retail		Residents	Rec/ Comm Ctr
	Work	Non-Work		
Superdistrict 1	8.3%	6%	72.2%	13%
Superdistrict 2	10.6%	9%	5.8%	14%
Superdistrict 3	23.9%	61%	5.8%	44%
Superdistrict 4	7.9%	5%	5.8%	7%
East Bay	14.3%	3%	3.5%	9%
North Bay	5.6%	2%	3.5%	1%
South Bay	26.9%	9%	3.5%	9%
Other	2.5%	5%	0.0%	3%
Total	100%	100%	100%	100%

Source: SF Guidelines, October 2002, Appendix E Tables E-5, E-14, and E-15, and US Census 2000.

Work vs. Non-work Split

	Commercial		Residential		Rec
PM Peak-hour	Work	Non-Work	Work	Non-Work	W/NW
Inbound	0%	50%	100%	33%	37%
Outbound	100%	50%	0%	67%	63%
Total	100%	100%	100%	100%	100%

Weekday PM Peak-hour Transit Trips and Origins

Origin/Dest	Retail		Residential		Rec/ Comm	Total	
	Work	Non-Work	Work	Non-Work	Ctr	In	Out
Superdistrict 1	0	2	116	116	2	156	80
Superdistrict 2	0	2	9	9	2	14	9
Superdistrict 3	0	15	9	9	5	22	17
Superdistrict 4	0	1	9	9	1	13	7
East Bay	0	1	6	6	1	8	5
North Bay	0	1	6	6	0	8	4
South Bay	0	2	6	6	1	9	6
Other	0	1	0	0	0	1	1
Total	**1**	**25**	**161**	**161**	**12**	**231**	**129**

Source: SF Guidelines, October 2002 Table C-2; ITE Trip Generation 8th Edition.

Weekday Trip Distribution (Percent)

	PM Peak-Hour							AM Peak-Hour						
Origin	9-San Bruno Outbound	8X Express Inbound (from BART)	8X Express **Outbound**	8BX "B" Express **Outbound**	56-Rutland Inbound (from Caltrain)	T-Third Inbound (to Sunnydale)	Total	9-San Bruno Outbound	8X Express Outbound	8X Express **Inbound** (from BART)	8BX "B" Express **Inbound** (from BART)	56-Rutland Inbound (from Caltrain)	T-Third Inbound (to Sunnydale)	Total
Superdistrict 1	20%	30%		40%		10%	100%	20%	40%		30%		10%	100%
Superdistrict 2		50%		50%			100%		50%		50%			100%
Superdistrict 3	20%			70%		10%	100%	20%	70%				10%	100%
Superdistrict 4		100%					100%				100%			100%
East Bay		100%					100%				100%			100%
North Bay		50%		50%			100%		50%		50%			100%
South Bay					100%		100%					100%		100%
Other	100%						100%	100%						100%
Total														
Destination	9-San Bruno Inbound	8X Express Inbound	8BX "B" Express **Inbound** (from BART)	8BX "B" Express **Outbound** (to BART)	56-Rutland Outbound (to Caltrain)	T-Third Outbound (to Downtown)	Total	9-San Bruno Inbound	8X Express Outbound (to BART)	8BX "B" Express **Outbound** (to BART)	8BX "B" Express **Inbound**	56-Rutland Outbound (to Caltrain)	T-Third Outbound (to Downtown)	Total
Superdistrict 1	20%	40%		30%		10%	100%	20%	30%		40%		10%	100%
Superdistrict 2		50%		50%			100%		50%		50%			100%
Superdistrict 3	20%	70%				10%	100%	20%			70%		10%	100%
Superdistrict 4				100%			100%		100%					100%
East Bay				100%			100%		100%					100%
North Bay		50%		50%			100%		50%		50%			100%
South Bay					100%		100%					100%		100%
Other	100%						100%	100%						100%
Total														

Weekday Trip Distribution (Trips)

	PM Peak-Hour Trips								AM Peak-Hour Trips							
Origin	PM Peak-Hour Trips	Percent	9 Outbound	8X Inbound (from BART)	8X Outbound	8BX Outbound	56 Inbound	T Third Inbound	AM Peak-Hour Trips	Percent	9 Outbound	8X Outbound	8X Inbound	8BX Inbound (from BART)	56 Inbound	T-Third Inbound
Superdistrict 1	156	68%	31	47	0	62	0	16	80	62%	16	32	0	24	0	8
Superdistrict 2	14	6%	0	7	0	7	0	0	9	7%	0	4	0	4	0	0
Superdistrict 3	22	10%	4	0	0	15	0	2	17	14%	3	12	0	0	0	2
Superdistrict 4	13	6%	0	13	0	0	0	0	7	6%	0	0	0	7	0	0
East Bay	8	4%	0	8	0	0	0	0	5	4%	0	0	0	5	0	0
North Bay	8	3%	0	4	0	4	0	0	4	3%	0	2	0	2	0	0
South Bay	9	4%	0	0	0	0	9	0	6	5%	0	0	0	0	6	0
Other	1	0%	1	0	0	0	0	0	1	1%	1	0	0	0	0	0
Total	**231**	**100%**	**36**	**79**	**0**	**89**	**9**	**18**	**129**	**100%**	**20**	**50**	**0**	**43**	**6**	**10**
Destination	PM Peak-Hour Trips	Percent	9 Inbound	8X Inbound	8BX Inbound	8BX Outbound (to BART)	56 Outbound	T Third Outbound	AM Peak-Hour Trips	Percent	9 Inbound	8X Outbound (to BART)	8BX Outbound (to BART)	8BX Inbound	56 Outbound	T-Third Outbound
Superdistrict 1	80	62%	16	32	0	24	0	8	156	68%	31	47	0	62	0	16
Superdistrict 2	9	7%	0	4	0	4	0	0	14	6%	0	7	0	7	0	0
Superdistrict 3	17	14%	3	12	0	0	0	2	22	10%	4	0	0	15	0	2
Superdistrict 4	7	6%	0	0	0	7	0	0	13	6%	0	13	0	0	0	0
East Bay	5	4%	0	0	0	5	0	0	8	4%	0	8	0	0	0	0
North Bay	4	3%	0	2	0	2	0	0	8	3%	0	4	0	4	0	0
South Bay	6	5%	0	0	0	0	6	0	9	4%	0	0	0	0	9	0
Other	1	1%	1	0	0	0	0	0	1	0%	1	0	0	0	0	0
Total	**129**	**100%**	**20**	**50**	**0**	**43**	**6**	**10**	**231**	**100%**	**36**	**79**	**0**	**89**	**9**	**18**
	360		57	130	0	131	15	27	360		57	130	0	131	15	27

AM (IB)	PM (OB)	
143	143	Project trips crossing **Southeast** Screenline
14	14	Project trips crossing **Northwest** Screenline
5	5	Project trips crossing **Easy Bay** Screenline
4	4	Project trips crossing **North Bay** Screenline
6	6	Project trips crossing **South Bay** Screenline

APPENDIX J SAN FRANCISCO SUPERDISTRICT MAP



Source: The Planning Department
City and County of San Francisco

CHS Consulting Group

MAP OF SAN FRANCISCO
SHOWING SUPERDISTRICT BOUNDARIES

APPENDIX K INTERSECTION LEVEL OF SERVICE CALCULATION

Existing Conditions (2010)

Scenario Report

Scenario: Existing

Command:	Existing
Volume:	Existing
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	None
Trip Distribution:	Existing TD
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

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Turning Movement Report
None

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Sunnydale Blvd/ Persia St													
Base	31	0	8	0	0	0	0	193	38	4	308	0	582
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	31	0	8	0	0	0	0	193	38	4	308	0	582
#2 Sunnydale Blvd/ Sawyer St													
Base	11	47	8	9	46	10	8	82	5	15	65	7	313
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	47	8	9	46	10	8	82	5	15	65	7	313
#3 Sunnydale Blvd/ Schwerin St													
Base	34	84	84	4	83	12	13	82	20	80	75	0	571
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	34	84	84	4	83	12	13	82	20	80	75	0	571
#4 Bayshore Blvd/ Sunnydale Ave													
Base	32	694	0	16	814	72	131	4	22	6	6	17	1814
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	32	694	0	16	814	72	131	4	22	6	6	17	1814
#5 Sunnydale Blvd/ Santos St													
Base	43	0	50	0	0	0	0	60	51	47	55	0	306
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	43	0	50	0	0	0	0	60	51	47	55	0	306
#6 Geneva Ave/ Brookdale St													
Base	0	0	0	5	0	31	32	847	0	0	1186	26	2127
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	5	0	31	32	847	0	0	1186	26	2127
#7 Geneva Ave/ Santos St													
Base	9	4	22	25	13	67	40	593	92	236	934	48	2083
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	4	22	25	13	67	40	593	92	236	934	48	2083
#8 Geneva Ave/ Calgary St													
Base	0	0	0	9	0	48	72	523	0	0	954	30	1636
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	9	0	48	72	523	0	0	954	30	1636
#9 Geneva Ave/ Schwerin St													
Base	16	33	56	24	28	147	104	405	27	69	896	44	1849
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	16	33	56	24	28	147	104	405	27	69	896	44	1849
#10 Bayshore Blvd/ Geneva Ave													
Base	541	402	0	42	291	491	303	0	238	0	0	0	2308
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	541	402	0	42	291	491	303	0	238	0	0	0	2308

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Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#11 Bayshore Blvd/ Visitacion Ave													
Base	0	848	0	13	881	140	117	0	23	1	1	2	2026
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	848	0	13	881	140	117	0	23	1	1	2	2026
#12 Velasco Ave/ Santos St													
Base	4	52	20	8	98	10	15	4	2	16	7	12	248
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	52	20	8	98	10	15	4	2	16	7	12	248

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Del/ Veh	V/ C	Future LOS	Del/ Veh	V/ C	Change in
# 1 Sunnydale Blvd/ Persia St	B	13.2	0.111	B	13.2	0.111	+ 0.000 D/V
# 2 Sunnydale Blvd/ Sawyer St	A	8.1	0.167	A	8.1	0.167	+ 0.000 V/C
# 3 Sunnydale Blvd/ Schwerin St	A	9.6	0.331	A	9.6	0.332	+ 0.001 V/C
# 4 Bayshore Blvd/ Sunnydale Ave	C	20.2	0.496	C	20.2	0.496	+ 0.000 D/V
# 5 Sunnydale Blvd/ Santos St	A	8.0	0.171	A	8.0	0.171	+ 0.000 V/C
# 6 Geneva Ave/ Brookdale St	C	21.9	0.080	C	21.9	0.080	+ 0.000 D/V
# 7 Geneva Ave/ Santos St	B	19.9	0.472	B	19.9	0.472	+ 0.000 D/V
# 8 Geneva Ave/ Calgary St	C	22.3	0.132	C	22.3	0.132	+ 0.000 D/V
# 9 Geneva Ave/ Schwerin St	B	16.6	0.541	B	16.6	0.541	+ 0.000 D/V
# 10 Bayshore Blvd/ Geneva Ave	C	23.2	0.486	C	23.2	0.486	+ 0.000 D/V
# 11 Bayshore Blvd/ Visitacion Ave	B	14.0	0.442	B	14.0	0.442	+ 0.000 D/V
# 12 Velasco Ave/ Santos St	A	7.7	0.163	A	7.7	0.163	+ 0.000 V/C

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Sunnydale Blvd/ Persia St

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: B[13.2]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	0	0	0		0	0	0	1	0		0	1	0	0	0	
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.																								
Base Vol:	31		0		8		0		0		0		0		193		38		4		308		0	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	31		0		8		0		0		0		0		193		38		4		308		0	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.61		0.61		0.61		1.00		1.00		1.00		0.89		0.89		0.89		0.85		0.85		0.85	
PHF Volume:	51		0		13		0		0		0		0		217		43		5		362		0	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	51		0		13		0		0		0		0		217		43		5		362		0	
Critical Gap Module:																								
Critical Gp:	6.4		6.5		6.2		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		4.1		xxxx		xxxxx	
FollowUpTim:	3.5		4.0		3.3		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		2.2		xxxx		xxxxx	
Capacity Module:																								
Cnflict Vol:	610		610		238		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		260		xxxx		xxxxx	
Potent Cap.:	461		412		806		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		1317		xxxx		xxxxx	
Move Cap.:	460		410		806		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		1317		xxxx		xxxxx	
Volume/Cap:	0.11		0.00		0.02		xxxx		xxxx		xxxx		xxxx		xxxx		xxxx		0.00		xxxx		xxxx	
Level Of Service Module:																								
2Way95thQ:	xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		0.0		xxxx		xxxxx	
Control Del:	xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		7.7		xxxx		xxxxx	
LOS by Move:	*		*		*		*		*		*		*		*		*		A		*		*	
Movement:	LT -		LTR -		RT		LT -		LTR -		RT		LT -		LTR -		RT		LT -		LTR -		RT	
Shared Cap.:	xxxx		504		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx	
SharedQueue:	xxxxx		0.4		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		0.0		xxxx		xxxxx	
Shrd ConDel:	xxxxx		13.2		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		7.7		xxxx		xxxxx	
Shared LOS:	*		B		*		*		*		*		*		*		*		A		*		*	
ApproachDel:			13.2						xxxxxx						xxxxxx						xxxxxx			
ApproachLOS:			B						*						*						*			

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Sunnydale Blvd/ Sawyer St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.167
Loss Time (sec): 0 Average Delay (sec/veh): 8.1
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Min. Green:	0		0		0		0		0		0		0		0		0		0		0		0	
Lanes:	0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module: >> Count Date: 31 Aug 2010 << 4:30 - 5:30 p.m.																								
Base Vol:	11		47		8		9		46		10		8		82		5		15		65		7	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	11		47		8		9		46		10		8		82		5		15		65		7	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.72		0.72		0.72		0.81		0.81		0.81		0.72		0.72		0.72		0.75		0.75		0.75	
PHF Volume:	15		65		11		11		57		12		11		114		7		20		87		9	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	15		65		11		11		57		12		11		114		7		20		87		9	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	15		65		11		11		57		12		11		114		7		20		87		9	
Saturation Flow Module:																								
Adjustment:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Lanes:	0.17		0.71		0.12		0.14		0.71		0.15		0.08		0.87		0.05		0.17		0.75		0.08	
Final Sat.:	127		543		92		106		539		117		66		681		42		135		587		63	
Capacity Analysis Module:																								
Vol/Sat:	0.12		0.12		0.12		0.11		0.11		0.11		0.17		0.17		0.17		0.15		0.15		0.15	
Crit Moves:	****								****						****						****			
Delay/Veh:	8.1		8.1		8.1		8.0		8.0		8.0		8.2		8.2		8.2		8.1		8.1		8.1	
Delay Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	8.1		8.1		8.1		8.0		8.0		8.0		8.2		8.2		8.2		8.1		8.1		8.1	
LOS by Move:	A		A		A		A		A		A		A		A		A		A		A		A	
ApproachDel:			8.1						8.0						8.2						8.1			
Delay Adj:			1.00						1.00						1.00						1.00			
ApprAdjDel:			8.1						8.0						8.2						8.1			
LOS by Appr:			A						A						A						A			
AllWayAvgQ:	0.1		0.1		0.1		0.1		0.1		0.1		0.2		0.2		0.2		0.2		0.2		0.2	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #3 Sunnydale Blvd/ Schwerin St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.331
Loss Time (sec):	0	Average Delay (sec/veh):	9.6
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 1!	0	0	0 1!	0	0	0 1!	0	0	1 0	0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 - 5:45 p.m.												
Base Vol:	34	84	84	4	83	12	13	82	20	80	75	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	84	84	4	83	12	13	82	20	80	75	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.77	0.77	0.77	0.82	0.82	0.82	0.91	0.91	0.91
PHF Volume:	40	100	100	5	108	16	16	100	24	88	82	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	100	100	5	108	16	16	100	24	88	82	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	100	100	5	108	16	16	100	24	88	82	33
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.41	0.42	0.04	0.84	0.12	0.11	0.72	0.17	0.43	0.41	0.16
Final Sat.:	122	302	302	27	565	82	76	481	117	297	278	111
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.33	0.19	0.19	0.19	0.21	0.21	0.21	0.30	0.30	0.30
Crit Moves:	****				****			****			****	
Delay/Veh:	9.8	9.8	9.8	9.1	9.1	9.1	9.1	9.1	9.1	9.9	9.9	9.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.8	9.8	9.8	9.1	9.1	9.1	9.1	9.1	9.1	9.9	9.9	9.9
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		9.8			9.1			9.1			9.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.8			9.1			9.1			9.9	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Bayshore Blvd/ Sunnydale Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	0.496
Loss Time (sec):	12	Average Delay (sec/veh):	20.2
Optimal Cycle:	41	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:		Include			Include			Include			Include	
Min. Green:	5	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	1	0 1	1 0	1	0 1	1 0	0	0 1!	0 0	0	0 1!	0 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 to 5:45 p.m.												
Base Vol:	32	694	0	16	814	72	131	4	22	6	6	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	694	0	16	814	72	131	4	22	6	6	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.75	0.75	0.75	0.66	0.66	0.66
PHF Volume:	34	746	0	17	875	77	175	5	29	9	9	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	746	0	17	875	77	175	5	29	9	9	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	746	0	17	875	77	175	5	29	9	9	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.71	0.71	0.71	0.87	0.87	0.87
Lanes:	1.00	2.00	0.00	1.00	1.84	0.16	0.83	0.03	0.14	0.21	0.21	0.58
Final Sat.:	1805	3610	0	1805	3277	290	1123	34	189	341	341	965
Capacity Analysis Module:												
Vol/Sat:	0.02	0.21	0.00	0.01	0.27	0.27	0.16	0.16	0.16	0.03	0.03	0.03
Crit Moves:	****				****			****				
Green/Cycle:	0.05	0.48	0.00	0.10	0.53	0.53	0.31	0.31	0.31	0.31	0.31	0.31
Volume/Cap:	0.42	0.43	0.00	0.09	0.50	0.50	0.50	0.50	0.50	0.09	0.09	0.09
Uniform Del:	51.1	19.1	0.0	44.5	16.3	16.3	30.9	30.9	30.9	26.8	26.8	26.8
IncremntDel:	3.4	0.2	0.0	0.2	0.2	0.2	0.9	0.9	0.9	0.1	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	54.5	19.3	0.0	44.7	16.5	16.5	31.8	31.8	31.8	26.9	26.9	26.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	19.3	0.0	44.7	16.5	16.5	31.8	31.8	31.8	26.9	26.9	26.9
LOS by Move:	D	B	A	D	B	B	C	C	C	C	C	C
HCM2kAvgQ:	1	8	0	0	10	10	6	6	6	1	1	1

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Sunnydale Blvd/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.171
Loss Time (sec):	0	Average Delay (sec/veh):	8.0
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	0 1	0	0 1	0 0	0
Volume Module: >> Count Date: 31 Aug 2010 << 4:15 - 5:15 p.m.												
Base Vol:	43	0	50	0	0	0	0	60	51	47	55	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	0	50	0	0	0	0	60	51	47	55	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	1.00	1.00	1.00	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	57	0	67	0	0	0	0	80	68	63	73	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	0	67	0	0	0	0	80	68	63	73	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	57	0	67	0	0	0	0	80	68	63	73	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.46	0.01	0.53	0.00	0.00	0.00	0.00	0.54	0.46	0.46	0.54	0.00
Final Sat.:	372	0	433	0	0	0	0	468	398	367	430	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.00	0.15	xxxx	xxxx	xxxx	xxxx	0.17	0.17	0.17	0.17	xxxx
Crit Moves:	****								****		****	
Delay/Veh:	8.0	8.0	8.0	0.0	0.0	0.0	0.0	7.8	7.8	8.3	8.3	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.0	8.0	8.0	0.0	0.0	0.0	0.0	7.8	7.8	8.3	8.3	0.0
LOS by Move:	A	A	A	*	*	*	*	A	A	A	A	*
ApproachDel:	8.0			xxxxxx			7.8			8.3		
Delay Adj:	1.00			xxxxx			1.00			1.00		
ApprAdjDel:	8.0			xxxxxx			7.8			8.3		
LOS by Appr:	A			*			A			A		
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Geneva Ave/ Brookdale St

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: C[21.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	2 0	0	0 0	2 0	1
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	0	0	0	5	0	31	32	847	0	0	1186	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	31	32	847	0	0	1186	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.90	0.90	0.90	0.85	0.85	0.85	0.97	0.97	0.97
PHF Volume:	0	0	0	6	0	34	38	996	0	0	1223	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	6	0	34	38	996	0	0	1223	27
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1796	2294	611	1249	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	73	40	441	564	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	69	37	441	564	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	0.00	0.08	0.07	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	253	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	21.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			21.9			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 Geneva Ave/ Santos St

Cycle (sec):	90	Critical Vol./Cap.(X):	0.472
Loss Time (sec):	9	Average Delay (sec/veh):	19.9
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	5	5	10	5	5	4	15	15	4	5	5
Y+R:	3.5	4.6	4.6	3.5	4.6	4.6	4.0	3.5	3.5	4.0	4.0	4.0
Lanes:	0	1 0	1 0	0	0 1!	0 0	1	0 1	1 1	2	0 1	1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	9	4	22	25	13	67	40	593	92	236	934	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	4	22	25	13	67	40	593	92	236	934	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.58	0.58	0.58	0.80	0.80	0.80	0.84	0.84	0.84	0.89	0.89	0.89
PHF Volume:	16	7	38	31	16	84	48	706	110	265	1049	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	7	38	31	16	84	48	706	110	265	1049	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	7	38	31	16	84	48	706	110	265	1049	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.93	0.93	0.92	0.94	0.94
Lanes:	0.69	0.31	1.00	0.24	0.12	0.64	1.00	2.00	1.00	2.00	1.90	0.10
Final Sat.:	1117	497	1614	409	212	1095	1805	3538	1769	3502	3410	175
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.08	0.08	0.08	0.03	0.20	0.06	0.08	0.31	0.31
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.10	0.10	0.20	0.14	0.14	0.05	0.43	0.43	0.16	0.55	0.55
Volume/Cap:	0.08	0.14	0.23	0.38	0.56	0.56	0.56	0.46	0.14	0.46	0.56	0.56
Uniform Del:	31.7	36.9	37.2	31.0	36.3	36.3	42.0	18.1	15.4	34.0	13.2	13.2
IncremntDel:	0.0	0.1	0.5	0.7	3.0	3.0	8.2	0.2	0.0	0.6	0.4	0.4
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	31.7	37.0	37.7	31.7	39.4	39.4	50.1	18.3	15.5	34.6	13.6	13.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.7	37.0	37.7	31.7	39.4	39.4	50.1	18.3	15.5	34.6	13.6	13.6
LOS by Move:	C	D	D	C	D	D	D	B	B	C	B	B
HCM2kAvgQ:	1	1	1	3	4	4	2	7	2	3	10	10

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Geneva Ave/ Calgary St

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: C[22.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0	0 1!	0 0	1	0 2	0 0	1	0 1	1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	0	0	0	9	0	48	72	523	0	0	954	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	9	0	48	72	523	0	0	954	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.79	0.79	0.79	0.93	0.93	0.93	0.84	0.84	0.84
PHF Volume:	0	0	0	11	0	61	77	562	0	0	1136	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	11	0	61	77	562	0	0	1136	36
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1590	1871	586	1171	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	100	73	459	604	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	90	64	459	604	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.13	0.00	0.13	0.13	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	279	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	22.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			22.3			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Geneva Ave/ Schwerin St

Cycle (sec):	90	Critical Vol./Cap.(X):	0.541
Loss Time (sec):	9	Average Delay (sec/veh):	16.6
Optimal Cycle:	36	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	3	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6	4.6
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1 0	1	0	1 1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	16	33	56	24	28	147	104	405	27	69	896	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	33	56	24	28	147	104	405	27	69	896	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
PHF Volume:	20	40	68	28	33	171	109	426	28	75	974	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	40	68	28	33	171	109	426	28	75	974	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	40	68	28	33	171	109	426	28	75	974	48
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.86	0.86	0.86	0.95	0.94	0.94	0.47	0.94	0.94
Lanes:	0.15	0.31	0.54	0.12	0.14	0.74	1.00	1.88	0.12	1.00	1.91	0.09
Final Sat.:	253	523	887	197	230	1209	1805	3354	224	885	3417	168
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.14	0.14	0.14	0.06	0.13	0.13	0.08	0.29	0.29
Crit Moves:					****		****				****	
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.11	0.64	0.64	0.53	0.53	0.53
Volume/Cap:	0.29	0.29	0.29	0.54	0.54	0.54	0.54	0.20	0.20	0.16	0.54	0.54
Uniform Del:	26.6	26.6	26.6	28.6	28.6	28.6	37.8	6.7	6.7	11.0	14.1	14.1
IncremntDel:	0.4	0.4	0.4	1.4	1.4	1.4	3.0	0.0	0.0	0.2	0.3	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	27.0	27.0	27.0	30.0	30.0	30.0	40.7	6.8	6.8	11.2	14.4	14.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.0	27.0	27.0	30.0	30.0	30.0	40.7	6.8	6.8	11.2	14.4	14.4
LOS by Move:	C	C	C	C	C	C	D	A	A	B	B	B
HCM2kAvgQ:	3	3	3	6	6	6	3	3	3	1	10	10

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 Bayshore Blvd/ Geneva Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.486
Loss Time (sec):	8	Average Delay (sec/veh):	23.2
Optimal Cycle:	31	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	6	6	6	6	6	6	6	6	6	0	0	0
Y+R:	4.0	4.6	4.6	4.0	4.6	4.0	4.6	4.6	4.6	4.0	4.0	4.0
Lanes:	2	0	2 0 0	1	0	2 0 2	2	0	0 0 2	0	0	0 0 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	541	402	0	42	291	491	303	0	238	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	541	402	0	42	291	491	303	0	238	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.93	0.93	0.93	0.97	0.97	0.97	1.00	1.00	1.00
PHF Volume:	588	437	0	45	313	528	312	0	245	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	588	437	0	45	313	528	312	0	245	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	588	437	0	45	313	528	312	0	245	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.95	0.95	0.75	0.92	1.00	0.75	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	1.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	3502	3610	0	1805	3610	2842	3502	0	2842	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.12	0.00	0.03	0.09	0.19	0.09	0.00	0.09	0.00	0.00	0.00
Crit Moves:	****					****	****					
Green/Cycle:	0.35	0.47	0.00	0.26	0.38	0.38	0.18	0.00	0.18	0.00	0.00	0.00
Volume/Cap:	0.49	0.26	0.00	0.10	0.23	0.49	0.49	0.00	0.47	0.00	0.00	0.00
Uniform Del:	23.2	14.4	0.0	25.4	18.8	21.1	32.9	0.0	32.8	0.0	0.0	0.0
IncremntDel:	0.3	0.1	0.0	0.1	0.1	0.3	0.6	0.0	0.7	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	23.5	14.5	0.0	25.5	18.9	21.4	33.5	0.0	33.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	14.5	0.0	25.5	18.9	21.4	33.5	0.0	33.5	0.0	0.0	0.0
LOS by Move:	C	B	A	C	B	C	C	A	C	A	A	A
HCM2kAvgQ:	7	4	0	1	3	6	4	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #11 Bayshore Blvd/ Visitacion Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	0.442
Loss Time (sec):	12	Average Delay (sec/veh):	14.0
Optimal Cycle:	38	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	0	1	1 0	1	0	1 1	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 - 5:45 p.m.												
Base Vol:	0	848	0	13	881	140	117	0	23	1	1	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	848	0	13	881	140	117	0	23	1	1	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.92	0.92	0.92	0.85	0.85	0.85	0.50	0.50	0.50
PHF Volume:	0	964	0	14	958	152	138	0	27	2	2	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	964	0	14	958	152	138	0	27	2	2	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	964	0	14	958	152	138	0	27	2	2	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	1.00	0.95	0.93	0.93	0.73	1.00	0.73	0.89	0.89	0.89
Lanes:	0.00	2.00	1.00	1.00	1.73	0.27	0.84	0.00	0.16	0.25	0.25	0.50
Final Sat.:	0	3610	1900	1805	3050	485	1155	0	227	424	424	848
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.01	0.31	0.31	0.12	0.00	0.12	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green/Cycle:	0.00	0.58	0.00	0.05	0.63	0.63	0.26	0.00	0.26	0.26	0.26	0.26
Volume/Cap:	0.00	0.46	0.00	0.17	0.50	0.50	0.46	0.00	0.46	0.02	0.02	0.02
Uniform Del:	0.0	12.9	0.0	50.5	11.0	11.0	34.1	0.0	34.1	30.2	30.2	30.2
IncremntDel:	0.0	0.2	0.0	1.0	0.2	0.2	0.9	0.0	0.9	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	0.0	13.1	0.0	51.5	11.2	11.2	35.0	0.0	35.0	30.2	30.2	30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.1	0.0	51.5	11.2	11.2	35.0	0.0	35.0	30.2	30.2	30.2
LOS by Move:	A	B	A	D	B	B	D	A	D	C	C	C
HCM2kAvgQ:	0	9	0	1	11	11	5	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #12 Velasco Ave/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.163
Loss Time (sec):	0	Average Delay (sec/veh):	7.7
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	4	52	20	8	98	10	15	4	2	16	7	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	52	20	8	98	10	15	4	2	16	7	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.75	0.75	0.75	0.73	0.73	0.73
PHF Volume:	5	63	24	10	118	12	20	5	3	22	10	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	63	24	10	118	12	20	5	3	22	10	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	63	24	10	118	12	20	5	3	22	10	16
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.05	0.69	0.26	0.07	0.84	0.09	0.71	0.19	0.10	0.46	0.20	0.34
Final Sat.:	46	595	229	59	726	74	543	145	72	365	160	274
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.16	0.16	0.16	0.04	0.04	0.04	0.06	0.06	0.06
Crit Moves:	****				****			****			****	
Delay/Veh:	7.5	7.5	7.5	7.9	7.9	7.9	7.7	7.7	7.7	7.6	7.6	7.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.5	7.5	7.5	7.9	7.9	7.9	7.7	7.7	7.7	7.6	7.6	7.6
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	7.5			7.9			7.7			7.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	7.5			7.9			7.7			7.6		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Existing Plus Project Conditions (2010)

Scenario Report

Scenario:	Existing Plus Project
Command:	Existing Plus Project
Volume:	Existing
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	TG
Trip Distribution:	Existing TD
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Trip Generation Report

Forecast for TG

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Inbound Trip	394.00	Proposed Proje	1.00	0.00	394	0	394	63.4
	Zone 1 Subtotal					394	0	394	63.4
2	Outbound Tri	227.00	Proposed Proje	0.00	1.00	0	227	227	36.6
	Zone 2 Subtotal					0	227	227	36.6
TOTAL						394	227	621	100.0

Trip Distribution Report

Percent Of Trips Existing TD

Zone	To Gates 1	2	4	5	6
1	78.0	2.0	0.0	18.0	2.0
2	73.0	3.0	0.0	21.0	3.0

Turning Movement Report
TG

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Sunnydale Blvd/ Persia St													
Base	31	0	8	0	0	0	0	193	38	4	308	0	582
Added	48	0	0	0	0	0	0	0	71	0	0	0	119
Total	79	0	8	0	0	0	0	193	109	4	308	0	701
#2 Sunnydale Blvd/ Sawyer St													
Base	11	47	8	9	46	10	8	82	5	15	65	7	313
Added	0	0	0	0	0	0	0	83	0	0	154	0	237
Total	11	47	8	9	46	10	8	165	5	15	219	7	550
#3 Sunnydale Blvd/ Schwerin St													
Base	34	84	84	4	83	12	13	82	20	80	75	0	571
Added	0	0	0	0	0	0	0	83	0	0	154	0	237
Total	34	84	84	4	83	12	13	165	20	80	229	0	808
#4 Bayshore Blvd/ Sunnydale Ave													
Base	32	694	0	16	814	72	131	4	22	6	6	17	1814
Added	0	83	0	0	154	154	83	0	0	0	0	0	474
Total	32	777	0	16	968	226	214	4	22	6	6	17	2288
#5 Sunnydale Blvd/ Santos St													
Base	43	0	50	0	0	0	0	60	51	47	55	0	306
Added	48	0	83	0	0	0	0	0	71	154	0	0	356
Total	91	0	133	0	0	0	0	60	122	201	55	0	662
#6 Geneva Ave/ Brookdale St													
Base	0	0	0	5	0	31	32	847	0	0	1186	26	2127
Added	0	0	0	0	0	3	8	0	0	0	3	0	14
Total	0	0	0	5	0	34	40	847	0	0	1189	26	2141
#7 Geneva Ave/ Santos St													
Base	9	4	22	25	13	67	40	593	92	236	934	48	2083
Added	0	0	0	90	0	3	0	0	0	0	0	162	255
Total	9	4	22	115	13	70	40	593	92	236	934	210	2338
#8 Geneva Ave/ Calgary St													
Base	0	0	0	9	0	48	72	523	0	0	954	30	1636
Added	0	0	0	0	0	0	0	90	0	0	162	0	252
Total	0	0	0	9	0	48	72	613	0	0	1116	30	1888
#9 Geneva Ave/ Schwerin St													
Base	16	33	56	24	28	147	104	405	27	69	896	44	1849
Added	0	0	0	0	0	0	0	90	0	0	162	0	252
Total	16	33	56	24	28	147	104	495	27	69	1058	44	2101
#10 Bayshore Blvd/ Geneva Ave													
Base	541	402	0	42	291	491	303	0	238	0	0	0	2308
Added	8	0	0	0	0	154	83	0	7	0	0	0	252
Total	549	402	0	42	291	645	386	0	245	0	0	0	2560

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#11 Bayshore Blvd/ Visitacion Ave													
Base	0	848	0	13	881	140	117	0	23	1	1	2	2026
Added	0	166	0	0	307	0	0	0	0	0	0	0	473
Total	0	1014	0	13	1188	140	117	0	23	1	1	2	2499
#12 Velasco Ave/ Santos St													
Base	4	52	20	8	98	10	15	4	2	16	7	12	248
Added	0	162	0	0	93	0	0	0	0	0	0	0	255
Total	4	214	20	8	191	10	15	4	2	16	7	12	503

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Del/ Veh	V/ C	Future LOS	Del/ Veh	V/ C	Change in
# 1 Sunnydale Blvd/ Persia St	B	13.2	0.111	C	16.5	0.297	+ 3.356 D/V
# 2 Sunnydale Blvd/ Sawyer St	A	8.1	0.167	B	10.1	0.426	+ 0.259 V/C
# 3 Sunnydale Blvd/ Schwerin St	A	9.6	0.331	B	12.6	0.524	+ 0.193 V/C
# 4 Bayshore Blvd/ Sunnydale Ave	C	20.2	0.496	C	24.4	0.703	+ 4.141 D/V
# 5 Sunnydale Blvd/ Santos St	A	8.0	0.171	B	11.5	0.501	+ 0.331 V/C
# 6 Geneva Ave/ Brookdale St	C	21.9	0.080	C	22.0	0.086	+ 0.080 D/V
# 7 Geneva Ave/ Santos St	B	19.9	0.472	C	23.9	0.608	+ 3.985 D/V
# 8 Geneva Ave/ Calgary St	C	22.3	0.132	D	30.4	0.186	+ 8.032 D/V
# 9 Geneva Ave/ Schwerin St	B	16.6	0.541	B	15.9	0.596	-0.688 D/V
# 10 Bayshore Blvd/ Geneva Ave	C	23.2	0.486	C	24.0	0.580	+ 0.807 D/V
# 11 Bayshore Blvd/ Visitacion Ave	B	14.0	0.442	B	13.1	0.590	-0.934 D/V
# 12 Velasco Ave/ Santos St	A	7.7	0.163	A	9.3	0.349	+ 0.186 V/C

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Sunnydale Blvd/ Persia St

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: C[16.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1! 0	0	0	0	0	0 0	0	0	0	1 0	0	1	0	0 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.																
Base Vol:	31	0	8		0	0	0		0	193	38		4	308	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	31	0	8		0	0	0		0	193	38		4	308	0	
Added Vol:	48	0	0		0	0	0		0	0	71		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	79	0	8		0	0	0		0	193	109		4	308	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.61	0.61	0.61		1.00	1.00	1.00		0.89	0.89	0.89		0.85	0.85	0.85	
PHF Volume:	130	0	13		0	0	0		0	217	122		5	362	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	130	0	13		0	0	0		0	217	122		5	362	0	
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx			
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx			
Capacity Module:																
Cnflict Vol:	650	650	278	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		339	xxxx	xxxxx			
Potent Cap.:	437	391	766	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		1231	xxxx	xxxxx			
Move Cap.:	436	389	766	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		1231	xxxx	xxxxx			
Volume/Cap:	0.30	0.00	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx		0.00	xxxx	xxxx			
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		0.0	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		7.9	xxxx	xxxxx			
LOS by Move:	*	*	*	*	*	*	*	*	*		A	*	*			
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT		LT -	LTR -	RT			
Shared Cap.:	xxxx	454	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	1.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		0.0	xxxx	xxxxx			
Shrd ConDel:	xxxxx	16.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		7.9	xxxx	xxxxx			
Shared LOS:	*	C	*	*	*	*	*	*	*		A	*	*			
ApproachDel:		16.5			xxxxxx			xxxxxx				xxxxxx				
ApproachLOS:		C			*			*				*				

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Sunnydale Blvd/ Sawyer St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.426
Loss Time (sec): 0 Average Delay (sec/veh): 10.1
Optimal Cycle: 0 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1! 0	0	0	0	1! 0	0	0	0	1! 0	0	0	0	1! 0	0
Volume Module: >> Count Date: 31 Aug 2010 << 4:30 - 5:30 p.m.																
Base Vol:	11	47	8		9	46	10		8	82	5		15	65	7	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	11	47	8		9	46	10		8	82	5		15	65	7	
Added Vol:	0	0	0		0	0	0		0	83	0		0	154	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	11	47	8		9	46	10		8	165	5		15	219	7	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.72	0.72	0.72		0.81	0.81	0.81		0.72	0.72	0.72		0.75	0.75	0.75	
PHF Volume:	15	65	11		11	57	12		11	229	7		20	292	9	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	15	65	11		11	57	12		11	229	7		20	292	9	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	15	65	11		11	57	12		11	229	7		20	292	9	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.17	0.71	0.12		0.14	0.71	0.15		0.04	0.93	0.03		0.06	0.91	0.03	
Final Sat.:	104	443	75		86	439	95		33	684	21		47	686	22	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.15	0.15		0.13	0.13	0.13		0.33	0.33	0.33		0.43	0.43	0.43	
Crit Moves:	****					****				****				****		
Delay/Veh:	9.1	9.1	9.1		8.9	8.9	8.9		9.9	9.9	9.9		10.9	10.9	10.9	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	9.1	9.1	9.1		8.9	8.9	8.9		9.9	9.9	9.9		10.9	10.9	10.9	
LOS by Move:	A	A	A		A	A	A		A	A	A		B	B	B	
ApproachDel:		9.1				8.9				9.9				10.9		
Delay Adj:		1.00				1.00				1.00				1.00		
ApprAdjDel:		9.1				8.9				9.9				10.9		
LOS by Appr:		A				A				A				B		
AllWayAvgQ:	0.1	0.1	0.1		0.1	0.1	0.1		0.5	0.5	0.5		0.7	0.7	0.7	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Sunnydale Blvd/ Schwerin St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.524
Loss Time (sec): 0 Average Delay (sec/veh): 12.6
Optimal Cycle: 0 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 1	0 0	0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 - 5:45 p.m.												
Base Vol:	34	84	84	4	83	12	13	82	20	80	75	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	84	84	4	83	12	13	82	20	80	75	30
Added Vol:	0	0	0	0	0	0	0	83	0	0	154	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	84	84	4	83	12	13	165	20	80	229	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.77	0.77	0.77	0.82	0.82	0.82	0.91	0.91	0.91
PHF Volume:	40	100	100	5	108	16	16	201	24	88	252	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	100	100	5	108	16	16	201	24	88	252	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	100	100	5	108	16	16	201	24	88	252	33
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.41	0.42	0.04	0.84	0.12	0.07	0.83	0.10	0.26	0.74	0.00
Final Sat.:	102	251	251	22	460	66	41	518	63	168	480	0
Capacity Analysis Module:												
Vol/Sat:	0.40	0.40	0.40	0.23	0.23	0.23	0.39	0.39	0.39	0.52	0.52	xxxx
Crit Moves:		****			****				****		****	
Delay/Veh:	11.6	11.6	11.6	10.4	10.4	10.4	11.5	11.5	11.5	14.7	14.7	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.6	11.6	11.6	10.4	10.4	10.4	11.5	11.5	11.5	14.7	14.7	0.0
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	*
ApproachDel:	11.6			10.4			11.5			14.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.6			10.4			11.5			14.7		
LOS by Appr:	B			B			B			B		
AllWayAvgQ:	0.5	0.5	0.5	0.2	0.2	0.2	0.5	0.5	0.5	1.1	1.1	1.1

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Bayshore Blvd/ Sunnydale Ave

Cycle (sec): 110 Critical Vol./Cap.(X): 0.703
Loss Time (sec): 12 Average Delay (sec/veh): 24.4
Optimal Cycle: 61 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 to 5:45 p.m.												
Base Vol:	32	694	0	16	814	72	131	4	22	6	6	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	694	0	16	814	72	131	4	22	6	6	17
Added Vol:	0	83	0	0	154	154	83	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	777	0	16	968	226	214	4	22	6	6	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.75	0.75	0.75	0.66	0.66	0.66
PHF Volume:	34	835	0	17	1041	243	285	5	29	9	9	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	835	0	17	1041	243	285	5	29	9	9	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	835	0	17	1041	243	285	5	29	9	9	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.92	0.92	0.70	0.70	0.70	0.85	0.85	0.85
Lanes:	1.00	2.00	0.00	1.00	1.62	0.38	0.89	0.02	0.09	0.21	0.21	0.58
Final Sat.:	1805	3610	0	1805	2845	664	1182	22	121	336	336	951
Capacity Analysis Module:												
Vol/Sat:	0.02	0.23	0.00	0.01	0.37	0.37	0.24	0.24	0.24	0.03	0.03	0.03
Crit Moves:	****				****			****				
Green/Cycle:	0.05	0.46	0.00	0.09	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Volume/Cap:	0.42	0.50	0.00	0.10	0.72	0.72	0.72	0.72	0.72	0.08	0.08	0.08
Uniform Del:	51.1	20.6	0.0	45.9	20.9	20.9	32.0	32.0	32.0	24.9	24.9	24.9
IncremntDel:	3.4	0.2	0.0	0.3	1.4	1.4	5.6	5.6	5.6	0.1	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	54.5	20.8	0.0	46.2	22.3	22.3	37.5	37.5	37.5	25.0	25.0	25.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	20.8	0.0	46.2	22.3	22.3	37.5	37.5	37.5	25.0	25.0	25.0
LOS by Move:	D	C	A	D	C	C	D	D	D	C	C	C
HCM2kAvgQ:	1	10	0	1	17	17	11	11	11	1	1	1

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Sunnydale Blvd/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.501
Loss Time (sec):	0	Average Delay (sec/veh):	11.5
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	0 0	0	0	0 1	0	1	0 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:15 - 5:15 p.m.												
Base Vol:	43	0	50	0	0	0	0	60	51	47	55	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	0	50	0	0	0	0	60	51	47	55	0
Added Vol:	48	0	83	0	0	0	0	0	71	154	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	91	0	133	0	0	0	0	60	122	201	55	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	1.00	1.00	1.00	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	121	0	177	0	0	0	0	80	163	268	73	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	0	177	0	0	0	0	80	163	268	73	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	0	177	0	0	0	0	80	163	268	73	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.41	0.00	0.59	0.00	0.00	0.00	0.00	0.33	0.67	0.79	0.21	0.00
Final Sat.:	278	0	406	0	0	0	0	240	487	534	146	0
Capacity Analysis Module:												
Vol/Sat:	0.44	xxxx	0.44	xxxx	xxxx	xxxx	xxxx	0.33	0.33	0.50	0.50	xxxx
Crit Moves:			****					****			****	
Delay/Veh:	11.4	0.0	11.4	0.0	0.0	0.0	0.0	9.9	9.9	12.8	12.8	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.4	0.0	11.4	0.0	0.0	0.0	0.0	9.9	9.9	12.8	12.8	0.0
LOS by Move:	B	*	B	*	*	*	*	A	A	B	B	*
ApproachDel:	11.4			xxxxxx			9.9			12.8		
Delay Adj:	1.00			xxxxx			1.00			1.00		
ApprAdjDel:	11.4			xxxxxx			9.9			12.8		
LOS by Appr:	B			*			A			B		
AllWayAvgQ:	0.6	0.6	0.6	0.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	0.9

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Geneva Ave/ Brookdale St

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: C[22.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0 0 0	0	0	1! 0 0	1	0	2 0 0	0	0	2 0 1
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	0	0	0	5	0	31	32	847	0	0	1186	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	31	32	847	0	0	1186	26
Added Vol:	0	0	0	0	0	3	8	0	0	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	34	40	847	0	0	1189	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.90	0.90	0.90	0.85	0.85	0.85	0.97	0.97	0.97
PHF Volume:	0	0	0	6	0	38	47	996	0	0	1226	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	6	0	38	47	996	0	0	1226	27
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1818	2316	613	1253	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	71	38	440	562	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	66	35	440	562	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	0.00	0.09	0.08	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	255	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	22.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			22.0			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Geneva Ave/ Santos St

Cycle (sec):	90	Critical Vol./Cap.(X):	0.608
Loss Time (sec):	9	Average Delay (sec/veh):	23.9
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	5	5	10	5	5	4	15	15	4	5	5
Y+R:	3.5	4.6	4.6	3.5	4.6	4.6	4.0	3.5	3.5	4.0	4.0	4.0
Lanes:	0	1 0	1 0	0	0 1!	0 0	1	0 1	1 1	2	0 1	1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	9	4	22	25	13	67	40	593	92	236	934	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	4	22	25	13	67	40	593	92	236	934	48
Added Vol:	0	0	0	90	0	3	0	0	0	0	0	162
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	4	22	115	13	70	40	593	92	236	934	210
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.58	0.58	0.58	0.80	0.80	0.80	0.84	0.84	0.84	0.89	0.89	0.89
PHF Volume:	16	7	38	144	16	88	48	706	110	265	1049	236
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	7	38	144	16	88	48	706	110	265	1049	236
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	7	38	144	16	88	48	706	110	265	1049	236
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	0.85	0.85	0.93	0.93	0.93	0.95	0.93	0.93	0.92	0.92	0.92
Lanes:	0.69	0.31	1.00	0.58	0.07	0.35	1.00	2.00	1.00	2.00	1.63	0.37
Final Sat.:	1117	497	1614	1021	115	622	1805	3538	1769	3502	2865	644
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.14	0.14	0.14	0.03	0.20	0.06	0.08	0.37	0.37
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.10	0.10	0.26	0.19	0.19	0.04	0.39	0.39	0.15	0.50	0.50
Volume/Cap:	0.08	0.14	0.23	0.55	0.74	0.74	0.59	0.51	0.16	0.51	0.74	0.74
Uniform Del:	31.7	36.9	37.2	28.9	34.3	34.3	42.2	20.7	17.7	35.2	17.9	17.9
IncremntDel:	0.0	0.1	0.5	1.4	8.2	8.2	11.4	0.3	0.0	0.8	1.7	1.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	31.7	37.0	37.7	30.4	42.5	42.5	53.6	21.0	17.7	36.1	19.6	19.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.7	37.0	37.7	30.4	42.5	42.5	53.6	21.0	17.7	36.1	19.6	19.6
LOS by Move:	C	D	D	C	D	D	D	C	B	D	B	B
HCM2kAvgQ:	1	1	1	7	8	8	2	8	2	3	15	15

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Geneva Ave/ Calgary St

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: D[30.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0	0 1!	0 0	1	0 2	0 0	1	0 1	1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	0	0	0	9	0	48	72	523	0	0	954	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	9	0	48	72	523	0	0	954	30
Added Vol:	0	0	0	0	0	0	0	90	0	0	162	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	9	0	48	72	613	0	0	1116	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.79	0.79	0.79	0.93	0.93	0.93	0.84	0.84	0.84
PHF Volume:	0	0	0	11	0	61	77	659	0	0	1329	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	11	0	61	77	659	0	0	1329	36
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1831	2160	682	1364	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	69	48	397	510	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	61	41	397	510	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.19	0.00	0.15	0.15	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	13.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	213	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	30.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			30.4			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Geneva Ave/ Schwerin St

Cycle (sec):	90	Critical Vol./Cap.(X):	0.596
Loss Time (sec):	9	Average Delay (sec/veh):	15.9
Optimal Cycle:	40	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	3	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6	4.6
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1 0	1	0	1 1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	16	33	56	24	28	147	104	405	27	69	896	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	33	56	24	28	147	104	405	27	69	896	44
Added Vol:	0	0	0	0	0	0	0	90	0	0	162	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	33	56	24	28	147	104	495	27	69	1058	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
PHF Volume:	20	40	68	28	33	171	109	521	28	75	1150	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	40	68	28	33	171	109	521	28	75	1150	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	40	68	28	33	171	109	521	28	75	1150	48
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.86	0.86	0.86	0.95	0.94	0.94	0.42	0.94	0.94
Lanes:	0.15	0.31	0.54	0.12	0.14	0.74	1.00	1.90	0.10	1.00	1.92	0.08
Final Sat.:	255	525	891	197	230	1208	1805	3396	185	796	3445	143
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.14	0.14	0.14	0.06	0.15	0.15	0.09	0.33	0.33
Crit Moves:					****		****				****	
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.24	0.10	0.66	0.66	0.56	0.56	0.56
Volume/Cap:	0.32	0.32	0.32	0.60	0.60	0.60	0.60	0.23	0.23	0.17	0.60	0.60
Uniform Del:	28.3	28.3	28.3	30.5	30.5	30.5	38.6	6.1	6.1	9.6	13.0	13.0
IncremntDel:	0.5	0.5	0.5	2.5	2.5	2.5	5.2	0.1	0.1	0.2	0.5	0.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	28.8	28.8	28.8	33.0	33.0	33.0	43.8	6.1	6.1	9.8	13.5	13.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.8	33.0	33.0	33.0	43.8	6.1	6.1	9.8	13.5	13.5
LOS by Move:	C	C	C	C	C	C	D	A	A	A	B	B
HCM2kAvgQ:	3	3	3	7	7	7	3	3	3	1	11	11

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Bayshore Blvd/ Geneva Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.580
Loss Time (sec):	8	Average Delay (sec/veh):	24.0
Optimal Cycle:	36	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	6	6	6	6	6	6	6	6	6	0	0	0
Y+R:	4.0	4.6	4.6	4.0	4.6	4.0	4.6	4.6	4.6	4.0	4.0	4.0
Lanes:	2	0	2 0 0	1	0	2 0 2	2	0	0 0 2	0	0	0 0 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	541	402	0	42	291	491	303	0	238	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	541	402	0	42	291	491	303	0	238	0	0	0
Added Vol:	8	0	0	0	0	154	83	0	7	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	549	402	0	42	291	645	386	0	245	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.93	0.93	0.93	0.97	0.97	0.97	1.00	1.00	1.00
PHF Volume:	597	437	0	45	313	694	398	0	253	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	597	437	0	45	313	694	398	0	253	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	597	437	0	45	313	694	398	0	253	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.95	0.95	0.75	0.92	1.00	0.75	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	1.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	3502	3610	0	1805	3610	2842	3502	0	2842	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.12	0.00	0.03	0.09	0.24	0.11	0.00	0.09	0.00	0.00	0.00
Crit Moves:	****					****	****					
Green/Cycle:	0.29	0.46	0.00	0.25	0.42	0.42	0.20	0.00	0.20	0.00	0.00	0.00
Volume/Cap:	0.58	0.26	0.00	0.10	0.21	0.58	0.58	0.00	0.45	0.00	0.00	0.00
Uniform Del:	27.0	14.9	0.0	25.7	16.5	20.0	32.8	0.0	31.9	0.0	0.0	0.0
IncremntDel:	0.8	0.1	0.0	0.1	0.1	0.7	1.2	0.0	0.6	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	27.9	15.0	0.0	25.8	16.6	20.7	34.1	0.0	32.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.9	15.0	0.0	25.8	16.6	20.7	34.1	0.0	32.5	0.0	0.0	0.0
LOS by Move:	C	B	A	C	B	C	C	A	C	A	A	A
HCM2kAvgQ:	8	4	0	1	3	8	5	0	3	0	0	0

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Bayshore Blvd/ Visitacion Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	0.590
Loss Time (sec):	12	Average Delay (sec/veh):	13.1
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	0	1	1 0	1	0	1 1	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 - 5:45 p.m.												
Base Vol:	0	848	0	13	881	140	117	0	23	1	1	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	848	0	13	881	140	117	0	23	1	1	2
Added Vol:	0	166	0	0	307	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1014	0	13	1188	140	117	0	23	1	1	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.92	0.92	0.92	0.85	0.85	0.85	0.50	0.50	0.50
PHF Volume:	0	1152	0	14	1291	152	138	0	27	2	2	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1152	0	14	1291	152	138	0	27	2	2	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1152	0	14	1291	152	138	0	27	2	2	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	1.00	0.95	0.93	0.93	0.73	1.00	0.73	0.89	0.89	0.89
Lanes:	0.00	2.00	1.00	1.00	1.79	0.21	0.84	0.00	0.16	0.25	0.25	0.50
Final Sat.:	0	3610	1900	1805	3178	374	1155	0	227	421	421	842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.00	0.01	0.41	0.41	0.12	0.00	0.12	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.00	0.60	0.00	0.09	0.69	0.69	0.20	0.00	0.20	0.20	0.20	0.20
Volume/Cap:	0.00	0.53	0.00	0.09	0.59	0.59	0.59	0.00	0.59	0.02	0.02	0.02
Uniform Del:	0.0	12.7	0.0	46.3	9.0	9.0	39.8	0.0	39.8	35.2	35.2	35.2
IncremntDel:	0.0	0.2	0.0	0.3	0.4	0.4	3.3	0.0	3.3	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	0.0	13.0	0.0	46.6	9.3	9.3	43.1	0.0	43.1	35.2	35.2	35.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.0	0.0	46.6	9.3	9.3	43.1	0.0	43.1	35.2	35.2	35.2
LOS by Move:	A	B	A	D	A	A	D	A	D	D	D	D
HCM2kAvgQ:	0	12	0	0	14	14	6	0	6	0	0	0

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12 Velasco Ave/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.349
Loss Time (sec):	0	Average Delay (sec/veh):	9.3
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	4	52	20	8	98	10	15	4	2	16	7	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	52	20	8	98	10	15	4	2	16	7	12
Added Vol:	0	162	0	0	93	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	214	20	8	191	10	15	4	2	16	7	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.75	0.75	0.75	0.73	0.73	0.73
PHF Volume:	5	258	24	10	230	12	20	5	3	22	10	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	258	24	10	230	12	20	5	3	22	10	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	258	24	10	230	12	20	5	3	22	10	16
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.90	0.08	0.04	0.91	0.05	0.71	0.19	0.10	0.46	0.20	0.34
Final Sat.:	14	739	69	31	740	39	451	120	60	303	133	227
Capacity Analysis Module:												
Vol/Sat:	0.35	0.35	0.35	0.31	0.31	0.31	0.04	0.04	0.04	0.07	0.07	0.07
Crit Moves:		****				****		****			****	
Delay/Veh:	9.5	9.5	9.5	9.3	9.3	9.3	8.4	8.4	8.4	8.3	8.3	8.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.5	9.5	9.5	9.3	9.3	9.3	8.4	8.4	8.4	8.3	8.3	8.3
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	9.5			9.3			8.4			8.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	9.5			9.3			8.4			8.3		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.5	0.5	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

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Existing Plus Alternative I Conditions (2010)

Scenario Report

Scenario:	Existing Plus Alternative 1
Command:	Existing Plus Alternative 1
Volume:	Existing
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Alternative 1 TG
Trip Distribution:	Existing TD
Paths:	Existing Path
Routes:	Default Route
Configuration:	Default Configuration

Trip Generation Report

Forecast for Alternative 1 TG

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Inbound Trip	257.00	Alternative 1	1.00	0.00	257	0	257	61.9
	Zone 1 Subtotal					257	0	257	61.9
2	Outbound Tri	158.00	Alternative 1	0.00	1.00	0	158	158	38.1
	Zone 2 Subtotal					0	158	158	38.1
TOTAL						257	158	415	100.0

Trip Distribution Report

Percent Of Trips Existing TD

Zone	To Gates 1	2	4	5	6
1	78.0	2.0	0.0	18.0	2.0
2	73.0	3.0	0.0	21.0	3.0

Turning Movement Report
Alternative 1 TG

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Sunnydale Blvd/ Persia St													
Base	31	0	8	0	0	0	0	193	38	4	308	0	582
Added	33	0	0	0	0	0	0	0	46	0	0	0	79
Total	64	0	8	0	0	0	0	193	84	4	308	0	661
#2 Sunnydale Blvd/ Sawyer St													
Base	11	47	8	9	46	10	8	82	5	15	65	7	313
Added	0	0	0	0	0	0	0	58	0	0	100	0	158
Total	11	47	8	9	46	10	8	140	5	15	165	7	471
#3 Sunnydale Blvd/ Schwerin St													
Base	34	84	84	4	83	12	13	82	20	80	75	0	571
Added	0	0	0	0	0	0	0	58	0	0	100	0	158
Total	34	84	84	4	83	12	13	140	20	80	175	0	729
#4 Bayshore Blvd/ Sunnydale Ave													
Base	32	694	0	16	814	72	131	4	22	6	6	17	1814
Added	0	58	0	0	100	100	58	0	0	0	0	0	316
Total	32	752	0	16	914	172	189	4	22	6	6	17	2130
#5 Sunnydale Blvd/ Santos St													
Base	43	0	50	0	0	0	0	60	51	47	55	0	306
Added	33	0	58	0	0	0	0	0	46	100	0	0	237
Total	76	0	108	0	0	0	0	60	97	147	55	0	543
#6 Geneva Ave/ Brookdale St													
Base	0	0	0	5	0	31	32	847	0	0	1186	26	2127
Added	0	0	0	0	0	2	5	0	0	0	2	0	9
Total	0	0	0	5	0	33	37	847	0	0	1188	26	2136
#7 Geneva Ave/ Santos St													
Base	9	4	22	25	13	67	40	593	92	236	934	48	2083
Added	0	0	0	62	0	2	0	0	0	0	0	105	169
Total	9	4	22	87	13	69	40	593	92	236	934	153	2252
#8 Geneva Ave/ Calgary St													
Base	0	0	0	9	0	48	72	523	0	0	954	30	1636
Added	0	0	0	0	0	0	0	62	0	0	105	0	167
Total	0	0	0	9	0	48	72	585	0	0	1059	30	1803
#9 Geneva Ave/ Schwerin St													
Base	16	33	56	24	28	147	104	405	27	69	896	44	1849
Added	0	0	0	0	0	0	0	62	0	0	105	0	167
Total	16	33	56	24	28	147	104	467	27	69	1001	44	2016
#10 Bayshore Blvd/ Geneva Ave													
Base	541	402	0	42	291	491	303	0	238	0	0	0	2308
Added	5	0	0	0	0	100	58	0	5	0	0	0	168
Total	546	402	0	42	291	591	361	0	243	0	0	0	2476

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#11 Bayshore Blvd/ Visitacion Ave													
Base	0	848	0	13	881	140	117	0	23	1	1	2	2026
Added	0	115	0	0	200	0	0	0	0	0	0	0	315
Total	0	963	0	13	1081	140	117	0	23	1	1	2	2341
#12 Velasco Ave/ Santos St													
Base	4	52	20	8	98	10	15	4	2	16	7	12	248
Added	0	105	0	0	65	0	0	0	0	0	0	0	170
Total	4	157	20	8	163	10	15	4	2	16	7	12	418

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Impact Analysis Report
Level Of Service

Intersection	Base LOS	Del/ Veh	V/ C	Future LOS	Del/ Veh	V/ C	Change in
# 1 Sunnydale Blvd/ Persia St	B	13.2	0.111	C	15.3	0.236	+ 2.141 D/V
# 2 Sunnydale Blvd/ Sawyer St	A	8.1	0.167	A	9.3	0.326	+ 0.159 V/C
# 3 Sunnydale Blvd/ Schwerin St	A	9.6	0.331	B	11.3	0.428	+ 0.096 V/C
# 4 Bayshore Blvd/ Sunnydale Ave	C	20.2	0.496	C	23.0	0.635	+ 2.704 D/V
# 5 Sunnydale Blvd/ Santos St	A	8.0	0.171	A	9.9	0.378	+ 0.207 V/C
# 6 Geneva Ave/ Brookdale St	C	21.9	0.080	C	21.9	0.083	+ 0.030 D/V
# 7 Geneva Ave/ Santos St	B	19.9	0.472	C	22.6	0.563	+ 2.711 D/V
# 8 Geneva Ave/ Calgary St	C	22.3	0.132	D	27.1	0.162	+ 4.734 D/V
# 9 Geneva Ave/ Schwerin St	B	16.6	0.541	B	16.1	0.576	-0.496 D/V
# 10 Bayshore Blvd/ Geneva Ave	C	23.2	0.486	C	23.7	0.548	+ 0.536 D/V
# 11 Bayshore Blvd/ Visitacion Ave	B	14.0	0.442	B	13.5	0.554	-0.546 D/V
# 12 Velasco Ave/ Santos St	A	7.7	0.163	A	8.6	0.264	+ 0.102 V/C

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Sunnydale Blvd/ Persia St

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: C[15.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 0	0	0	0 0 0	1	0	0 1	0	0 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	31	0	8	0	0	0	0	193	38	4	308	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	0	8	0	0	0	0	193	38	4	308	0
Added Vol:	33	0	0	0	0	0	0	0	46	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	64	0	8	0	0	0	0	193	84	4	308	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.61	0.61	0.61	1.00	1.00	1.00	0.89	0.89	0.89	0.85	0.85	0.85
PHF Volume:	105	0	13	0	0	0	0	217	94	5	362	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	105	0	13	0	0	0	0	217	94	5	362	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	636	636	264	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	311	xxxx	xxxxx
Potent Cap.:	445	398	779	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1261	xxxx	xxxxx
Move Cap.:	444	397	779	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1261	xxxx	xxxxx
Volume/Cap:	0.24	0.00	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	466	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	15.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	A	*	*
ApproachDel:		15.3			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		C			*			*			*	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Sunnydale Blvd/ Sawyer St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.326
Loss Time (sec): 0 Average Delay (sec/veh): 9.3
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module: >> Count Date: 31 Aug 2010 << 4:30 - 5:30 p.m.												
Base Vol:	11	47	8	9	46	10	8	82	5	15	65	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	47	8	9	46	10	8	82	5	15	65	7
Added Vol:	0	0	0	0	0	0	0	58	0	0	100	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	47	8	9	46	10	8	140	5	15	165	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.72	0.72	0.72	0.81	0.81	0.81	0.72	0.72	0.72	0.75	0.75	0.75
PHF Volume:	15	65	11	11	57	12	11	194	7	20	220	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	65	11	11	57	12	11	194	7	20	220	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	65	11	11	57	12	11	194	7	20	220	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.71	0.12	0.12	0.14	0.71	0.15	0.05	0.92	0.03	0.08	0.88	0.04
Final Sat.:	111	473	80	92	469	102	39	691	25	61	674	29
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.12	0.12	0.12	0.28	0.28	0.28	0.33	0.33	0.33
Crit Moves:	****				****			****			****	
Delay/Veh:	8.7	8.7	8.7	8.6	8.6	8.6	9.3	9.3	9.3	9.7	9.7	9.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.7	8.7	8.7	8.6	8.6	8.6	9.3	9.3	9.3	9.7	9.7	9.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.7			8.6			9.3			9.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.7			8.6			9.3			9.7	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Sunnydale Blvd/ Schwerin St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.428
Loss Time (sec):	0	Average Delay (sec/veh):	11.3
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	1	0 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 - 5:45 p.m.												
Base Vol:	34	84	84	4	83	12	13	82	20	80	75	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	84	84	4	83	12	13	82	20	80	75	30
Added Vol:	0	0	0	0	0	0	0	58	0	0	100	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	84	84	4	83	12	13	140	20	80	175	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.77	0.77	0.77	0.82	0.82	0.82	0.91	0.91	0.91
PHF Volume:	40	100	100	5	108	16	16	171	24	88	192	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	100	100	5	108	16	16	171	24	88	192	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	100	100	5	108	16	16	171	24	88	192	33
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.41	0.42	0.04	0.84	0.12	0.07	0.81	0.12	0.31	0.69	0.00
Final Sat.:	108	266	266	24	492	71	48	517	74	206	450	0
Capacity Analysis Module:												
Vol/Sat:	0.38	0.38	0.38	0.22	0.22	0.22	0.33	0.33	0.33	0.43	0.43	xxxx
Crit Moves:	****				****			****			****	
Delay/Veh:	11.0	11.0	11.0	9.9	9.9	9.9	10.6	10.6	10.6	12.5	12.5	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.0	11.0	11.0	9.9	9.9	9.9	10.6	10.6	10.6	12.5	12.5	0.0
LOS by Move:	B	B	B	A	A	A	B	B	B	B	B	*
ApproachDel:	11.0			9.9			10.6			12.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.0			9.9			10.6			12.5		
LOS by Appr:	B			A			B			B		
AllWayAvgQ:	0.5	0.5	0.5	0.2	0.2	0.2	0.4	0.4	0.4	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Bayshore Blvd/ Sunnydale Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	0.635
Loss Time (sec):	12	Average Delay (sec/veh):	23.0
Optimal Cycle:	53	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	1	0	1 1 0	1	0	1 1 0	0	0	1! 0 0	0	0	1! 0 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 to 5:45 p.m.												
Base Vol:	32	694	0	16	814	72	131	4	22	6	6	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	694	0	16	814	72	131	4	22	6	6	17
Added Vol:	0	58	0	0	100	100	58	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	752	0	16	914	172	189	4	22	6	6	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.75	0.75	0.75	0.66	0.66	0.66
PHF Volume:	34	809	0	17	983	185	252	5	29	9	9	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	809	0	17	983	185	252	5	29	9	9	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	809	0	17	983	185	252	5	29	9	9	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.93	0.93	0.70	0.70	0.70	0.86	0.86	0.86
Lanes:	1.00	2.00	0.00	1.00	1.68	0.32	0.88	0.02	0.10	0.21	0.21	0.58
Final Sat.:	1805	3610	0	1805	2965	558	1169	25	136	337	337	956
Capacity Analysis Module:												
Vol/Sat:	0.02	0.22	0.00	0.01	0.33	0.33	0.22	0.22	0.22	0.03	0.03	0.03
Crit Moves:	****				****			****				
Green/Cycle:	0.05	0.46	0.00	0.09	0.51	0.51	0.33	0.33	0.33	0.33	0.33	0.33
Volume/Cap:	0.42	0.48	0.00	0.10	0.65	0.65	0.65	0.65	0.65	0.08	0.08	0.08
Uniform Del:	51.1	20.4	0.0	45.6	19.6	19.6	31.2	31.2	31.2	25.1	25.1	25.1
IncremntDel:	3.4	0.2	0.0	0.3	0.8	0.8	3.3	3.3	3.3	0.1	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	54.5	20.6	0.0	45.8	20.4	20.4	34.5	34.5	34.5	25.2	25.2	25.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	20.6	0.0	45.8	20.4	20.4	34.5	34.5	34.5	25.2	25.2	25.2
LOS by Move:	D	C	A	D	C	C	C	C	C	C	C	C
HCM2kAvgQ:	1	10	0	1	15	15	9	9	9	1	1	1

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Sunnydale Blvd/ Santos St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.378
Loss Time (sec): 0 Average Delay (sec/veh): 9.9
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	0 0	0	0	1 0	0	1	0 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:15 - 5:15 p.m.												
Base Vol:	43	0	50	0	0	0	0	60	51	47	55	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	0	50	0	0	0	0	60	51	47	55	0
Added Vol:	33	0	58	0	0	0	0	0	46	100	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	0	108	0	0	0	0	60	97	147	55	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	1.00	1.00	1.00	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	101	0	144	0	0	0	0	80	129	196	73	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	0	144	0	0	0	0	80	129	196	73	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	0	144	0	0	0	0	80	129	196	73	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.41	0.00	0.59	0.00	0.00	0.00	0.00	0.38	0.62	0.73	0.27	0.00
Final Sat.:	299	0	425	0	0	0	0	295	478	519	194	0
Capacity Analysis Module:												
Vol/Sat:	0.34	xxxx	0.34	xxxx	xxxx	xxxx	xxxx	0.27	0.27	0.38	0.38	xxxx
Crit Moves:	****							****			****	
Delay/Veh:	9.9	0.0	9.9	0.0	0.0	0.0	0.0	9.0	9.0	10.6	10.6	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.9	0.0	9.9	0.0	0.0	0.0	0.0	9.0	9.0	10.6	10.6	0.0
LOS by Move:	A	*	A	*	*	*	*	A	A	B	B	*
ApproachDel:	9.9			xxxxxx			9.0			10.6		
Delay Adj:	1.00			xxxxx			1.00			1.00		
ApprAdjDel:	9.9			xxxxxx			9.0			10.6		
LOS by Appr:	A			*			A			B		
AllWayAvgQ:	0.4	0.4	0.4	0.0	0.0	0.0	0.3	0.3	0.3	0.5	0.5	0.5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Geneva Ave/ Brookdale St

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: C[21.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0 0 0	0	0	1! 0 0	1	0	2 0 0	0	0	2 0 1
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	0	0	0	5	0	31	32	847	0	0	1186	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	31	32	847	0	0	1186	26
Added Vol:	0	0	0	0	0	2	5	0	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	33	37	847	0	0	1188	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.90	0.90	0.90	0.85	0.85	0.85	0.97	0.97	0.97
PHF Volume:	0	0	0	6	0	37	44	996	0	0	1225	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	6	0	37	44	996	0	0	1225	27
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1810	2308	612	1252	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	72	39	441	563	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	67	36	441	563	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	0.00	0.08	0.08	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	255	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	21.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			21.9			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Geneva Ave/ Santos St

Cycle (sec):	90	Critical Vol./Cap.(X):	0.563
Loss Time (sec):	9	Average Delay (sec/veh):	22.6
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	5	5	10	5	5	4	15	15	4	5	5
Y+R:	3.5	4.6	4.6	3.5	4.6	4.6	4.0	3.5	3.5	4.0	4.0	4.0
Lanes:	0	1	0 1 0	0	0	1! 0 0	1	0	1 1 1	2	0	1 1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	9	4	22	25	13	67	40	593	92	236	934	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	4	22	25	13	67	40	593	92	236	934	48
Added Vol:	0	0	0	62	0	2	0	0	0	0	0	105
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	4	22	87	13	69	40	593	92	236	934	153
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.58	0.58	0.58	0.80	0.80	0.80	0.84	0.84	0.84	0.89	0.89	0.89
PHF Volume:	16	7	38	109	16	86	48	706	110	265	1049	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	7	38	109	16	86	48	706	110	265	1049	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	7	38	109	16	86	48	706	110	265	1049	172
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	0.85	0.85	0.92	0.92	0.92	0.95	0.93	0.93	0.92	0.93	0.93
Lanes:	0.69	0.31	1.00	0.51	0.08	0.41	1.00	2.00	1.00	2.00	1.72	0.28
Final Sat.:	1117	497	1614	901	135	715	1805	3538	1769	3502	3037	497
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.12	0.12	0.12	0.03	0.20	0.06	0.08	0.35	0.35
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.11	0.11	0.24	0.18	0.18	0.04	0.40	0.40	0.15	0.51	0.51
Volume/Cap:	0.08	0.13	0.22	0.51	0.68	0.68	0.59	0.50	0.15	0.50	0.68	0.68
Uniform Del:	31.7	36.2	36.6	29.9	34.6	34.6	42.2	20.1	17.1	35.0	16.5	16.5
IncremntDel:	0.0	0.1	0.4	1.1	5.8	5.8	11.4	0.2	0.0	0.7	1.0	1.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	31.7	36.4	37.0	30.9	40.4	40.4	53.6	20.3	17.1	35.7	17.5	17.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.7	36.4	37.0	30.9	40.4	40.4	53.6	20.3	17.1	35.7	17.5	17.5
LOS by Move:	C	D	D	C	D	D	D	C	B	D	B	B
HCM2kAvgQ:	1	1	1	6	7	7	2	8	2	3	13	13

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Geneva Ave/ Calgary St

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: D[27.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0	0	1! 0 0	1	0	2 0 0	1	0	1 1 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	0	0	0	9	0	48	72	523	0	0	954	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	9	0	48	72	523	0	0	954	30
Added Vol:	0	0	0	0	0	0	0	62	0	0	105	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	9	0	48	72	585	0	0	1059	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.79	0.79	0.79	0.93	0.93	0.93	0.84	0.84	0.84
PHF Volume:	0	0	0	11	0	61	77	629	0	0	1261	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	11	0	61	77	629	0	0	1261	36
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1748	2062	648	1296	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	79	55	418	541	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	70	47	418	541	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.16	0.00	0.15	0.14	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	12.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	234	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	27.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			27.1			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Geneva Ave/ Schwerin St

Cycle (sec):	90	Critical Vol./Cap.(X):	0.576
Loss Time (sec):	9	Average Delay (sec/veh):	16.1
Optimal Cycle:	39	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	3	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6	4.6
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1	1	0	
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	16	33	56	24	28	147	104	405	27	69	896	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	33	56	24	28	147	104	405	27	69	896	44
Added Vol:	0	0	0	0	0	0	0	62	0	0	105	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	33	56	24	28	147	104	467	27	69	1001	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.86	0.86	0.86	0.95	0.95	0.95	0.92	0.92	0.92
PHF Volume:	20	40	68	28	33	171	109	492	28	75	1088	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	40	68	28	33	171	109	492	28	75	1088	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	40	68	28	33	171	109	492	28	75	1088	48
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.86	0.86	0.86	0.95	0.94	0.94	0.43	0.94	0.94
Lanes:	0.15	0.31	0.54	0.12	0.14	0.74	1.00	1.89	0.11	1.00	1.92	0.08
Final Sat.:	255	525	891	197	230	1208	1805	3385	196	821	3437	151
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.14	0.14	0.14	0.06	0.15	0.15	0.09	0.32	0.32
Crit Moves:					****		****				****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.11	0.65	0.65	0.55	0.55	0.55
Volume/Cap:	0.31	0.31	0.31	0.58	0.58	0.58	0.58	0.22	0.22	0.17	0.58	0.58
Uniform Del:	27.7	27.7	27.7	29.8	29.8	29.8	38.3	6.3	6.3	10.1	13.4	13.4
IncremntDel:	0.4	0.4	0.4	2.1	2.1	2.1	4.3	0.0	0.0	0.2	0.4	0.4
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	28.2	28.2	28.2	31.9	31.9	31.9	42.6	6.3	6.3	10.2	13.8	13.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.2	28.2	28.2	31.9	31.9	31.9	42.6	6.3	6.3	10.2	13.8	13.8
LOS by Move:	C	C	C	C	C	C	D	A	A	B	B	B
HCM2kAvgQ:	3	3	3	6	6	6	3	3	3	1	11	11

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Bayshore Blvd/ Geneva Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.548
Loss Time (sec):	8	Average Delay (sec/veh):	23.7
Optimal Cycle:	34	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	6	6	6	6	6	6	6	6	6	0	0	0
Y+R:	4.0	4.6	4.6	4.0	4.6	4.0	4.6	4.6	4.6	4.0	4.0	4.0
Lanes:	2	0	2	0	0	1	0	2	0	2	2	0	0	0	2	0	0	0	0	0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	541	402	0	42	291	491	303	0	238	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	541	402	0	42	291	491	303	0	238	0	0	0
Added Vol:	5	0	0	0	0	100	58	0	5	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	546	402	0	42	291	591	361	0	243	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.93	0.93	0.93	0.97	0.97	0.97	1.00	1.00	1.00
PHF Volume:	593	437	0	45	313	635	372	0	251	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	593	437	0	45	313	635	372	0	251	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	593	437	0	45	313	635	372	0	251	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.95	0.95	0.75	0.92	1.00	0.75	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	1.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	3502	3610	0	1805	3610	2842	3502	0	2842	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.12	0.00	0.03	0.09	0.22	0.11	0.00	0.09	0.00	0.00	0.00
Crit Moves:	****					****	****					
Green/Cycle:	0.31	0.46	0.00	0.25	0.41	0.41	0.19	0.00	0.19	0.00	0.00	0.00
Volume/Cap:	0.55	0.26	0.00	0.10	0.21	0.55	0.55	0.00	0.45	0.00	0.00	0.00
Uniform Del:	25.9	14.8	0.0	25.6	17.3	20.3	32.7	0.0	32.1	0.0	0.0	0.0
IncremntDel:	0.6	0.1	0.0	0.1	0.1	0.6	0.9	0.0	0.6	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	26.4	14.9	0.0	25.7	17.3	20.9	33.7	0.0	32.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	14.9	0.0	25.7	17.3	20.9	33.7	0.0	32.7	0.0	0.0	0.0
LOS by Move:	C	B	A	C	B	C	C	A	C	A	A	A
HCM2kAvgQ:	8	4	0	1	3	7	5	0	3	0	0	0

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Bayshore Blvd/ Visitacion Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	0.554
Loss Time (sec):	12	Average Delay (sec/veh):	13.5
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	0	1	1 0	1	0	1 1	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 31 Aug 2010 << 4:45 - 5:45 p.m.												
Base Vol:	0	848	0	13	881	140	117	0	23	1	1	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	848	0	13	881	140	117	0	23	1	1	2
Added Vol:	0	115	0	0	200	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	963	0	13	1081	140	117	0	23	1	1	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.92	0.92	0.92	0.85	0.85	0.85	0.50	0.50	0.50
PHF Volume:	0	1094	0	14	1175	152	138	0	27	2	2	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1094	0	14	1175	152	138	0	27	2	2	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1094	0	14	1175	152	138	0	27	2	2	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	1.00	0.95	0.93	0.93	0.73	1.00	0.73	0.89	0.89	0.89
Lanes:	0.00	2.00	1.00	1.00	1.77	0.23	0.84	0.00	0.16	0.25	0.25	0.50
Final Sat.:	0	3610	1900	1805	3142	407	1155	0	227	422	422	844
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.00	0.01	0.37	0.37	0.12	0.00	0.12	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.00	0.59	0.00	0.09	0.68	0.68	0.22	0.00	0.22	0.22	0.22	0.22
Volume/Cap:	0.00	0.52	0.00	0.09	0.55	0.55	0.55	0.00	0.55	0.02	0.02	0.02
Uniform Del:	0.0	13.4	0.0	46.1	9.2	9.2	38.5	0.0	38.5	34.0	34.0	34.0
IncremntDel:	0.0	0.2	0.0	0.2	0.3	0.3	2.3	0.0	2.3	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	0.0	13.6	0.0	46.3	9.5	9.5	40.7	0.0	40.7	34.1	34.1	34.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.6	0.0	46.3	9.5	9.5	40.7	0.0	40.7	34.1	34.1	34.1
LOS by Move:	A	B	A	D	A	A	D	A	D	C	C	C
HCM2kAvgQ:	0	11	0	0	12	12	6	0	6	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12 Velasco Ave/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.264
Loss Time (sec):	0	Average Delay (sec/veh):	8.6
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 31 Aug 2010 << 5:00 - 6:00 p.m.												
Base Vol:	4	52	20	8	98	10	15	4	2	16	7	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	52	20	8	98	10	15	4	2	16	7	12
Added Vol:	0	105	0	0	65	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	157	20	8	163	10	15	4	2	16	7	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.75	0.75	0.75	0.73	0.73	0.73
PHF Volume:	5	189	24	10	196	12	20	5	3	22	10	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	189	24	10	196	12	20	5	3	22	10	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	189	24	10	196	12	20	5	3	22	10	16
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.87	0.11	0.04	0.90	0.06	0.71	0.19	0.10	0.46	0.20	0.34
Final Sat.:	18	722	92	36	743	46	478	128	64	321	141	241
Capacity Analysis Module:												
Vol/Sat:	0.26	0.26	0.26	0.26	0.26	0.26	0.04	0.04	0.04	0.07	0.07	0.07
Crit Moves:		****			****				****		****	
Delay/Veh:	8.7	8.7	8.7	8.8	8.8	8.8	8.2	8.2	8.2	8.0	8.0	8.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.7	8.7	8.7	8.8	8.8	8.8	8.2	8.2	8.2	8.0	8.0	8.0
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	8.7			8.8			8.2			8.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.7			8.8			8.2			8.0		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

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Future Cumulative Conditions (2030)

Scenario Report

Scenario:	Cumulative
Command:	Future
Volume:	Future
Geometry:	Geneva Extension
Impact Fee:	Default Impact Fee
Trip Generation:	None
Trip Distribution:	Future TD
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Trip Distribution Report

Percent Of Trips Future TD

	To Gates				
Zone	1	2	4	5	6
1	42.0	2.0	38.0	18.0	0.0
2	41.0	3.0	36.0	20.0	0.0

Turning Movement Report
None

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Sunnydale Blvd/ Persia St													
Base	138	0	35	0	0	0	0	241	182	6	314	0	915
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	138	0	35	0	0	0	0	241	182	6	314	0	915
#2 Sunnydale Blvd/ Sawyer St													
Base	51	47	12	21	144	22	8	120	63	99	142	14	744
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	51	47	12	21	144	22	8	120	63	99	142	14	744
#3 Sunnydale Blvd/ Schwerin St													
Base	111	102	160	24	254	22	16	123	31	170	155	38	1207
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	111	102	160	24	254	22	16	123	31	170	155	38	1207
#4 Bayshore Blvd/ Sunnydale Ave													
Base	185	1603	0	326	1140	110	215	14	65	36	16	197	3907
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth	0	0	60	0	0	0	0	0	0	0	0	0	60
Total	185	1603	60	326	1140	110	215	14	65	36	16	197	3967
#5 Sunnydale Blvd/ Santos St													
Base	98	0	106	0	0	0	0	101	173	99	133	0	709
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	98	0	106	0	0	0	0	101	173	99	133	0	709
#6 Geneva Ave/ Brookdale St													
Base	0	0	0	6	0	38	36	2566	0	0	3973	31	6651
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	6	0	38	36	2566	0	0	3973	31	6651
#7 Geneva Ave/ Santos St													
Base	76	9	269	49	21	135	42	2141	264	361	3596	51	7013
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	76	9	269	49	21	135	42	2141	264	361	3596	51	7013
#8 Geneva Ave/ Calgary St													
Base	0	0	0	40	0	209	74	2338	0	0	3578	33	6271
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	40	0	209	74	2338	0	0	3578	33	6271
#9 Geneva Ave/ Schwerin St													
Base	19	40	67	74	43	417	381	1968	34	94	3252	156	6547
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	19	40	67	74	43	417	381	1968	34	94	3252	156	6547

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#10 Bayshore Blvd/ Geneva Ave													
Base	1082	402	0	42	291	894	891	0	364	0	0	0	3966
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Geneva	0	0	640	293	0	0	0	910	0	550	1550	550	4493
Total	1082	402	640	335	291	894	891	910	364	550	1550	550	8459
#11 Bayshore Blvd/ Visitacion Ave													
Base	0	1993	0	309	2150	179	153	0	59	41	11	202	5097
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1993	0	309	2150	179	153	0	59	41	11	202	5097
#12 Velasco Ave/ Santos St													
Base	5	59	20	73	208	21	30	4	4	20	55	109	608
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	59	20	73	208	21	30	4	4	20	55	109	608

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Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Sunnydale Blvd/ Persia St	C	17.6	0.332	C	17.6	0.332	+ 0.000 D/V
# 2 Sunnydale Blvd/ Sawyer St	B	10.0	0.377	B	10.0	0.377	+ 0.000 V/C
# 3 Sunnydale Blvd/ Schwerin St	C	17.9	0.687	C	17.9	0.687	+ 0.000 V/C
# 4 Bayshore Blvd/ Sunnydale Ave	E	64.6	1.077	E	69.7	1.101	+ 5.089 D/V
# 5 Sunnydale Blvd/ Santos St	A	9.7	0.347	A	9.7	0.347	+ 0.000 V/C
# 6 Geneva Ave/ Brookdale St	F	OVRFL	XXXXX	F	OVRFL	XXXXX	+ 0.000 D/V
# 7 Geneva Ave/ Santos St	F	244.8	1.502	F	244.8	1.502	+ 0.000 D/V
# 8 Geneva Ave/ Calgary St	F	OVRFL	3.219	F	OVRFL	3.219	+ 0.000 D/V
# 9 Geneva Ave/ Schwerin St	F	246.7	1.700	F	246.7	1.700	+ 0.000 D/V
# 10 Bayshore Blvd/ Geneva Ave	F	86.0	1.140	F	215.3	1.578	+129.359 D/V
# 11 Bayshore Blvd/ Visitacion Ave	E	71.8	1.126	E	71.8	1.126	+ 0.000 D/V
# 12 Velasco Ave/ Santos St	A	9.5	0.400	A	9.5	0.400	+ 0.000 V/C

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Sunnydale Blvd/ Persia St

Average Delay (sec/veh): 3.4 Worst Case Level Of Service: C[17.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0 1! 0	0		0	0 0 0 0	0		0	0 0 1	0		0	1 0	0	0
Volume Module:																
Base Vol:	31	0	8		0	0	0		0	193	38		4	308	0	
Growth Adj:	4.44	1.00	4.33		1.00	1.00	1.00		1.00	1.25	4.78		1.44	1.02	1.00	
Initial Bse:	138	0	35		0	0	0		0	241	182		6	314	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	138	0	35		0	0	0		0	241	182		6	314	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.98	0.98	0.98		0.98	0.98	0.98		0.98	0.98	0.98		0.98	0.98	0.98	
PHF Volume:	140	0	35		0	0	0		0	246	185		6	321	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	140	0	35		0	0	0		0	246	185		6	321	0	
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx	
FollowUpTim:	3.5	4.0	3.3		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	671	671	339		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		432	xxxx	xxxxx	
Potent Cap.:	425	380	708		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1139	xxxx	xxxxx	
Move Cap.:	423	378	708		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1139	xxxx	xxxxx	
Volume/Cap:	0.33	0.00	0.05		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx		0.01	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.0	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		8.2	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*		*	*	*		A	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	460	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	1.8	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		0.0	xxxx	xxxxx	
Shrd ConDel:	xxxxx	17.6	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		8.2	xxxx	xxxxx	
Shared LOS:	*	C	*		*	*	*		*	*	*		A	*	*	
ApproachDel:		17.6			xxxxxx				xxxxxx				xxxxxx			
ApproachLOS:		C			*				*				*			

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Sunnydale Blvd/ Sawyer St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.377
Loss Time (sec):	0	Average Delay (sec/veh):	10.0
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	11	47	8	9	46	10	8	82	5	15	65	7
Growth Adj:	4.67	1.00	1.56	2.37	3.14	2.23	1.00	1.46	12.54	6.59	2.19	1.96
Initial Bse:	51	47	12	21	144	22	8	120	63	99	142	14
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	47	12	21	144	22	8	120	63	99	142	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	52	48	13	22	147	23	8	122	64	101	145	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	48	13	22	147	23	8	122	64	101	145	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	52	48	13	22	147	23	8	122	64	101	145	14
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.47	0.42	0.11	0.11	0.77	0.12	0.04	0.63	0.33	0.39	0.56	0.05
Final Sat.:	289	265	70	75	505	78	29	440	231	268	385	37
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.29	0.29	0.29	0.28	0.28	0.28	0.38	0.38	0.38
Crit Moves:		****			****			****				****
Delay/Veh:	9.3	9.3	9.3	10.0	10.0	10.0	9.5	9.5	9.5	10.7	10.7	10.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.3	9.3	9.3	10.0	10.0	10.0	9.5	9.5	9.5	10.7	10.7	10.7
LOS by Move:	A	A	A	B	B	B	A	A	A	B	B	B
ApproachDel:		9.3			10.0			9.5			10.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.3			10.0			9.5			10.7	
LOS by Appr:		A			B			A			B	
AllWayAvgQ:	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Sunnydale Blvd/ Schwerin St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.687
Loss Time (sec):	0	Average Delay (sec/veh):	17.9
Optimal Cycle:	0	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	34	84	84	4	83	12	13	82	20	80	75	8
Growth Adj:	3.27	1.22	1.90	6.02	3.06	1.84	1.21	1.50	1.55	2.13	2.07	4.78
Initial Bse:	111	102	160	24	254	22	16	123	31	170	155	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	111	102	160	24	254	22	16	123	31	170	155	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	113	105	163	25	259	23	16	126	32	174	158	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	105	163	25	259	23	16	126	32	174	158	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	105	163	25	259	23	16	126	32	174	158	39
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.30	0.27	0.43	0.08	0.85	0.07	0.09	0.73	0.18	0.47	0.43	0.10
Final Sat.:	169	156	242	43	449	39	43	337	85	253	231	57
Capacity Analysis Module:												
Vol/Sat:	0.67	0.67	0.67	0.58	0.58	0.58	0.37	0.37	0.37	0.69	0.69	0.69
Crit Moves:	****			****			****				****	
Delay/Veh:	19.0	19.0	19.0	16.4	16.4	16.4	12.8	12.8	12.8	20.3	20.3	20.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.0	19.0	19.0	16.4	16.4	16.4	12.8	12.8	12.8	20.3	20.3	20.3
LOS by Move:	C	C	C	C	C	C	B	B	B	C	C	C
ApproachDel:		19.0			16.4			12.8			20.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		19.0			16.4			12.8			20.3	
LOS by Appr:		C			C			B			C	
AllWayAvgQ:	1.6	1.6	1.6	1.0	1.0	1.0	0.4	0.4	0.4	1.7	1.7	1.7

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Bayshore Blvd/ Sunnydale Ave

Cycle (sec): 110 Critical Vol./Cap.(X): 1.101
Loss Time (sec): 12 Average Delay (sec/veh): 69.7
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	1	0 1	1	0	1	0 1	1	0	0 1!	0 0	0	0 1! 0 0
Volume Module:												
Base Vol:	32	694	0	16	814	72	131	4	22	6	6	17
Growth Adj:	5.78	2.31	1.00	xxxx	1.40	1.53	1.64	3.50	2.96	6.00	2.67	11.59
Initial Bse:	185	1603	0	326	1140	110	215	14	65	36	16	197
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth:	0	0	60	0	0	0	0	0	0	0	0	0
Initial Fut:	185	1603	60	326	1140	110	215	14	65	36	16	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	189	1636	61	333	1163	112	219	14	66	37	16	201
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	1636	61	333	1163	112	219	14	66	37	16	201
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	1636	61	333	1163	112	219	14	66	37	16	201
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.49	0.49	0.49	0.83	0.83	0.83
Lanes:	1.00	1.93	0.07	1.00	1.82	0.18	0.73	0.05	0.22	0.14	0.06	0.80
Final Sat.:	1805	3462	130	1805	3249	314	676	44	205	227	101	1244
Capacity Analysis Module:												
Vol/Sat:	0.10	0.47	0.47	0.18	0.36	0.36	0.32	0.32	0.32	0.16	0.16	0.16
Crit Moves:		****		****				****				
Green/Cycle:	0.13	0.43	0.43	0.17	0.46	0.46	0.29	0.29	0.29	0.29	0.29	0.29
Volume/Cap:	0.78	1.10	1.10	1.10	0.78	0.78	1.10	1.10	1.10	0.55	0.55	0.55
Uniform Del:	46.0	31.4	31.4	45.8	24.8	24.8	38.8	38.8	38.8	32.7	32.7	32.7
IncremntDel:	14.4	55.9	55.9	81.7	2.4	2.4	84.3	84.3	84.3	1.4	1.4	1.4
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	60.4	87.3	87.3	127.5	27.2	27.2	123.1	123	123.1	34.1	34.1	34.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.4	87.3	87.3	127.5	27.2	27.2	123.1	123	123.1	34.1	34.1	34.1
LOS by Move:	E	F	F	F	C	C	F	F	F	C	C	C
HCM2kAvgQ:	6	41	41	14	17	17	17	17	17	8	8	8

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Sunnydale Blvd/ Santos St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.347
Loss Time (sec): 0 Average Delay (sec/veh): 9.7
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0	0 0	0 0	0	0	0 1	0	0 1	0 0 0
Volume Module:												
Base Vol:	43	0	50	0	0	0	0	60	51	47	55	0
Growth Adj:	2.29	1.00	2.11	1.00	1.00	1.00	1.00	1.68	3.39	2.10	2.42	1.00
Initial Bse:	98	0	106	0	0	0	0	101	173	99	133	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	0	106	0	0	0	0	101	173	99	133	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	100	0	108	0	0	0	0	103	176	101	136	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	0	108	0	0	0	0	103	176	101	136	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	0	108	0	0	0	0	103	176	101	136	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.48	0.00	0.52	0.00	0.00	0.00	0.00	0.37	0.63	0.43	0.57	0.00
Final Sat.:	340	0	364	0	0	0	0	297	509	309	416	0
Capacity Analysis Module:												
Vol/Sat:	0.30	xxxx	0.30	xxxx	xxxx	xxxx	xxxx	0.35	0.35	0.33	0.33	xxxx
Crit Moves:	****							****			****	
Delay/Veh:	9.6	0.0	9.6	0.0	0.0	0.0	0.0	9.5	9.5	10.0	10.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.6	0.0	9.6	0.0	0.0	0.0	0.0	9.5	9.5	10.0	10.0	0.0
LOS by Move:	A	*	A	*	*	*	*	A	A	A	A	*
ApproachDel:	9.6			xxxxxx			9.5			10.0		
Delay Adj:	1.00			xxxxx			1.00			1.00		
ApprAdjDel:	9.6			xxxxxx			9.5			10.0		
LOS by Appr:	A			*			A			A		
AllWayAvgQ:	0.4	0.4	0.4	0.0	0.0	0.0	0.5	0.5	0.5	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Geneva Ave/ Brookdale St

Average Delay (sec/veh): 477.7 Worst Case Level Of Service: F[71550.5]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	0	0		0	0	1!	0	0		1	0	2	0	0		0	0	2	0	1	
Volume Module:																								
Base Vol:	0	0	0		5	0	31		32	847	0		0	1186	26									
Growth Adj:	1.00	1.00	1.00		1.23	1.00	1.23		1.11	3.03	1.00		1.00	3.35	1.21									
Initial Bse:	0	0	0		6	0	38		36	2566	0		0	3973	31									
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0									
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0									
Initial Fut:	0	0	0		6	0	38		36	2566	0		0	3973	31									
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00									
PHF Adj:	0.98	0.98	0.98		0.98	0.98	0.98		0.98	0.98	0.98		0.98	0.98	0.98									
PHF Volume:	0	0	0		6	0	39		36	2619	0		0	4054	32									
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0									
FinalVolume:	0	0	0		6	0	39		36	2619	0		0	4054	32									
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx		6.8	6.5	6.9		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	4.0	3.3		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx		5436	6745	2027		4086	xxxx	xxxxx		xxxx	xxxx	xxxxx									
Potent Cap.:	xxxx	xxxx	xxxxx		0	0	49		42	xxxx	xxxxx		xxxx	xxxx	xxxxx									
Move Cap.:	xxxx	xxxx	xxxxx		0	0	49		42	xxxx	xxxxx		xxxx	xxxx	xxxxx									
Volume/Cap:	xxxx	xxxx	xxxx		xxxx	0.00	0.79		0.85	xxxx	xxxx		xxxx	xxxx	xxxx									
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		3.3	xxxx	xxxxx		xxxx	xxxx	xxxxx									
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		240.8	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
LOS by Move:	*	*	*		*	*	*		F	*	*		*	*	*									
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	0	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx									
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	7.8	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
Shared LOS:	*	*	*		*	F	*		*	*	*		*	*	*									
ApproachDel:	xxxxxx				xxxxxx		xxxxxx						xxxxxx											
ApproachLOS:	*				F		*						*											

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Geneva Ave/ Santos St

Cycle (sec):	90	Critical Vol./Cap.(X):	1.502	
Loss Time (sec):	9	Average Delay (sec/veh):	244.8	
Optimal Cycle:	180	Level Of Service:	F	

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	15		5		5		10		5		5		4		15		15		4		5		5	
Y+R:	3.5		4.6		4.6		3.5		4.6		4.6		4.0		3.5		3.5		4.0		4.0		4.0	
Lanes:	0	1	0	1	0		0	0	1!	0	0		1	0	1	1	1		2	0	1	1	0	
Volume Module:																								
Base Vol:	9		4		22		25		13		67		40	593		92			236	934		48		
Growth Adj:	8.43		2.29		12.22		1.96		1.61		2.01		1.04	3.61		2.87			1.53	3.85		1.06		
Initial Bse:	76		9		269		49		21		135		42	2141		264			361	3596		51		
Added Vol:	0		0		0		0		0		0		0	0		0			0	0		0		
PasserByVol:	0		0		0		0		0		0		0	0		0			0	0		0		
Initial Fut:	76		9		269		49		21		135		42	2141		264			361	3596		51		
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00		
PHF Adj:	0.98		0.98		0.98		0.98		0.98		0.98		0.98	xxxx		0.98			0.98	0.98		0.98		
PHF Volume:	77		9		274		50		21		137		42	199		269			368	3669		52		
Reduct Vol:	0		0		0		0		0		0		0	0		0			0	0		0		
Reduced Vol:	77		9		274		50		21		137		42	199		269			368	3669		52		
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00		
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00		
FinalVolume:	77		9		274		50		21		137		42	199		269			368	3669		52		
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900	1900		1900			1900	1900		1900		
Adjustment:	0.83		0.83		0.83		0.90		0.90		0.90		0.95	0.87		0.87			0.92	0.95		0.95		
Lanes:	0.89		0.11		1.00		0.24		0.10		0.66		1.00	1.27		1.73			2.00	1.97		0.03		
Final Sat.:	1411		170		1582		410		175		1126		1805	2100		2849			3502	3553		50		
Capacity Analysis Module:																								
Vol/Sat:	0.05		0.05		0.17		0.12		0.12		0.12		0.02	0.09		0.09			0.11	1.03		1.03		
Crit Moves:							****		****				****							****				
Green/Cycle:	0.13		0.11		0.11		0.11		0.09		0.09		0.04	0.42		0.42			0.26	0.64		0.64		
Volume/Cap:	0.44		0.51		1.62		1.10		1.32		1.32		0.53	0.23		0.23			0.40	1.62		1.62		
Uniform Del:	36.4		38.0		40.2		40.0		40.8		40.8		42.1	16.8		16.8			27.3	16.3		16.3		
IncremntDel:	0.4		0.6		298.9		94.2		183		182.8		6.5	0.1		0.1			0.3	281		281.2		
InitQueuDel:	0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0		0.0			0.0	0.0		0.0		
Delay Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00		
Delay/Veh:	36.7		38.6		339.1		134.2		224		223.7		48.6	16.9		16.9			27.5	298		297.5		
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00		
AdjDel/Veh:	36.7		38.6		339.1		134.2		224		223.7		48.6	16.9		16.9			27.5	298		297.5		
LOS by Move:	D		D		F		F		F		F		D	B		B			C	F		F		
HCM2kAvgQ:	3		3		23		12		14		14		2	3		3			4	143		143		

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Geneva Ave/ Calgary St

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	0	0		0	0	1!	0	0		1	0	1	1	0		1	0	1	1	0	
Volume Module:																								
Base Vol:	0	0	0				9	0	48				72	523	0				0	954	30			
Growth Adj:	1.00	1.00	1.00				4.40	1.00	4.35				1.03	4.47	1.00				1.00	3.75	1.09			
Initial Bse:	0	0	0				40	0	209				74	2338	0				0	3578	33			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	0	0	0				40	0	209				74	2338	0				0	3578	33			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.98	0.98	0.98				0.98	0.98	0.98				0.98	0.98	0.98				0.98	0.98	0.98			
PHF Volume:	0	0	0				40	0	213				76	2386	0				0	3651	33			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
FinalVolume:	0	0	0				40	0	213				76	2386	0				0	3651	33			
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx				6.8	6.5	6.9				4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
FollowUpTim:	xxxxx	xxxx	xxxxx				3.5	4.0	3.3				2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx				5011	6204	1842				3684	xxxx	xxxxx		xxxx	xxxx	xxxxx					
Potent Cap.:	xxxx	xxxx	xxxxx				0	0	66				62	xxxx	xxxxx		xxxx	xxxx	xxxxx					
Move Cap.:	xxxx	xxxx	xxxxx				0	0	66				62	xxxx	xxxxx		xxxx	xxxx	xxxxx					
Volume/Cap:	xxxx	xxxx	xxxx				xxxx	xxxx	3.22				1.22	xxxx	xxxx		xxxx	xxxx	xxxx					
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				6.2	xxxx	xxxxx		xxxx	xxxx	xxxxx					
Control Del:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				297.9	xxxx	xxxxx		xxxxx	xxxx	xxxxx					
LOS by Move:	*	*	*				*	*	*				F	*	*		*	*	*					
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx		0	xxxxx			xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx	xxxxx			xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx	xxxxx			xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*				*	*	*				*	*	*				*	*	*			
ApproachDel:	xxxxxx						xxxxxx						xxxxxx						xxxxxx					
ApproachLOS:	*						F						*						*					

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Geneva Ave/ Schwerin St

Cycle (sec): 90 Critical Vol./Cap.(X): 1.700
Loss Time (sec): 9 Average Delay (sec/veh): 246.7
Optimal Cycle: 180 Level Of Service: F

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted						Protected						Permitted					
Rights:	Include						Include						Include						Include					
Min. Green:	7	7	7				7	7	7				3	10	10				10	10	10			
Y+R:	4.0	4.0	4.0				4.0	4.0	4.0				4.0	4.6	4.6				4.6	4.6	4.6			
Lanes:	0	0	1!	0	0		0	0	1!	0	0		1	0	1	1	0		1	0	1	1	0	
Volume Module:																								
Base Vol:	16	33	56				24	28	147				104	405	27				69	896	44			
Growth Adj:	1.21	1.20	1.20				3.10	1.54	2.84				3.66	4.86	1.27				1.36	3.63	3.55			
Initial Bse:	19	40	67				74	43	417				381	1968	34				94	3252	156			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	19	40	67				74	43	417				381	1968	34				94	3252	156			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.98	0.98	0.98				0.98	0.98	0.98				0.98	0.98	0.98				0.98	0.98	0.98			
PHF Volume:	20	40	69				76	44	426				388	2008	35				96	3319	159			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	20	40	69				76	44	426				388	2008	35				96	3319	159			
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
FinalVolume:	20	40	69				76	44	426				388	2008	35				96	3319	159			
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900				1900	1900	1900			
Adjustment:	0.74	0.74	0.74				0.83	0.83	0.83				0.95	0.95	0.95				0.08	0.94	0.94			
Lanes:	0.15	0.31	0.54				0.14	0.08	0.78				1.00	1.97	0.03				1.00	1.91	0.09			
Final Sat.:	216	442	749				220	128	1235				1805	3538	62				154	3420	164			
Capacity Analysis Module:																								
Vol/Sat:	0.09	0.09	0.09				0.34	0.34	0.34				0.22	0.57	0.57				0.62	0.97	0.97			
Crit Moves:								****					****							****				
Green/Cycle:	0.23	0.23	0.23				0.23	0.23	0.23				0.12	0.67	0.67				0.55	0.55	0.55			
Volume/Cap:	0.39	0.39	0.39				1.48	1.48	1.48				1.78	0.85	0.85				1.14	1.78	1.78			
Uniform Del:	29.1	29.1	29.1				34.5	34.5	34.5				39.6	11.6	11.6				20.4	20.4	20.4			
IncremntDel:	0.8	0.8	0.8				229.5	230	229.5				368.2	3.1	3.1				141.0	352	352.2			
InitQueuDel:	0.0	0.0	0.0				0.0	0.0	0.0				0.0	0.0	0.0				0.0	0.0	0.0			
Delay Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Delay/Veh:	29.9	29.9	29.9				264.0	264	264.0				407.7	14.7	14.7				161.5	373	372.7			
User DelAdj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
AdjDel/Veh:	29.9	29.9	29.9				264.0	264	264.0				407.7	14.7	14.7				161.5	373	372.7			
LOS by Move:	C	C	C				F	F	F				F	B	B				F	F	F			
HCM2kAvgQ:	3	3	3				38	38	38				32	25	25				5	147	147			

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Bayshore Blvd/ Geneva Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.578
Loss Time (sec):	0	Average Delay (sec/veh):	215.3
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 1	0 1	1	0 2	0 2	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	541	402	0	42	291	491	303	0	238	0	0	0
Growth Adj:	2.00	1.00	1.00	1.00	1.00	1.82	2.94	1.00	1.53	1.00	1.00	1.00
Initial Bse:	1082	402	0	42	291	894	891	0	364	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Geneva Exte:	0	0	640	293	0	0	0	910	0	550	1550	550
Initial Fut:	1082	402	640	335	291	894	891	910	364	550	1550	550
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	1104	410	653	342	297	912	909	929	372	561	1582	561
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1104	410	653	342	297	912	909	929	372	561	1582	561
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1104	410	653	342	297	912	909	929	372	561	1582	561
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	0.95	0.95	0.75	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	2.00	1.00	1.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3502	1900	1615	1805	3610	2842	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.22	0.40	0.19	0.08	0.32	0.50	0.26	0.23	0.31	0.44	0.35
Crit Moves:	****					****	****				****	
Green/Cycle:	0.20	0.27	0.27	0.13	0.20	0.20	0.32	0.27	0.27	0.33	0.28	0.28
Volume/Cap:	1.58	0.79	1.47	1.47	0.40	1.58	1.58	0.95	0.85	0.95	1.58	1.25
Uniform Del:	40.0	33.6	36.3	43.6	34.6	39.8	34.0	35.9	34.6	32.9	36.1	36.1
IncremntDel:	266.9	7.8	224.7	234.7	0.4	268.3	268.3	18.3	14.8	25.6	265	130.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	306.9	41.3	261.0	278.2	34.9	308.1	302.3	54.1	49.3	58.5	301	166.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	306.9	41.3	261.0	278.2	34.9	308.1	302.3	54.1	49.3	58.5	301	166.6
LOS by Move:	F	D	F	F	C	F	F	D	D	E	F	F
HCM2kAvgQ:	44	14	47	24	4	39	67	16	11	22	64	34

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Bayshore Blvd/ Visitacion Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	1.126
Loss Time (sec):	12	Average Delay (sec/veh):	71.8
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	0	1 1	0 1	1	0 1	1 0	0	0 1!	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	0	848	0	13	881	140	117	0	23	1	1	2
Growth Adj:	1.00	2.35	1.00	xxxx	2.44	1.28	1.31	1.00	2.56	xxxx	xxxx	xxxxx
Initial Bse:	0	1993	0	309	2150	179	153	0	59	41	11	202
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1993	0	309	2150	179	153	0	59	41	11	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	2033	0	315	2194	183	156	0	60	42	11	206
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2033	0	315	2194	183	156	0	60	42	11	206
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2033	0	315	2194	183	156	0	60	42	11	206
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	1.00	0.95	0.94	0.94	0.43	1.00	0.43	0.83	0.83	0.83
Lanes:	0.00	2.00	1.00	1.00	1.85	0.15	0.72	0.00	0.28	0.16	0.04	0.80
Final Sat.:	0	3610	1900	1805	3292	274	589	0	226	254	68	1252
Capacity Analysis Module:												
Vol/Sat:	0.00	0.56	0.00	0.17	0.67	0.67	0.27	0.00	0.27	0.16	0.16	0.16
Crit Moves:		****		****			****					
Green/Cycle:	0.00	0.50	0.00	0.15	0.66	0.66	0.24	0.00	0.24	0.24	0.24	0.24
Volume/Cap:	0.00	1.13	0.00	1.13	1.02	1.02	1.13	0.00	1.13	0.70	0.70	0.70
Uniform Del:	0.0	27.5	0.0	46.5	19.0	19.0	42.0	0.0	42.0	38.5	38.5	38.5
IncremntDel:	0.0	64.6	0.0	92.2	23.0	23.0	102.9	0.0	102.9	5.8	5.8	5.8
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	0.0	92.1	0.0	138.7	42.0	42.0	145.0	0.0	145.0	44.2	44.2	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	92.1	0.0	138.7	42.0	42.0	145.0	0.0	145.0	44.2	44.2	44.2
LOS by Move:	A	F	A	F	D	D	F	A	F	D	D	D
HCM2kAvgQ:	0	48	0	18	52	52	14	0	14	9	9	9

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12 Velasco Ave/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.400
Loss Time (sec):	0	Average Delay (sec/veh):	9.5
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	4	52	20	8	98	10	15	4	2	16	7	12
Growth Adj:	1.20	1.13	1.00	9.14	2.12	2.12	1.99	1.00	1.83	1.28	7.85	9.11
Initial Bse:	5	59	20	73	208	21	30	4	4	20	55	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	59	20	73	208	21	30	4	4	20	55	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	5	60	20	75	212	22	30	4	4	21	56	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	60	20	75	212	22	30	4	4	21	56	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	60	20	75	212	22	30	4	4	21	56	112
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.06	0.70	0.24	0.24	0.69	0.07	0.79	0.11	0.10	0.11	0.30	0.59
Final Sat.:	42	515	175	186	529	54	515	69	63	83	223	443
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.40	0.40	0.40	0.06	0.06	0.06	0.25	0.25	0.25
Crit Moves:		****			****				****		****	
Delay/Veh:	8.2	8.2	8.2	10.4	10.4	10.4	8.4	8.4	8.4	8.9	8.9	8.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.2	8.2	8.2	10.4	10.4	10.4	8.4	8.4	8.4	8.9	8.9	8.9
LOS by Move:	A	A	A	B	B	B	A	A	A	A	A	A
ApproachDel:	8.2			10.4			8.4			8.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.2			10.4			8.4			8.9		
LOS by Appr:	A			B			A			A		
AllWayAvgQ:	0.1	0.1	0.1	0.6	0.6	0.6	0.1	0.1	0.1	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

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Future Cumulative Plus Project Conditions (2030)

Scenario Report

Scenario:	Cumulative Plus Project
Command:	Future Plus Project
Volume:	Future
Geometry:	Geneva Extension
Impact Fee:	Default Impact Fee
Trip Generation:	TG
Trip Distribution:	Future TD
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

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Trip Generation Report

Forecast for TG

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Inbound Trip	394.00	Proposed Proje	1.00	0.00	394	0	394	63.4
	Zone 1 Subtotal					394	0	394	63.4
2	Outbound Tri	227.00	Proposed Proje	0.00	1.00	0	227	227	36.6
	Zone 2 Subtotal					0	227	227	36.6
TOTAL						394	227	621	100.0

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Trip Distribution Report

Percent Of Trips Future TD

Zone	To Gates 1	2	4	5	6
1	42.0	2.0	38.0	18.0	0.0
2	41.0	3.0	36.0	20.0	0.0

Turning Movement Report

TG

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Sunnydale Blvd/ Persia St													
Base	138	0	35	0	0	0	0	241	182	6	314	0	915
Added	45	0	0	0	0	0	0	0	71	0	0	0	116
Total	183	0	35	0	0	0	0	241	253	6	314	0	1031
#2 Sunnydale Blvd/ Sawyer St													
Base	51	47	12	21	144	22	8	120	63	99	142	14	744
Added	0	0	0	0	0	0	0	47	0	0	83	0	130
Total	51	47	12	21	144	22	8	167	63	99	225	14	874
#3 Sunnydale Blvd/ Schwerin St													
Base	111	102	160	24	254	22	16	123	31	170	155	38	1207
Added	0	0	0	0	0	0	0	47	0	0	83	0	130
Total	111	102	160	24	254	22	16	170	31	170	238	38	1337
#4 Bayshore Blvd/ Sunnydale Ave													
Base	185	1603	0	326	1140	110	215	14	65	36	16	197	3907
Added	0	47	0	0	83	83	47	0	0	0	0	0	260
Growth	0	0	60	0	0	0	0	0	0	0	0	0	60
Total	185	1650	60	326	1223	193	262	14	65	36	16	197	4227
#5 Sunnydale Blvd/ Santos St													
Base	98	0	106	0	0	0	0	101	173	99	133	0	709
Added	45	0	47	0	0	0	0	0	71	83	0	0	246
Total	143	0	153	0	0	0	0	101	244	182	133	0	955
#6 Geneva Ave/ Brookdale St													
Base	0	0	0	6	0	38	36	2566	0	0	3973	31	6651
Added	0	0	0	41	0	3	8	0	0	0	3	0	55
Total	0	0	0	47	0	41	44	2566	0	0	3976	31	6706
#7 Geneva Ave/ Santos St													
Base	76	9	269	49	21	135	42	2141	264	361	3596	51	7013
Added	0	0	0	87	0	3	0	41	0	0	0	232	363
Total	76	9	269	136	21	138	42	2182	264	361	3596	283	7376
#8 Geneva Ave/ Calgary St													
Base	0	0	0	40	0	209	74	2338	0	0	3578	33	6271
Added	0	0	0	0	0	0	0	128	0	0	232	0	360
Total	0	0	0	40	0	209	74	2466	0	0	3810	33	6631
#9 Geneva Ave/ Schwerin St													
Base	19	40	67	74	43	417	381	1968	34	94	3252	156	6547
Added	0	0	0	0	0	0	0	128	0	0	232	0	360
Total	19	40	67	74	43	417	381	2096	34	94	3484	156	6907

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#10 Bayshore Blvd/ Geneva Ave													
Base	1082	402	0	42	291	894	891	0	364	0	0	0	3966
Added	0	0	0	0	0	83	47	82	0	0	150	0	362
Geneva	0	0	640	293	0	0	0	910	0	550	1550	550	4493
Total	1082	402	640	335	291	977	938	992	364	550	1700	550	8821
#11 Bayshore Blvd/ Visitacion Ave													
Base	0	1993	0	309	2150	179	153	0	59	41	11	202	5097
Added	0	93	0	0	165	0	0	0	0	0	0	0	258
Total	0	2086	0	309	2315	179	153	0	59	41	11	202	5355
#12 Velasco Ave/ Santos St													
Base	5	59	20	73	208	21	30	4	4	20	55	109	608
Added	0	232	0	0	91	0	0	0	0	0	0	0	323
Total	5	291	20	73	299	21	30	4	4	20	55	109	931

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Del/ Veh	V/ C	Future LOS	Del/ Veh	V/ C	Change in
# 1 Sunnydale Blvd/ Persia St	C	17.6	0.332	C	21.9	0.463	+ 4.334 D/V
# 2 Sunnydale Blvd/ Sawyer St	B	10.0	0.377	B	11.4	0.508	+ 0.131 V/C
# 3 Sunnydale Blvd/ Schwerin St	C	17.9	0.687	D	26.5	0.875	+ 0.188 V/C
# 4 Bayshore Blvd/ Sunnydale Ave	E	64.6	1.077	F	86.9	1.168	+22.223 D/V
# 5 Sunnydale Blvd/ Santos St	A	9.7	0.347	B	12.2	0.486	+ 0.140 V/C
# 6 Geneva Ave/ Brookdale St	F	OVRFL	XXXXX	F	OVRFL	1.050	+ 1.8E+0308
# 7 Geneva Ave/ Santos St	F	244.8	1.502	F	287.8	1.643	+42.979 D/V
# 8 Geneva Ave/ Calgary St	F	OVRFL	3.219	F	OVRFL	3.883	+ 0.000 D/V
# 9 Geneva Ave/ Schwerin St	F	246.7	1.700	F	268.1	1.774	+21.355 D/V
# 10 Bayshore Blvd/ Geneva Ave	F	86.0	1.140	F	240.8	1.677	+154.843 D/V
# 11 Bayshore Blvd/ Visitacion Ave	E	71.8	1.126	F	87.7	1.159	+15.869 D/V
# 12 Velasco Ave/ Santos St	A	9.5	0.400	B	12.3	0.565	+ 0.165 V/C

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Sunnydale Blvd/ Persia St

Average Delay (sec/veh): 4.7 Worst Case Level Of Service: C[21.9]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	0	0	0		0	0	0	1	0		0	1	0	0	0	
Volume Module:																								
Base Vol:	31		0		8		0		0		0		0		193		38		4		308		0	
Growth Adj:	4.44		1.00		4.33		1.00		1.00		1.00		1.00		1.25		4.78		1.44		1.02		1.00	
Initial Bse:	138		0		35		0		0		0		0		241		182		6		314		0	
Added Vol:	45		0		0		0		0		0		0		0		71		0		0		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	183		0		35		0		0		0		0		241		253		6		314		0	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98	
PHF Volume:	186		0		35		0		0		0		0		246		258		6		321		0	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	186		0		35		0		0		0		0		246		258		6		321		0	
Critical Gap Module:																								
Critical Gp:	6.4		6.5		6.2		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		4.1		xxxx		xxxxx	
FollowUpTim:	3.5		4.0		3.3		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		2.2		xxxx		xxxxx	
Capacity Module:																								
Cnflict Vol:	707		707		375		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		504		xxxx		xxxxx	
Potent Cap.:	404		362		676		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		1071		xxxx		xxxxx	
Move Cap.:	403		360		676		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		1071		xxxx		xxxxx	
Volume/Cap:	0.46		0.00		0.05		xxxx		xxxx		xxxx		xxxx		xxxx		xxxx		0.01		xxxx		xxxx	
Level Of Service Module:																								
2Way95thQ:	xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		0.0		xxxx		xxxxx	
Control Del:	xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		8.4		xxxx		xxxxx	
LOS by Move:	*		*		*		*		*		*		*		*		*		A		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx		430		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx	
SharedQueue:	xxxxx		2.9		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		0.0		xxxx		xxxxx	
Shrd ConDel:	xxxxx		21.9		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		8.4		xxxx		xxxxx	
Shared LOS:	*		C		*		*		*		*		*		*		*		A		*		*	
ApproachDel:			21.9				xxxxxx						xxxxxx						xxxxxx					
ApproachLOS:			C				*						*						*					

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Sunnydale Blvd/ Sawyer St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.508
Loss Time (sec):	0	Average Delay (sec/veh):	11.4
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Min. Green:	0		0		0		0		0		0		0		0		0		0		0		0	
Lanes:	0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	11		47		8		9		46		10		8		82		5		15		65		7	
Growth Adj:	4.67		1.00		1.56		2.37		3.14		2.23		1.00		1.46		12.54		6.59		2.19		1.96	
Initial Bse:	51		47		12		21		144		22		8		120		63		99		142		14	
Added Vol:	0		0		0		0		0		0		0		47		0		0		83		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	51		47		12		21		144		22		8		167		63		99		225		14	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98		0.98	
PHF Volume:	52		48		13		22		147		23		8		170		64		101		230		14	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	52		48		13		22		147		23		8		170		64		101		230		14	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	52		48		13		22		147		23		8		170		64		101		230		14	
Saturation Flow Module:																								
Adjustment:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Lanes:	0.47		0.42		0.11		0.11		0.77		0.12		0.03		0.71		0.26		0.29		0.67		0.04	
Final Sat.:	264		241		64		69		464		72		23		472		178		199		453		28	
Capacity Analysis Module:																								
Vol/Sat:	0.20		0.20		0.20		0.32		0.32		0.32		0.36		0.36		0.36		0.51		0.51		0.51	
Crit Moves:			****						****				****								****			
Delay/Veh:	9.9		9.9		9.9		10.7		10.7		10.7		10.6		10.6		10.6		12.9		12.9		12.9	
Delay Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	9.9		9.9		9.9		10.7		10.7		10.7		10.6		10.6		10.6		12.9		12.9		12.9	
LOS by Move:	A		A		A		B		B		B		B		B		B		B		B		B	
ApproachDel:			9.9						10.7						10.6						12.9			
Delay Adj:			1.00						1.00						1.00						1.00			
ApprAdjDel:			9.9						10.7						10.6						12.9			
LOS by Appr:			A						B						B						B			
AllWayAvgQ:	0.2		0.2		0.2		0.4		0.4		0.4		0.5		0.5		0.5		0.9		0.9		0.9	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Sunnydale Blvd/ Schwerin St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.875
Loss Time (sec):	0	Average Delay (sec/veh):	26.5
Optimal Cycle:	0	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	34	84	84	4	83	12	13	82	20	80	75	8
Growth Adj:	3.27	1.22	1.90	6.02	3.06	1.84	1.21	1.50	1.55	2.13	2.07	4.78
Initial Bse:	111	102	160	24	254	22	16	123	31	170	155	38
Added Vol:	0	0	0	0	0	0	0	47	0	0	83	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	111	102	160	24	254	22	16	170	31	170	238	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	113	105	163	25	259	23	16	173	32	174	243	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	105	163	25	259	23	16	173	32	174	243	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	105	163	25	259	23	16	173	32	174	243	39
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.30	0.27	0.43	0.08	0.85	0.07	0.07	0.79	0.14	0.38	0.53	0.09
Final Sat.:	151	139	216	38	396	34	32	343	63	199	278	45
Capacity Analysis Module:												
Vol/Sat:	0.75	0.75	0.75	0.65	0.65	0.65	0.51	0.51	0.51	0.87	0.87	0.87
Crit Moves:	****			****			****			****		
Delay/Veh:	24.7	24.7	24.7	20.2	20.2	20.2	16.0	16.0	16.0	37.3	37.3	37.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.7	24.7	24.7	20.2	20.2	20.2	16.0	16.0	16.0	37.3	37.3	37.3
LOS by Move:	C	C	C	C	C	C	C	C	C	E	E	E
ApproachDel:	24.7			20.2			16.0			37.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	24.7			20.2			16.0			37.3		
LOS by Appr:	C			C			C			E		
AllWayAvgQ:	2.1	2.1	2.1	1.3	1.3	1.3	0.7	0.7	0.7	4.0	4.0	4.0

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Bayshore Blvd/ Sunnydale Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	1.168
Loss Time (sec):	12	Average Delay (sec/veh):	86.9
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	32	694	0	16	814	72	131	4	22	6	6	17
Growth Adj:	5.78	2.31	1.00	xxxx	1.40	1.53	1.64	3.50	2.96	6.00	2.67	11.59
Initial Bse:	185	1603	0	326	1140	110	215	14	65	36	16	197
Added Vol:	0	47	0	0	83	83	47	0	0	0	0	0
Growth:	0	0	60	0	0	0	0	0	0	0	0	0
Initial Fut:	185	1650	60	326	1223	193	262	14	65	36	16	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	189	1684	61	333	1248	197	267	14	66	37	16	201
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	1684	61	333	1248	197	267	14	66	37	16	201
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	1684	61	333	1248	197	267	14	66	37	16	201
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.93	0.93	0.49	0.49	0.49	0.83	0.83	0.83
Lanes:	1.00	1.93	0.07	1.00	1.73	0.27	0.77	0.04	0.19	0.14	0.06	0.80
Final Sat.:	1805	3466	126	1805	3055	483	722	39	180	227	101	1240
Capacity Analysis Module:												
Vol/Sat:	0.10	0.49	0.49	0.18	0.41	0.41	0.37	0.37	0.37	0.16	0.16	0.16
Crit Moves:		****		****				****				
Green/Cycle:	0.12	0.42	0.42	0.16	0.46	0.46	0.32	0.32	0.32	0.32	0.32	0.32
Volume/Cap:	0.89	1.17	1.17	1.17	0.89	0.89	1.17	1.17	1.17	0.51	0.51	0.51
Uniform Del:	47.9	32.1	32.1	46.3	27.4	27.4	37.6	37.6	37.6	30.6	30.6	30.6
IncremntDel:	34.5	83.0	83.0	106.6	6.8	6.8	105.5	106	105.5	0.9	0.9	0.9
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	82.4	115	115.2	152.9	34.2	34.2	143.1	143	143.1	31.5	31.5	31.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	82.4	115	115.2	152.9	34.2	34.2	143.1	143	143.1	31.5	31.5	31.5
LOS by Move:	F	F	F	F	C	C	F	F	F	C	C	C
HCM2kAvgQ:	7	47	47	16	22	22	21	21	21	7	7	7

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Sunnydale Blvd/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.486
Loss Time (sec):	0	Average Delay (sec/veh):	12.2
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	0 0	0	0	0 1	0	1	0 0
Volume Module:												
Base Vol:	43	0	50	0	0	0	0	60	51	47	55	0
Growth Adj:	2.29	1.00	2.11	1.00	1.00	1.00	1.00	1.68	3.39	2.10	2.42	1.00
Initial Bse:	98	0	106	0	0	0	0	101	173	99	133	0
Added Vol:	45	0	47	0	0	0	0	0	71	83	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	143	0	153	0	0	0	0	101	244	182	133	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	146	0	156	0	0	0	0	103	249	185	136	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	146	0	156	0	0	0	0	103	249	185	136	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	146	0	156	0	0	0	0	103	249	185	136	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.48	0.01	0.51	0.00	0.00	0.00	0.00	0.29	0.71	0.58	0.42	0.00
Final Sat.:	316	0	335	0	0	0	0	214	519	381	279	0
Capacity Analysis Module:												
Vol/Sat:	0.46	0.00	0.46	xxxx	xxxx	xxxx	xxxx	0.48	0.48	0.49	0.49	xxxx
Crit Moves:	****							****			****	
Delay/Veh:	12.2	12.2	12.2	0.0	0.0	0.0	0.0	11.7	11.7	12.8	12.8	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.2	12.2	12.2	0.0	0.0	0.0	0.0	11.7	11.7	12.8	12.8	0.0
LOS by Move:	B	B	B	*	*	*	*	B	B	B	B	*
ApproachDel:	12.2			xxxxxx			11.7			12.8		
Delay Adj:	1.00			xxxxx			1.00			1.00		
ApprAdjDel:	12.2			xxxxxx			11.7			12.8		
LOS by Appr:	B			*			B			B		
AllWayAvgQ:	0.7	0.7	0.7	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Geneva Ave/ Brookdale St

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	0	0	0	0	1!	0	0	1	0	2	0	0	0	0	2	0	1
Volume Module:																				
Base Vol:	0	0	0	0	0	5	0	31	0	0	32	847	0	0	0	1186	0	26	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.23	1.00	1.23	1.00	1.00	1.11	3.03	1.00	1.00	1.00	3.35	1.21	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	6	0	38	0	0	36	2566	0	0	0	3973	31	0	0	0
Added Vol:	0	0	0	0	0	41	0	3	0	0	8	0	0	0	0	3	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	47	0	41	0	0	44	2566	0	0	0	3976	31	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	0	0	0	0	48	0	42	0	0	44	2619	0	0	0	4057	32	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	48	0	42	0	0	44	2619	0	0	0	4057	32	0	0	0
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			6.8	6.5	6.9			4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx			3.5	4.0	3.3			2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			5455	6765	2029			4089	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Potent Cap.:	xxxx	xxxx	xxxxx			0	0	49			42	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Move Cap.:	xxxx	xxxx	xxxxx			0	0	49			42	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Volume/Cap:	xxxx	xxxx	xxxx			xxxx	xxxx	0.85			1.05	xxxx	xxxx		xxxx	xxxx	xxxx			
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			4.2	xxxx	xxxxx		xxxx	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			302.3	xxxx	xxxxx		xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*			*	*	*			F	*	*		*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx		0	xxxxx		xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	*			*	*	*		
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					xxxxxx				
ApproachLOS:	*					F					*					*				

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Geneva Ave/ Santos St

Cycle (sec):	90	Critical Vol./Cap.(X):	1.643
Loss Time (sec):	9	Average Delay (sec/veh):	287.8
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	5	5	10	5	5	4	15	15	4	5	5
Y+R:	3.5	4.6	4.6	3.5	4.6	4.6	4.0	3.5	3.5	4.0	4.0	4.0
Lanes:	0 1	0	1 0	0	0	1! 0	0	1	0 1 1	2	0	1 1 0
Volume Module:												
Base Vol:	9	4	22	25	13	67	40	593	92	236	934	48
Growth Adj:	8.43	2.29	12.22	1.96	1.61	2.01	1.04	3.61	2.87	1.53	3.85	1.06
Initial Bse:	76	9	269	49	21	135	42	2141	264	361	3596	51
Added Vol:	0	0	0	87	0	3	0	41	0	0	0	232
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	9	269	136	21	138	42	2182	264	361	3596	283
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	xxxx	0.98	0.98	0.98	0.98
PHF Volume:	77	9	274	139	21	140	42	202	269	368	3669	289
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	9	274	139	21	140	42	202	269	368	3669	289
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	9	274	139	21	140	42	202	269	368	3669	289
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.83	0.92	0.92	0.92	0.95	0.87	0.87	0.92	0.94	0.94
Lanes:	0.89	0.11	1.00	0.46	0.07	0.47	1.00	1.29	1.71	2.00	1.85	0.15
Final Sat.:	1411	170	1582	803	124	813	1805	2123	2826	3502	3310	260
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.17	0.17	0.17	0.17	0.02	0.10	0.10	0.11	1.11	1.11
Crit Moves:			****	****			****				****	
Green/Cycle:	0.10	0.10	0.10	0.11	0.11	0.11	0.04	0.42	0.42	0.27	0.64	0.64
Volume/Cap:	0.53	0.54	1.72	1.56	1.60	1.60	0.53	0.23	0.23	0.40	1.72	1.72
Uniform Del:	38.2	38.5	40.5	40.0	40.1	40.1	42.1	16.6	16.6	27.1	16.0	16.0
IncremntDel:	0.8	0.9	344.3	273.8	295	294.7	6.5	0.1	0.1	0.3	327	326.8
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	39.0	39.4	384.7	313.8	335	334.9	48.6	16.7	16.7	27.3	343	342.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.0	39.4	384.7	313.8	335	334.9	48.6	16.7	16.7	27.3	343	342.8
LOS by Move:	D	D	F	F	F	F	D	B	B	C	F	F
HCM2kAvgQ:	3	3	24	23	24	24	2	3	3	4	161	161

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Geneva Ave/ Calgary St

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	0	0	0	0	0	1!	0	0	1	0	1	1	0	1	0	1	1	0
Volume Module:																				
Base Vol:	0	0	0	9	0	48	72	523	0	0	954	30								
Growth Adj:	1.00	1.00	1.00	4.40	1.00	4.35	1.03	4.47	1.00	1.00	3.75	1.09								
Initial Bse:	0	0	0	40	0	209	74	2338	0	0	3578	33								
Added Vol:	0	0	0	0	0	0	0	128	0	0	232	0								
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut:	0	0	0	40	0	209	74	2466	0	0	3810	33								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98								
PHF Volume:	0	0	0	40	0	213	76	2516	0	0	3887	33								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
FinalVolume:	0	0	0	40	0	213	76	2516	0	0	3887	33								
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx	5313	6571	1960	3921	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Potent Cap.:	xxxx	xxxx	xxxxx	0	0	55	50	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Move Cap.:	xxxx	xxxx	xxxxx	0	0	55	50	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	3.88	1.53	xxxx	xxxx	xxxx	xxxx	xxxx								
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	448.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
LOS by Move:	*	*	*	*	*	*	F	*	*	*	*	*								
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx		0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx							
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*								
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx										
ApproachLOS:	*			F			*			*										

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Geneva Ave/ Schwerin St

Cycle (sec):	90	Critical Vol./Cap.(X):	1.774
Loss Time (sec):	9	Average Delay (sec/veh):	268.1
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	3	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6	4.6
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1	0	1	0
Volume Module:												
Base Vol:	16	33	56	24	28	147	104	405	27	69	896	44
Growth Adj:	1.21	1.20	1.20	3.10	1.54	2.84	3.66	4.86	1.27	1.36	3.63	3.55
Initial Bse:	19	40	67	74	43	417	381	1968	34	94	3252	156
Added Vol:	0	0	0	0	0	0	0	128	0	0	232	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	40	67	74	43	417	381	2096	34	94	3484	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	20	40	69	76	44	426	388	2139	35	96	3556	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	40	69	76	44	426	388	2139	35	96	3556	159
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	40	69	76	44	426	388	2139	35	96	3556	159
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95	0.08	0.94	0.94
Lanes:	0.15	0.31	0.54	0.14	0.08	0.78	1.00	1.97	0.03	1.00	1.91	0.09
Final Sat.:	216	442	749	219	127	1230	1805	3545	58	150	3434	154
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.35	0.35	0.35	0.22	0.60	0.60	0.64	1.04	1.04
Crit Moves:					****		****				****	
Green/Cycle:	0.22	0.22	0.22	0.22	0.22	0.22	0.12	0.68	0.68	0.56	0.56	0.56
Volume/Cap:	0.41	0.41	0.41	1.54	1.54	1.54	1.85	0.89	0.89	1.14	1.85	1.85
Uniform Del:	29.8	29.8	29.8	34.9	34.9	34.9	39.8	11.9	11.9	19.8	19.8	19.8
IncremntDel:	0.9	0.9	0.9	258.8	259	258.8	400.4	4.7	4.7	141.1	385	384.6
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	30.7	30.7	30.7	293.7	294	293.7	440.2	16.6	16.6	160.9	404	404.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.7	30.7	30.7	293.7	294	293.7	440.2	16.6	16.6	160.9	404	404.4
LOS by Move:	C	C	C	F	F	F	F	B	B	F	F	F
HCM2kAvgQ:	3	3	3	40	40	40	33	28	28	4	161	161

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Bayshore Blvd/ Geneva Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.677
Loss Time (sec):	0	Average Delay (sec/veh):	240.8
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	1 0 1	1	0	2 0 2	1	0	2 0 1	1	0	2 0 1
Volume Module:												
Base Vol:	541	402	0	42	291	491	303	0	238	0	0	0
Growth Adj:	2.00	1.00	1.00	1.00	1.00	1.82	2.94	1.00	1.53	1.00	1.00	1.00
Initial Bse:	1082	402	0	42	291	894	891	0	364	0	0	0
Added Vol:	0	0	0	0	0	83	47	82	0	0	150	0
Geneva Exte:	0	0	640	293	0	0	0	910	0	550	1550	550
Initial Fut:	1082	402	640	335	291	977	938	992	364	550	1700	550
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	1104	410	653	342	297	997	957	1012	372	561	1735	561
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1104	410	653	342	297	997	957	1012	372	561	1735	561
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1104	410	653	342	297	997	957	1012	372	561	1735	561
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	0.95	0.95	0.75	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	2.00	1.00	1.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3502	1900	1615	1805	3610	2842	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.22	0.40	0.19	0.08	0.35	0.53	0.28	0.23	0.31	0.48	0.35
Crit Moves:	****					****	****				****	
Green/Cycle:	0.19	0.27	0.27	0.13	0.21	0.21	0.32	0.29	0.29	0.32	0.29	0.29
Volume/Cap:	1.68	0.80	1.49	1.49	0.39	1.68	1.68	0.98	0.80	0.98	1.68	1.21
Uniform Del:	40.6	33.9	36.5	43.7	34.1	39.5	34.2	35.4	33.1	33.9	35.7	35.7
IncremntDel:	311.1	8.6	234.5	244.4	0.3	311.8	312.1	23.4	9.9	32.7	309	114.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	351.7	42.5	271.0	288.1	34.4	351.3	346.3	58.8	43.1	66.5	344	149.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	351.7	42.5	271.0	288.1	34.4	351.3	346.3	58.8	43.1	66.5	344	149.9
LOS by Move:	F	D	F	F	C	F	F	E	D	E	F	F
HCM2kAvgQ:	47	14	48	24	4	45	75	17	10	23	74	32

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Bayshore Blvd/ Visitacion Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	1.159
Loss Time (sec):	12	Average Delay (sec/veh):	87.7
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	0	1	1 0 1	1	0	1 1 0	0	0	1! 0 0	0	0	1! 0 0
Volume Module:												
Base Vol:	0	848	0	13	881	140	117	0	23	1	1	2
Growth Adj:	1.00	2.35	1.00	xxxx	2.44	1.28	1.31	1.00	2.56	xxxx	xxxx	xxxxx
Initial Bse:	0	1993	0	309	2150	179	153	0	59	41	11	202
Added Vol:	0	93	0	0	165	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2086	0	309	2315	179	153	0	59	41	11	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	2128	0	315	2362	183	156	0	60	42	11	206
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2128	0	315	2362	183	156	0	60	42	11	206
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2128	0	315	2362	183	156	0	60	42	11	206
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	1.00	0.95	0.94	0.94	0.42	1.00	0.42	0.83	0.83	0.83
Lanes:	0.00	2.00	1.00	1.00	1.86	0.14	0.72	0.00	0.28	0.16	0.04	0.80
Final Sat.:	0	3610	1900	1805	3314	257	582	0	224	254	68	1252
Capacity Analysis Module:												
Vol/Sat:	0.00	0.59	0.00	0.17	0.71	0.71	0.27	0.00	0.27	0.16	0.16	0.16
Crit Moves:		****		****			****					
Green/Cycle:	0.00	0.51	0.00	0.15	0.66	0.66	0.23	0.00	0.23	0.23	0.23	0.23
Volume/Cap:	0.00	1.16	0.00	1.16	1.08	1.08	1.16	0.00	1.16	0.71	0.71	0.71
Uniform Del:	0.0	27.0	0.0	46.7	18.7	18.7	42.3	0.0	42.3	38.9	38.9	38.9
IncremntDel:	0.0	78.2	0.0	104.6	44.8	44.8	115.2	0.0	115.2	6.4	6.4	6.4
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	0.0	105	0.0	151.3	63.6	63.6	157.5	0.0	157.5	45.3	45.3	45.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	105	0.0	151.3	63.6	63.6	157.5	0.0	157.5	45.3	45.3	45.3
LOS by Move:	A	F	A	F	E	E	F	A	F	D	D	D
HCM2kAvgQ:	0	54	0	19	62	62	14	0	14	9	9	9

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12 Velasco Ave/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.565
Loss Time (sec):	0	Average Delay (sec/veh):	12.3
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0
Volume Module:												
Base Vol:	4	52	20	8	98	10	15	4	2	16	7	12
Growth Adj:	1.20	1.13	1.00	9.14	2.12	2.12	1.99	1.00	1.83	1.28	7.85	9.11
Initial Bse:	5	59	20	73	208	21	30	4	4	20	55	109
Added Vol:	0	232	0	0	91	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	291	20	73	299	21	30	4	4	20	55	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	5	297	20	75	305	22	30	4	4	21	56	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	297	20	75	305	22	30	4	4	21	56	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	297	20	75	305	22	30	4	4	21	56	112
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.92	0.06	0.19	0.76	0.05	0.79	0.11	0.10	0.11	0.30	0.59
Final Sat.:	11	641	44	132	539	38	410	55	50	69	184	366
Capacity Analysis Module:												
Vol/Sat:	0.46	0.46	0.46	0.57	0.57	0.57	0.07	0.07	0.07	0.30	0.30	0.30
Crit Moves:		****			****		****				****	
Delay/Veh:	11.9	11.9	11.9	13.8	13.8	13.8	9.4	9.4	9.4	10.3	10.3	10.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	11.9	11.9	13.8	13.8	13.8	9.4	9.4	9.4	10.3	10.3	10.3
LOS by Move:	B	B	B	B	B	B	A	A	A	B	B	B
ApproachDel:		11.9			13.8			9.4			10.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		11.9			13.8			9.4			10.3	
LOS by Appr:		B			B			A			B	
AllWayAvgQ:	0.8	0.8	0.8	1.2	1.2	1.2	0.1	0.1	0.1	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

Future Cumulative Plus Alternative I Conditions (2030)

Scenario Report

Scenario:	Cumulative Plus Alternative 1
Command:	Future Plus Alternative 1
Volume:	Future
Geometry:	Geneva Extension
Impact Fee:	Default Impact Fee
Trip Generation:	Alternative 1 TG
Trip Distribution:	Future TD
Paths:	Future Path
Routes:	Default Route
Configuration:	Default Configuration

Trip Generation Report

Forecast for Alternative 1 TG

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Inbound Trip	257.00	Alternative 1	1.00	0.00	257	0	257	61.9
	Zone 1 Subtotal					257	0	257	61.9
2	Outbound Tri	158.00	Alternative 1	0.00	1.00	0	158	158	38.1
	Zone 2 Subtotal					0	158	158	38.1
TOTAL						257	158	415	100.0

Trip Distribution Report

Percent Of Trips Future TD

Zone	To Gates 1	2	4	5	6
1	42.0	2.0	38.0	18.0	0.0
2	41.0	3.0	36.0	20.0	0.0

Turning Movement Report
Alternative 1 TG

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 Sunnydale Blvd/ Persia St													
Base	138	0	35	0	0	0	0	241	182	6	314	0	915
Added	32	0	0	0	0	0	0	0	46	0	0	0	78
Total	170	0	35	0	0	0	0	241	228	6	314	0	993
#2 Sunnydale Blvd/ Sawyer St													
Base	51	47	12	21	144	22	8	120	63	99	142	14	744
Added	0	0	0	0	0	0	0	32	0	0	54	0	86
Total	51	47	12	21	144	22	8	152	63	99	196	14	830
#3 Sunnydale Blvd/ Schwerin St													
Base	111	102	160	24	254	22	16	123	31	170	155	38	1207
Added	0	0	0	0	0	0	0	32	0	0	54	0	86
Total	111	102	160	24	254	22	16	155	31	170	209	38	1293
#4 Bayshore Blvd/ Sunnydale Ave													
Base	185	1603	0	326	1140	110	215	14	65	36	16	197	3907
Added	0	32	0	0	54	54	32	0	0	0	0	0	172
Growth	0	0	60	0	0	0	0	0	0	0	0	0	60
Total	185	1635	60	326	1194	164	247	14	65	36	16	197	4139
#5 Sunnydale Blvd/ Santos St													
Base	98	0	106	0	0	0	0	101	173	99	133	0	709
Added	32	0	32	0	0	0	0	0	46	54	0	0	164
Total	130	0	138	0	0	0	0	101	219	153	133	0	873
#6 Geneva Ave/ Brookdale St													
Base	0	0	0	6	0	38	36	2566	0	0	3973	31	6651
Added	0	0	0	28	0	2	5	0	0	0	2	0	37
Total	0	0	0	34	0	40	41	2566	0	0	3975	31	6688
#7 Geneva Ave/ Santos St													
Base	76	9	269	49	21	135	42	2141	264	361	3596	51	7013
Added	0	0	0	61	0	2	0	28	0	0	0	152	243
Total	76	9	269	110	21	137	42	2169	264	361	3596	203	7256
#8 Geneva Ave/ Calgary St													
Base	0	0	0	40	0	209	74	2338	0	0	3578	33	6271
Added	0	0	0	0	0	0	0	89	0	0	152	0	241
Total	0	0	0	40	0	209	74	2427	0	0	3730	33	6512
#9 Geneva Ave/ Schwerin St													
Base	19	40	67	74	43	417	381	1968	34	94	3252	156	6547
Added	0	0	0	0	0	0	0	89	0	0	152	0	241
Total	19	40	67	74	43	417	381	2057	34	94	3404	156	6788

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#10 Bayshore Blvd/ Geneva Ave													
Base	1082	402	0	42	291	894	891	0	364	0	0	0	3966
Added	0	0	0	0	0	54	32	57	0	0	98	0	241
Geneva	0	0	640	293	0	0	0	910	0	550	1550	550	4493
Total	1082	402	640	335	291	948	923	967	364	550	1648	550	8700
#11 Bayshore Blvd/ Visitacion Ave													
Base	0	1993	0	309	2150	179	153	0	59	41	11	202	5097
Added	0	65	0	0	108	0	0	0	0	0	0	0	173
Total	0	2058	0	309	2258	179	153	0	59	41	11	202	5270
#12 Velasco Ave/ Santos St													
Base	5	59	20	73	208	21	30	4	4	20	55	109	608
Added	0	152	0	0	63	0	0	0	0	0	0	0	215
Total	5	211	20	73	271	21	30	4	4	20	55	109	823

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Del/ Veh	V/ C	Future LOS	Del/ Veh	V/ C	Change in
# 1 Sunnydale Blvd/ Persia St	C	17.6	0.332	C	20.3	0.422	+ 2.765 D/V
# 2 Sunnydale Blvd/ Sawyer St	B	10.0	0.377	B	10.9	0.462	+ 0.085 V/C
# 3 Sunnydale Blvd/ Schwerin St	C	17.9	0.687	C	22.5	0.808	+ 0.122 V/C
# 4 Bayshore Blvd/ Sunnydale Ave	E	64.6	1.077	F	81.0	1.147	+16.389 D/V
# 5 Sunnydale Blvd/ Santos St	A	9.7	0.347	B	11.2	0.432	+ 0.085 V/C
# 6 Geneva Ave/ Brookdale St	F	OVRFL	XXXXX	F	OVRFL	XXXXX	+953840.786
# 7 Geneva Ave/ Santos St	F	244.8	1.502	F	272.5	1.597	+27.719 D/V
# 8 Geneva Ave/ Calgary St	F	OVRFL	3.219	F	OVRFL	3.640	+ 0.000 D/V
# 9 Geneva Ave/ Schwerin St	F	246.7	1.700	F	260.7	1.749	+13.976 D/V
# 10 Bayshore Blvd/ Geneva Ave	F	86.0	1.140	F	232.0	1.643	+146.042 D/V
# 11 Bayshore Blvd/ Visitacion Ave	E	71.8	1.126	F	81.9	1.149	+10.057 D/V
# 12 Velasco Ave/ Santos St	A	9.5	0.400	B	11.1	0.511	+ 0.110 V/C

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Sunnydale Blvd/ Persia St

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: C[20.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 0	0	0	0 0 0	1	0	0 1	0	0 0
Volume Module:												
Base Vol:	31	0	8	0	0	0	0	193	38	4	308	0
Growth Adj:	4.44	1.00	4.33	1.00	1.00	1.00	1.00	1.25	4.78	1.44	1.02	1.00
Initial Bse:	138	0	35	0	0	0	0	241	182	6	314	0
Added Vol:	32	0	0	0	0	0	0	0	46	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	0	35	0	0	0	0	241	228	6	314	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	173	0	35	0	0	0	0	246	232	6	321	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	173	0	35	0	0	0	0	246	232	6	321	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	695	695	362	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	478	xxxx	xxxxx
Potent Cap.:	411	368	687	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1094	xxxx	xxxxx
Move Cap.:	410	366	687	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1094	xxxx	xxxxx
Volume/Cap:	0.42	0.00	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	440	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	2.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	20.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.3	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	A	*	*
ApproachDel:		20.3			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		C			*			*			*	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Sunnydale Blvd/ Sawyer St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.462
Loss Time (sec):	0	Average Delay (sec/veh):	10.9
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	11	47	8	9	46	10	8	82	5	15	65	7
Growth Adj:	4.67	1.00	1.56	2.37	3.14	2.23	1.00	1.46	12.54	6.59	2.19	1.96
Initial Bse:	51	47	12	21	144	22	8	120	63	99	142	14
Added Vol:	0	0	0	0	0	0	0	32	0	0	54	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	47	12	21	144	22	8	152	63	99	196	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	52	48	13	22	147	23	8	155	64	101	200	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	48	13	22	147	23	8	155	64	101	200	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	52	48	13	22	147	23	8	155	64	101	200	14
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.47	0.42	0.11	0.11	0.77	0.12	0.04	0.68	0.28	0.32	0.64	0.04
Final Sat.:	272	249	66	71	478	74	25	465	192	218	434	30
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.19	0.31	0.31	0.31	0.33	0.33	0.33	0.46	0.46	0.46
Crit Moves:		****			****			****			****	
Delay/Veh:	9.7	9.7	9.7	10.5	10.5	10.5	10.2	10.2	10.2	12.0	12.0	12.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.7	9.7	9.7	10.5	10.5	10.5	10.2	10.2	10.2	12.0	12.0	12.0
LOS by Move:	A	A	A	B	B	B	B	B	B	B	B	B
ApproachDel:		9.7			10.5			10.2			12.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.7			10.5			10.2			12.0	
LOS by Appr:		A			B			B			B	
AllWayAvgQ:	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.7

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Sunnydale Blvd/ Schwerin St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.808
Loss Time (sec):	0	Average Delay (sec/veh):	22.5
Optimal Cycle:	0	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 1!	0	0	0 1!	0	0	0 1!	0	0	0 1!	0
Volume Module:												
Base Vol:	34	84	84	4	83	12	13	82	20	80	75	8
Growth Adj:	3.27	1.22	1.90	6.02	3.06	1.84	1.21	1.50	1.55	2.13	2.07	4.78
Initial Bse:	111	102	160	24	254	22	16	123	31	170	155	38
Added Vol:	0	0	0	0	0	0	0	32	0	0	54	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	111	102	160	24	254	22	16	155	31	170	209	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	113	105	163	25	259	23	16	158	32	174	214	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	105	163	25	259	23	16	158	32	174	214	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	105	163	25	259	23	16	158	32	174	214	39
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.30	0.27	0.43	0.08	0.85	0.07	0.08	0.77	0.15	0.41	0.50	0.09
Final Sat.:	157	144	225	39	414	36	34	339	68	215	264	48
Capacity Analysis Module:												
Vol/Sat:	0.72	0.72	0.72	0.63	0.63	0.63	0.47	0.47	0.47	0.81	0.81	0.81
Crit Moves:	****			****					****		****	
Delay/Veh:	22.4	22.4	22.4	18.7	18.7	18.7	14.7	14.7	14.7	29.0	29.0	29.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.4	22.4	22.4	18.7	18.7	18.7	14.7	14.7	14.7	29.0	29.0	29.0
LOS by Move:	C	C	C	C	C	C	B	B	B	D	D	D
ApproachDel:	22.4			18.7			14.7			29.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	22.4			18.7			14.7			29.0		
LOS by Appr:	C			C			B			D		
AllWayAvgQ:	1.9	1.9	1.9	1.2	1.2	1.2	0.6	0.6	0.6	2.8	2.8	2.8

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Bayshore Blvd/ Sunnydale Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	1.147
Loss Time (sec):	12	Average Delay (sec/veh):	81.0
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	5	10	10	5	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	1	0 1	1 0	1	0 1	1 0	0	0 1!	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	32	694	0	16	814	72	131	4	22	6	6	17
Growth Adj:	5.78	2.31	1.00	xxxx	1.40	1.53	1.64	3.50	2.96	6.00	2.67	11.59
Initial Bse:	185	1603	0	326	1140	110	215	14	65	36	16	197
Added Vol:	0	32	0	0	54	54	32	0	0	0	0	0
Growth:	0	0	60	0	0	0	0	0	0	0	0	0
Initial Fut:	185	1635	60	326	1194	164	247	14	65	36	16	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	189	1669	61	333	1218	168	252	14	66	37	16	201
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	1669	61	333	1218	168	252	14	66	37	16	201
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	1669	61	333	1218	168	252	14	66	37	16	201
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.93	0.93	0.49	0.49	0.49	0.83	0.83	0.83
Lanes:	1.00	1.93	0.07	1.00	1.76	0.24	0.76	0.04	0.20	0.14	0.06	0.80
Final Sat.:	1805	3465	127	1805	3116	429	708	40	187	227	101	1242
Capacity Analysis Module:												
Vol/Sat:	0.10	0.48	0.48	0.18	0.39	0.39	0.36	0.36	0.36	0.16	0.16	0.16
Crit Moves:		****		****				****				
Green/Cycle:	0.12	0.42	0.42	0.16	0.46	0.46	0.31	0.31	0.31	0.31	0.31	0.31
Volume/Cap:	0.85	1.15	1.15	1.15	0.85	0.85	1.15	1.15	1.15	0.52	0.52	0.52
Uniform Del:	47.3	31.9	31.9	46.2	26.5	26.5	37.9	37.9	37.9	31.2	31.2	31.2
IncremntDel:	25.9	74.2	74.2	98.4	4.6	4.6	98.5	98.5	98.5	1.0	1.0	1.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	73.2	106	106.1	144.6	31.1	31.1	136.4	136	136.4	32.3	32.3	32.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.2	106	106.1	144.6	31.1	31.1	136.4	136	136.4	32.3	32.3	32.3
LOS by Move:	E	F	F	F	C	C	F	F	F	C	C	C
HCM2kAvgQ:	6	45	45	16	20	20	20	20	20	7	7	7

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Sunnydale Blvd/ Santos St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.432
Loss Time (sec): 0 Average Delay (sec/veh): 11.2
Optimal Cycle: 0 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	0 0	0	0	1 0	0	1	0 0
Volume Module:												
Base Vol:	43	0	50	0	0	0	0	60	51	47	55	0
Growth Adj:	2.29	1.00	2.11	1.00	1.00	1.00	1.00	1.68	3.39	2.10	2.42	1.00
Initial Bse:	98	0	106	0	0	0	0	101	173	99	133	0
Added Vol:	32	0	32	0	0	0	0	0	46	54	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	130	0	138	0	0	0	0	101	219	153	133	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	133	0	140	0	0	0	0	103	223	156	136	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	0	140	0	0	0	0	103	223	156	136	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	0	140	0	0	0	0	103	223	156	136	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.49	0.00	0.51	0.00	0.00	0.00	0.00	0.32	0.68	0.53	0.47	0.00
Final Sat.:	325	0	343	0	0	0	0	238	517	363	317	0
Capacity Analysis Module:												
Vol/Sat:	0.41	xxxx	0.41	xxxx	xxxx	xxxx	xxxx	0.43	0.43	0.43	0.43	xxxx
Crit Moves:	****							****			****	
Delay/Veh:	11.2	0.0	11.2	0.0	0.0	0.0	0.0	10.8	10.8	11.6	11.6	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.2	0.0	11.2	0.0	0.0	0.0	0.0	10.8	10.8	11.6	11.6	0.0
LOS by Move:	B	*	B	*	*	*	*	B	B	B	B	*
ApproachDel:	11.2			xxxxxx			10.8			11.6		
Delay Adj:	1.00			xxxxx			1.00			1.00		
ApprAdjDel:	11.2			xxxxxx			10.8			11.6		
LOS by Appr:	B			*			B			B		
AllWayAvgQ:	0.6	0.6	0.6	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.7

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Geneva Ave/ Brookdale St

Average Delay (sec/veh): 11390.5 Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0 0	1!	0 0	1 0	2	0 0	0 0	2	0 1
Volume Module:												
Base Vol:	0	0	0	5	0	31	32	847	0	0	1186	26
Growth Adj:	1.00	1.00	1.00	1.23	1.00	1.23	1.11	3.03	1.00	1.00	3.35	1.21
Initial Bse:	0	0	0	6	0	38	36	2566	0	0	3973	31
Added Vol:	0	0	0	28	0	2	5	0	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	34	0	40	41	2566	0	0	3975	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	0	0	35	0	41	41	2619	0	0	4056	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	35	0	41	41	2619	0	0	4056	32
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	5448	6758	2028	4088	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	0	0	49	42	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	0	0	49	42	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	0.00	0.83	0.98	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	3.9	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	278.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	F	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	11.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Geneva Ave/ Santos St

Cycle (sec):	90	Critical Vol./Cap.(X):	1.597
Loss Time (sec):	9	Average Delay (sec/veh):	272.5
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	5	5	10	5	5	4	15	15	4	5	5
Y+R:	3.5	4.6	4.6	3.5	4.6	4.6	4.0	3.5	3.5	4.0	4.0	4.0
Lanes:	0	1	0 1 0	0	0	1! 0 0	1	0	1 1 1	2	0	1 1 0
Volume Module:												
Base Vol:	9	4	22	25	13	67	40	593	92	236	934	48
Growth Adj:	8.43	2.29	12.22	1.96	1.61	2.01	1.04	3.61	2.87	1.53	3.85	1.06
Initial Bse:	76	9	269	49	21	135	42	2141	264	361	3596	51
Added Vol:	0	0	0	61	0	2	0	28	0	0	0	152
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	9	269	110	21	137	42	2169	264	361	3596	203
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	xxxx	0.98	0.98	0.98	0.98
PHF Volume:	77	9	274	112	21	139	42	201	269	368	3669	207
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	9	274	112	21	139	42	201	269	368	3669	207
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	9	274	112	21	139	42	201	269	368	3669	207
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.83	0.91	0.91	0.91	0.95	0.87	0.87	0.92	0.94	0.94
Lanes:	0.89	0.11	1.00	0.41	0.08	0.51	1.00	1.28	1.72	2.00	1.89	0.11
Final Sat.:	1411	170	1582	713	136	885	1805	2116	2834	3502	3390	191
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.17	0.16	0.16	0.16	0.02	0.10	0.10	0.11	1.08	1.08
Crit Moves:			****	****			****				****	
Green/Cycle:	0.11	0.10	0.10	0.11	0.10	0.10	0.04	0.42	0.42	0.27	0.64	0.64
Volume/Cap:	0.50	0.53	1.69	1.42	1.52	1.52	0.53	0.23	0.23	0.40	1.69	1.69
Uniform Del:	37.7	38.3	40.4	40.0	40.3	40.3	42.1	16.7	16.7	27.1	16.1	16.1
IncremntDel:	0.5	0.8	328.6	215.6	258	258.3	6.5	0.1	0.1	0.3	311	311.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	38.3	39.2	368.9	255.6	299	298.6	48.6	16.8	16.8	27.4	327	327.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.3	39.2	368.9	255.6	299	298.6	48.6	16.8	16.8	27.4	327	327.2
LOS by Move:	D	D	F	F	F	F	D	B	B	C	F	F
HCM2kAvgQ:	3	3	24	20	21	21	2	3	3	4	155	155

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Geneva Ave/ Calgary St

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	0 0	0	0	1! 0 0	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	0	0	0	9	0	48	72	523	0	0	954	30
Growth Adj:	1.00	1.00	1.00	4.40	1.00	4.35	1.03	4.47	1.00	1.00	3.75	1.09
Initial Bse:	0	0	0	40	0	209	74	2338	0	0	3578	33
Added Vol:	0	0	0	0	0	0	0	89	0	0	152	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	40	0	209	74	2427	0	0	3730	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	0	0	40	0	213	76	2476	0	0	3806	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	40	0	213	76	2476	0	0	3806	33
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	5212	6450	1919	3839	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	0	0	59	54	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	0	0	59	54	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	3.64	1.41	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	6.9	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	391.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	F	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Geneva Ave/ Schwerin St

Cycle (sec):	90	Critical Vol./Cap.(X):	1.749
Loss Time (sec):	9	Average Delay (sec/veh):	260.7
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	3	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.6	4.6	4.6
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1	0	1	0
Volume Module:												
Base Vol:	16	33	56	24	28	147	104	405	27	69	896	44
Growth Adj:	1.21	1.20	1.20	3.10	1.54	2.84	3.66	4.86	1.27	1.36	3.63	3.55
Initial Bse:	19	40	67	74	43	417	381	1968	34	94	3252	156
Added Vol:	0	0	0	0	0	0	0	89	0	0	152	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	40	67	74	43	417	381	2057	34	94	3404	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	20	40	69	76	44	426	388	2099	35	96	3474	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	40	69	76	44	426	388	2099	35	96	3474	159
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	40	69	76	44	426	388	2099	35	96	3474	159
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95	0.08	0.94	0.94
Lanes:	0.15	0.31	0.54	0.14	0.08	0.78	1.00	1.97	0.03	1.00	1.91	0.09
Final Sat.:	216	442	749	220	127	1233	1805	3544	59	152	3427	157
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.35	0.35	0.35	0.22	0.59	0.59	0.63	1.01	1.01
Crit Moves:					****		****				****	
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.12	0.67	0.67	0.56	0.56	0.56
Volume/Cap:	0.40	0.40	0.40	1.52	1.52	1.52	1.83	0.88	0.88	1.14	1.83	1.83
Uniform Del:	29.6	29.6	29.6	34.8	34.8	34.8	39.7	11.8	11.8	20.0	20.0	20.0
IncremntDel:	0.8	0.8	0.8	248.6	249	248.6	389.9	4.1	4.1	139.1	374	373.8
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	30.4	30.4	30.4	283.3	283	283.3	429.6	15.9	15.9	159.1	394	393.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	30.4	30.4	283.3	283	283.3	429.6	15.9	15.9	159.1	394	393.8
LOS by Move:	C	C	C	F	F	F	F	B	B	F	F	F
HCM2kAvgQ:	3	3	3	40	40	40	32	27	27	4	156	156

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 Bayshore Blvd/ Geneva Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.643
Loss Time (sec):	0	Average Delay (sec/veh):	232.0
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	1 0 1	1	0	2 0 2	1	0	2 0 1	1	0	2 0 1
Volume Module:												
Base Vol:	541	402	0	42	291	491	303	0	238	0	0	0
Growth Adj:	2.00	1.00	1.00	1.00	1.00	1.82	2.94	1.00	1.53	1.00	1.00	1.00
Initial Bse:	1082	402	0	42	291	894	891	0	364	0	0	0
Added Vol:	0	0	0	0	0	54	32	57	0	0	98	0
Geneva Exte:	0	0	640	293	0	0	0	910	0	550	1550	550
Initial Fut:	1082	402	640	335	291	948	923	967	364	550	1648	550
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	1104	410	653	342	297	967	942	987	372	561	1682	561
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1104	410	653	342	297	967	942	987	372	561	1682	561
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1104	410	653	342	297	967	942	987	372	561	1682	561
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	0.95	0.95	0.75	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	2.00	1.00	1.00	1.00	2.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3502	1900	1615	1805	3610	2842	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.22	0.40	0.19	0.08	0.34	0.52	0.27	0.23	0.31	0.47	0.35
Crit Moves:	****					****	****				****	
Green/Cycle:	0.19	0.27	0.27	0.13	0.21	0.21	0.32	0.28	0.28	0.32	0.28	0.28
Volume/Cap:	1.64	0.79	1.49	1.49	0.40	1.64	1.64	0.97	0.82	0.97	1.64	1.23
Uniform Del:	40.4	33.8	36.4	43.6	34.3	39.6	34.1	35.6	33.6	33.6	35.8	35.8
IncremntDel:	296.0	8.3	231.6	241.5	0.3	297.0	297.2	21.7	11.1	30.4	294	119.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	336.4	42.1	268.0	285.1	34.6	336.6	331.3	57.2	44.7	63.9	330	155.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	336.4	42.1	268.0	285.1	34.6	336.6	331.3	57.2	44.7	63.9	330	155.5
LOS by Move:	F	D	F	F	C	F	F	E	D	E	F	F
HCM2kAvgQ:	46	14	48	24	4	43	73	17	10	23	70	33

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 Bayshore Blvd/ Visitacion Ave

Cycle (sec):	110	Critical Vol./Cap.(X):	1.149
Loss Time (sec):	12	Average Delay (sec/veh):	81.9
Optimal Cycle:	180	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	7	7	7	7	7	7
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lanes:	0	1	1 0	1	0	1 1	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	0	848	0	13	881	140	117	0	23	1	1	2
Growth Adj:	1.00	2.35	1.00	xxxx	2.44	1.28	1.31	1.00	2.56	xxxx	xxxx	xxxxx
Initial Bse:	0	1993	0	309	2150	179	153	0	59	41	11	202
Added Vol:	0	65	0	0	108	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2058	0	309	2258	179	153	0	59	41	11	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	0	2100	0	315	2304	183	156	0	60	42	11	206
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2100	0	315	2304	183	156	0	60	42	11	206
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2100	0	315	2304	183	156	0	60	42	11	206
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	1.00	0.95	0.94	0.94	0.43	1.00	0.43	0.83	0.83	0.83
Lanes:	0.00	2.00	1.00	1.00	1.85	0.15	0.72	0.00	0.28	0.16	0.04	0.80
Final Sat.:	0	3610	1900	1805	3308	263	585	0	225	254	68	1252
Capacity Analysis Module:												
Vol/Sat:	0.00	0.58	0.00	0.17	0.70	0.70	0.27	0.00	0.27	0.16	0.16	0.16
Crit Moves:		****		****			****					
Green/Cycle:	0.00	0.51	0.00	0.15	0.66	0.66	0.23	0.00	0.23	0.23	0.23	0.23
Volume/Cap:	0.00	1.15	0.00	1.15	1.06	1.06	1.15	0.00	1.15	0.71	0.71	0.71
Uniform Del:	0.0	27.2	0.0	46.6	18.8	18.8	42.2	0.0	42.2	38.8	38.8	38.8
IncremntDel:	0.0	73.9	0.0	100.7	36.2	36.2	111.4	0.0	111.4	6.2	6.2	6.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	0.0	101	0.0	147.3	55.0	55.0	153.6	0.0	153.6	45.0	45.0	45.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	101	0.0	147.3	55.0	55.0	153.6	0.0	153.6	45.0	45.0	45.0
LOS by Move:	A	F	A	F	E	E	F	A	F	D	D	D
HCM2kAvgQ:	0	52	0	19	58	58	14	0	14	9	9	9

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #12 Velasco Ave/ Santos St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.511
Loss Time (sec):	0	Average Delay (sec/veh):	11.1
Optimal Cycle:	0	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	4	52	20	8	98	10	15	4	2	16	7	12
Growth Adj:	1.20	1.13	1.00	9.14	2.12	2.12	1.99	1.00	1.83	1.28	7.85	9.11
Initial Bse:	5	59	20	73	208	21	30	4	4	20	55	109
Added Vol:	0	152	0	0	63	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	211	20	73	271	21	30	4	4	20	55	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	5	215	20	75	276	22	30	4	4	21	56	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	215	20	75	276	22	30	4	4	21	56	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	215	20	75	276	22	30	4	4	21	56	112
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.90	0.08	0.20	0.74	0.06	0.79	0.11	0.10	0.11	0.30	0.59
Final Sat.:	14	630	60	146	541	42	442	59	54	73	195	389
Capacity Analysis Module:												
Vol/Sat:	0.34	0.34	0.34	0.51	0.51	0.51	0.07	0.07	0.07	0.29	0.29	0.29
Crit Moves:	****				****		****				****	
Delay/Veh:	10.2	10.2	10.2	12.4	12.4	12.4	9.1	9.1	9.1	9.8	9.8	9.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.2	10.2	10.2	12.4	12.4	12.4	9.1	9.1	9.1	9.8	9.8	9.8
LOS by Move:	B	B	B	B	B	B	A	A	A	A	A	A
ApproachDel:	10.2			12.4			9.1			9.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	10.2			12.4			9.1			9.8		
LOS by Appr:	B			B			A			A		
AllWayAvgQ:	0.5	0.5	0.5	0.9	0.9	0.9	0.1	0.1	0.1	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

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APPENDIX L TRANSIT DELAY CALCULATION

Proposed Project

Transit Corridor Delay (Existing vs. Existing Plus Project)

Muni Route 9

Existing PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	16.5	B	0.50	1	17.8
7	Geneva/Santos	13.6	B	0.56		
9	Geneve/Schwerin	30.0	C	0.54		
11	Bayshore/Visitacion	11.2	B	0.50		
	Sum:	71.3			Sum:	17.8
	Average:	17.8				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	9.9	A		5	8.5
5	Sunnydale/Santos	8.0	A			
12	Velasco/Santos	7.5	A			
	Sum:	25.4			Sum:	42.3
	Average:	8.5				

PM Southbound/Westbound Transit Travel Delay: 156.9 seconds

Existing PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	31.8	C	0.50	1	29.3
7	Geneva/Santos	31.7	C	0.38		
9	Geneve/Schwerin	40.7	D	0.54		
11	Bayshore/Visitacion	13.1	B	0.46		
	Sum:	117.3			Sum:	29.3
	Average:	29.3				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	9.8	A		5	8.7
5	Sunnydale/Santos	8.3	A			
12	Velasco/Santos	7.9	A			
	Sum:	26			Sum:	43.3
	Average:	8.7				

PM Northbound/Eastbound Transit Travel Delay: 216.0 seconds

Existing Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	22.3	C	0.72	1	21.1
7	Geneva/Santos	19.6	B	0.74		
9	Geneve/Schwerin	33	C	0.60		
11	Bayshore/Visitacion	9.3	A	0.59		
	Sum:	84.2			Sum:	21.1
	Average:	21.1				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	14.7	B		5	12.7
5	Sunnydale/Santos	11.4	B			
12	Velasco/Santos	11.9	B			
	Sum:	38			Sum:	63.3
	Average:	12.7				

PM Southbound/Westbound Transit Travel Delay: 206.6 seconds

Existing Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	25.0	C	0.08	1	28.1
7	Geneva/Santos	30.4	C	0.55		
9	Geneve/Schwerin	43.8	D	0.60		
11	Bayshore/Visitacion	13	B	0.53		
	Sum:	112.2			Sum:	28.1
	Average:	28.1				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	11.6	B		5	12.7
5	Sunnydale/Santos	12.8	B			
12	Velasco/Santos	13.8	B			
	Sum:	38.2			Sum:	63.7
	Average:	12.7				

PM Northbound/Eastbound Transit Travel Delay: 242.1 seconds

Muni Route 8X

Existing PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	39.4	D	0.56	1	25.3
11	Bayshore/Visitacion	11.2	B	0.50		
	Sum:	50.6			Sum:	25.3
	Average:	25.3				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	8.3	A		11	8.1
12	Velasco/Santos	7.9	A			
	Sum:	16.2			Sum:	89.1
	Average:	8.1				

PM Southbound/Westbound Transit Travel Delay: 181.2 seconds

Existing PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	50.1	D	0.56	1	42.6
11	Bayshore/Visitacion	35.0	D	0.46		
	Sum:	85.1			Sum:	42.6
	Average:	42.6				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	8.0	A		11	7.8
12	Velasco/Santos	7.5	A			
	Sum:	15.5			Sum:	85.3
	Average:	7.8				

PM Northbound/Eastbound Transit Travel Delay: 228.4 seconds

Existing Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	42.5	D	0.74	1	25.9
11	Bayshore/Visitacion	9.3	A	0.59		
	Sum:	51.8			Sum:	25.9
	Average:	25.9				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	12.8	B		11	11.05
12	Velasco/Santos	9.3	A			
	Sum:	22.1			Sum:	121.55
	Average:	11.05				

PM Southbound/Westbound Transit Travel Delay: 221.4 seconds

Existing Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	53.6	D	0.59	1	48.4
11	Bayshore/Visitacion	43.1	D	0.59		
	Sum:	96.7			Sum:	48.4
	Average:	48.4				

Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	11.4	B		11	10.5
12	Velasco/Santos	9.5	A			
	Sum:	20.9			Sum:	115.0
	Average:	10.5				

PM Northbound/Eastbound Transit Travel Delay: 280.9 seconds

Muni Route **8BX**

Existing PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	39.4	D	0.56	1	25.3
11	Bayshore/Visitacion	11.2	B	0.50		
	Sum:	50.6			Sum:	25.3
	Average:	25.3				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
5	Sunnydale/Santos	8.3	A		11	8.1
12	Velasco/Santos	7.9	A			
	Sum:	16.2			Sum:	89.1
	Average:	8.1				
	PM Southbound/Westbound Transit Travel Delay:				**181.2**	**seconds**

Existing Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	42.5	D	0.74	1	25.9
11	Bayshore/Visitacion	9.3	A	0.59		
	Sum:	51.8			Sum:	25.9
	Average:	25.9				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
5	Sunnydale/Santos	12.8	B		11	11.05
12	Velasco/Santos	9.3	A			
	Sum:	22.1			Sum:	121.55
	Average:	11.05				
	PM Southbound/Westbound Transit Travel Delay:				**221.4**	**seconds**

Muni Route **56**

Existing PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
3	Sunnydale/Schwerin	20.3	C		5	20.3
	Sum:	20.3			Sum:	101.5
	Average:	20.3				
	PM Inbound Transit Travel Delay:				121.8	seconds

Existing Plus Project PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
3	Sunnydale/Schwerin	37.3	E		5	37.3
	Sum:	37.3			Sum:	186.5
	Average:	37.3				
	PM Inbound Transit Travel Delay:				223.8	seconds

Existing PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.13		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
5	Sunnydale/Santos	9.6	A		11	8.9
12	Velasco/Santos	8.2	A			
	Sum:	17.8			Sum:	97.9
	Average:	8.9				
	PM outbound Transit Travel Delay:				548.6	seconds

Existing Plus Project PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	(s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
5	Sunnydale/Santos	12.2	B		11	12.1
12	Velasco/Santos	11.9	B			
	Sum:	24.1			Sum:	132.6
	Average:	12.1				
	PM outbound Transit Travel Delay:				589.6	seconds

Existing PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
2	Sunnydale/Sawyer	8.2	A		6	8.7
3	Sunnydale/Schwerin	9.1	A		Sum:	51.9
	Sum:	17.3				
	Average:	8.7				
	PM Northbound/Eastbound Transit Travel Delay:				**69.2**	**seconds**

Existing Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
2	Sunnydale/Sawyer	9.9	A		6	10.7
3	Sunnydale/Schwerin	11.5	B		Sum:	64.2
	Sum:	21.4				
	Average:	10.7				
	PM Northbound/Eastbound Transit Travel Delay:				**85.6**	**seconds**

*For intersections that operate at LOS F with a calculated average delay greater than 100 seconds per vehicle and the v/c ratio greater than 1.02, intersection delay was assumed to be 240 seconds per vehicle.

Transit Corridor Delay (Cumulative vs. Cumulative Plus Project)

Muni Route 9

Baseline PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	27.2	C	0.78	1	137.3
7	Geneva/Santos	240	F	1.62		
9	Geneve/Schwerin	240	F	1.48		
11	Bayshore/Visitacion	42	D	1.02		
	Sum:	549.2			Sum:	137.3
	Average:	137.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	20.3	C		5	12.7
5	Sunnydale/Santos	9.6	A			
12	Velasco/Santos	8.2	A			
	Sum:	38.1			Sum:	63.5
	Average:	12.7				

PM Southbound/Westbound Transit Travel Delay: 788.1 seconds

Baseline PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	240	F	1.10	1	203.0
7	Geneva/Santos	240	F	1.10		
9	Geneve/Schwerin	240	F	1.78		
11	Bayshore/Visitacion	92.1	F	1.13		
	Sum:	812.1			Sum:	203.0
	Average:	203.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	19	C		5	13.0
5	Sunnydale/Santos	9.5	A			
12	Velasco/Santos	10.4	B			
	Sum:	38.9			Sum:	64.8
	Average:	13.0				

PM Northbound/Eastbound Transit Travel Delay: 1118.9 seconds

Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	34.2	C	0.89	1	144.5
7	Geneva/Santos	240	F	1.72		
9	Geneve/Schwerin	240	F	1.54		
11	Bayshore/Visitacion	63.6	E	1.08		
	Sum:	577.8			Sum:	144.5
	Average:	144.5				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	37.3	E		5	20.5
5	Sunnydale/Santos	12.2	B			
12	Velasco/Santos	11.9	B			
	Sum:	61.4			Sum:	102.3
	Average:	20.5				

PM Southbound/Westbound Transit Travel Delay: 886.0 seconds

Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	240	F	1.17	1	240.0
7	Geneva/Santos	240	F	1.56		
9	Geneve/Schwerin	240	F	1.85		
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	960			Sum:	240.0
	Average:	240.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	24.7	C		5	16.7
5	Sunnydale/Santos	11.7	B			
12	Velasco/Santos	13.8	B			
	Sum:	50.2			Sum:	83.7
	Average:	16.7				

PM Northbound/Eastbound Transit Travel Delay: 1333.9 seconds

Muni Route 8X

Baseline PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.32	1	141.0
11	Bayshore/Visitacion	42	D	1.02		
	Sum:	282			Sum:	141.0
	Average:	141.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	10	A		11	10.2
12	Velasco/Santos	10.4	B			
	Sum:	20.4			Sum:	112.2
	Average:	10.2				

PM Southbound/Westbound Transit Travel Delay: 555.6 seconds

Baseline PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.13		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	9.6	A		11	8.9
12	Velasco/Santos	8.2	A			
	Sum:	17.8			Sum:	97.9
	Average:	8.9				

PM Northbound/Eastbound Transit Travel Delay: 548.6 seconds

Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.60	1	151.8
11	Bayshore/Visitacion	63.6	E	1.08		
	Sum:	303.6			Sum:	151.8
	Average:	151.8				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	12.8	B		11	13.3
12	Velasco/Santos	13.8	B			
	Sum:	26.6			Sum:	146.3
	Average:	13.3				

PM Southbound/Westbound Transit Travel Delay: 628.3 seconds

Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	12.2	B		11	12.1
12	Velasco/Santos	11.9	B			
	Sum:	24.1			Sum:	132.6
	Average:	12.1				

PM Northbound/Eastbound Transit Travel Delay: 589.6 seconds

Muni Route **8BX**

Baseline PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.32	1	141.0
11	Bayshore/Visitacion	42	D	1.02		
	Sum:	282			Sum:	141.0
	Average:	141.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	10	A		11	10.2
12	Velasco/Santos	10.4	B			
	Sum:	20.4			Sum:	112.2
	Average:	10.2				
	PM Southbound/Westbound Transit Travel Delay:				**555.6**	**seconds**

Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.60	1	151.8
11	Bayshore/Visitacion	63.6	E	1.08		
	Sum:	303.6			Sum:	151.8
	Average:	151.8				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	12.8	B		11	13.3
12	Velasco/Santos	13.8	B			
	Sum:	26.6			Sum:	146.3
	Average:	13.3				
	PM Southbound/Westbound Transit Travel Delay:				**628.3**	**seconds**

Baseline PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.13		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	9.6	A		11	8.9
12	Velasco/Santos	8.2	A			
	Sum:	17.8			Sum:	97.9
	Average:	8.9				
	PM outbound Transit Travel Delay:				548.6	seconds

Plus Project PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	(s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	12.2	B		11	12.1
12	Velasco/Santos	11.9	B			
	Sum:	24.1			Sum:	132.6
	Average:	12.1				
	PM outbound Transit Travel Delay:				589.6	seconds

Muni Route **56**

Baseline PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	20.3	C		5	20.3
	Sum:	20.3			Sum:	101.5
	Average:	20.3				
	PM Inbound Transit Travel Delay:				121.8	seconds

Plus Project PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	37.3	E		5	37.3
	Sum:	37.3			Sum:	186.5
	Average:	37.3				
	PM Inbound Transit Travel Delay:				223.8	seconds

Baseline PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
2	Sunnydale/Sawyer	9.5	A		6	11.2
3	Sunnydale/Schwerin	12.8	B		Sum:	66.9
	Sum:	22.3				
	Average:	11.2				
	PM Northbound/Eastbound Transit Travel Delay:				**89.2**	**seconds**

Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
2	Sunnydale/Sawyer	10.6	B		6	13.3
3	Sunnydale/Schwerin	16.0	C		Sum:	79.8
	Sum:	26.6				
	Average:	13.3				
	PM Northbound/Eastbound Transit Travel Delay:				**106.4**	**seconds**

*For intersections that operate at LOS F with a calculated average delay greater than 100 seconds per vehicle and the v/c ratio greater than 1.02, intersection delay was assumed to be 240 seconds per vehicle.

Alternative I

Transit Corridor Delay (Existing vs. Existing Plus Alternative 1)

Muni Route 9

Existing PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	16.5	B	0.50	1	17.8
7	Geneva/Santos	13.6	B	0.56		
9	Geneve/Schwerin	30.0	C	0.54		
11	Bayshore/Visitacion	11.2	B	0.50		
	Sum:	71.3			Sum:	17.8
	Average:	17.8				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	9.9	A		5	8.5
5	Sunnydale/Santos	8.0	A			
12	Velasco/Santos	7.5	A			
	Sum:	25.4			Sum:	42.3
	Average:	8.5				

PM Southbound/Westbound Transit Travel Delay: 156.9 seconds

Existing PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	31.8	C	0.50	1	29.3
7	Geneva/Santos	31.7	C	0.38		
9	Geneve/Schwerin	40.7	D	0.54		
11	Bayshore/Visitacion	13.1	B	0.46		
	Sum:	117.3			Sum:	29.3
	Average:	29.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	9.8	A		5	8.7
5	Sunnydale/Santos	8.3	A			
12	Velasco/Santos	7.9	A			
	Sum:	26			Sum:	43.3
	Average:	8.7				

PM Northbound/Eastbound Transit Travel Delay: 216.0 seconds

Existing Plus Alternative 1 PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	20.4	C	0.72	1	19.8
7	Geneva/Santos	17.5	B	0.74		
9	Geneve/Schwerin	31.9	C	0.60		
11	Bayshore/Visitacion	9.5	A	0.59		
	Sum:	79.3			Sum:	19.8
	Average:	19.8				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	9.9	B		5	9.5
5	Sunnydale/Santos	9.9	B			
12	Velasco/Santos	8.7	B			
	Sum:	28.5			Sum:	47.5
	Average:	9.5				

PM Southbound/Westbound Transit Travel Delay: 175.1 seconds

Existing Plus Alternative 1 PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	34.5	C	0.08	1	30.4
7	Geneva/Santos	30.9	C	0.55		
9	Geneve/Schwerin	42.6	D	0.60		
11	Bayshore/Visitacion	13.6	B	0.53		
	Sum:	121.6			Sum:	30.4
	Average:	30.4				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	9.8	B		5	9.2
5	Sunnydale/Santos	9.0	B			
12	Velasco/Santos	8.8	B			
	Sum:	27.6			Sum:	46.0
	Average:	9.2				

PM Northbound/Eastbound Transit Travel Delay: 225.6 seconds

Muni Route 8X

Existing PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	39.4	D	0.56	1	25.3
11	Bayshore/Visitacion	11.2	B	0.50		
	Sum:	50.6			Sum:	25.3
	Average:	25.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	8.3	A		11	8.1
12	Velasco/Santos	7.9	A			
	Sum:	16.2			Sum:	89.1
	Average:	8.1				

PM Southbound/Westbound Transit Travel Delay: 181.2 seconds

Existing PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	50.1	D	0.56	1	42.6
11	Bayshore/Visitacion	35.0	D	0.46		
	Sum:	85.1			Sum:	42.6
	Average:	42.6				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	8.0	A		11	7.8
12	Velasco/Santos	7.5	A			
	Sum:	15.5			Sum:	85.3
	Average:	7.8				

PM Northbound/Eastbound Transit Travel Delay: 228.4 seconds

Existing Plus Alternative 1 PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	40.4	D	0.74	1	25.0
11	Bayshore/Visitacion	9.5	A	0.59		
	Sum:	49.9			Sum:	25.0
	Average:	25.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	10.6	B		11	9.7
12	Velasco/Santos	8.8	A			
	Sum:	19.4			Sum:	106.7
	Average:	9.7				

PM Southbound/Westbound Transit Travel Delay: 201.0 seconds

Existing Plus Alternative 1 PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	53.6	D	0.59	1	47.2
11	Bayshore/Visitacion	40.7	D	0.59		
	Sum:	94.3			Sum:	47.2
	Average:	47.2				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	9.9	B		11	9.3
12	Velasco/Santos	8.7	A			
	Sum:	18.6			Sum:	102.3
	Average:	9.3				

PM Northbound/Eastbound Transit Travel Delay: 262.4 seconds

Muni Route **8BX**

Existing PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	39.4	D	0.56	1	25.3
11	Bayshore/Visitacion	11.2	B	0.50		
	Sum:	50.6			Sum:	25.3
	Average:	25.3				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
5	Sunnydale/Santos	8.3	A		11	8.1
12	Velasco/Santos	7.9	A			
	Sum:	16.2			Sum:	89.1
	Average:	8.1				
	PM Southbound/Westbound Transit Travel Delay:				**181.2**	**seconds**

Existing Plus Alternative 1 PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	40.4	D	0.74	1	25.0
11	Bayshore/Visitacion	9.5	A	0.59		
	Sum:	49.9			Sum:	25.0
	Average:	25.0				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
5	Sunnydale/Santos	10.6	B		11	9.7
12	Velasco/Santos	8.8	A			
	Sum:	19.4			Sum:	106.7
	Average:	9.7				
	PM Southbound/Westbound Transit Travel Delay:				**201.0**	**seconds**

Muni Route **56**

Existing PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
3	Sunnydale/Schwerin	20.3	C		5	20.3
	Sum:	20.3			Sum:	101.5
	Average:	20.3				
	PM Inbound Transit Travel Delay:				121.8	seconds

Existing Plus Alternative 1 PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
3	Sunnydale/Schwerin	37.3	E		5	37.3
	Sum:	37.3			Sum:	186.5
	Average:	37.3				
	PM Inbound Transit Travel Delay:				223.8	seconds

Existing PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.13		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
5	Sunnydale/Santos	9.6	A		11	8.9
12	Velasco/Santos	8.2	A			
	Sum:	17.8			Sum:	97.9
	Average:	8.9				
	PM outbound Transit Travel Delay:				548.6	seconds

Existing Plus Alternative 1 PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	(s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
					# Unsignalized	
	Unsignalized Intersection				Int.	Avg. Delay
5	Sunnydale/Santos	12.2	B		11	12.1
12	Velasco/Santos	11.9	B			
	Sum:	24.1			Sum:	132.6
	Average:	12.1				
	PM outbound Transit Travel Delay:				589.6	seconds

Existing PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
2	Sunnydale/Sawyer	8.2	A		6	8.7
3	Sunnydale/Schwerin	9.1	A		Sum:	51.9
	Sum:	17.3				
	Average:	8.7				
	PM Northbound/Eastbound Transit Travel Delay:				**69.2**	**seconds**

Existing Plus Alternative 1 PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
					# Unsignalized	
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	Int.	Avg. Delay
2	Sunnydale/Sawyer	9.3	A		6	9.2
3	Sunnydale/Schwerin	9.1	B		Sum:	55.2
	Sum:	18.4				
	Average:	9.2				
	PM Northbound/Eastbound Transit Travel Delay:				**73.6**	**seconds**

*For intersections that operate at LOS F with a calculated average delay greater than 100 seconds per vehicle and the v/c ratio greater than 1.02, intersection delay was assumed to be 240 seconds per vehicle.

Transit Corridor Delay (Cumulative vs. Cumulative Plus Project)

Muni Route 9

Baseline PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	27.2	C	0.78	1	137.3
7	Geneva/Santos	240	F	1.62		
9	Geneve/Schwerin	240	F	1.48		
11	Bayshore/Visitacion	42	D	1.02		
	Sum:	549.2			Sum:	137.3
	Average:	137.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	20.3	C		5	12.7
5	Sunnydale/Santos	9.6	A			
12	Velasco/Santos	8.2	A			
	Sum:	38.1			Sum:	63.5
	Average:	12.7				

PM Southbound/Westbound Transit Travel Delay: 788.1 seconds

Baseline PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	240	F	1.10	1	203.0
7	Geneva/Santos	240	F	1.10		
9	Geneve/Schwerin	240	F	1.78		
11	Bayshore/Visitacion	92.1	F	1.13		
	Sum:	812.1			Sum:	203.0
	Average:	203.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	19	C		5	13.0
5	Sunnydale/Santos	9.5	A			
12	Velasco/Santos	10.4	B			
	Sum:	38.9			Sum:	64.8
	Average:	13.0				

PM Northbound/Eastbound Transit Travel Delay: 1118.9 seconds

Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	31.1	C	0.89	1	141.5
7	Geneva/Santos	240	F	1.72		
9	Geneve/Schwerin	240	F	1.54		
11	Bayshore/Visitacion	55	E	1.08		
	Sum:	566.1			Sum:	141.5
	Average:	141.5				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	29	E		5	16.8
5	Sunnydale/Santos	11.2	B			
12	Velasco/Santos	10.2	B			
	Sum:	50.4			Sum:	84.0
	Average:	16.8				

PM Southbound/Westbound Transit Travel Delay: 842.0 seconds

Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
4	Bayshore/Sunnydale	240	F	1.17	1	240.0
7	Geneva/Santos	240	F	1.56		
9	Geneve/Schwerin	240	F	1.85		
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	960			Sum:	240.0
	Average:	240.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	22.4	C		5	15.2
5	Sunnydale/Santos	10.8	B			
12	Velasco/Santos	12.4	B			
	Sum:	45.6			Sum:	76.0
	Average:	15.2				

PM Northbound/Eastbound Transit Travel Delay: 1321.6 seconds

Muni Route 8X

Baseline PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.32	1	141.0
11	Bayshore/Visitacion	42	D	1.02		
	Sum:	282			Sum:	141.0
	Average:	141.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	10	A		11	10.2
12	Velasco/Santos	10.4	B			
	Sum:	20.4			Sum:	112.2
	Average:	10.2				

PM Southbound/Westbound Transit Travel Delay: 555.6 seconds

Baseline PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.13		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	9.6	A		11	8.9
12	Velasco/Santos	8.2	A			
	Sum:	17.8			Sum:	97.9
	Average:	8.9				

PM Northbound/Eastbound Transit Travel Delay: 548.6 seconds

Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.60	1	147.5
11	Bayshore/Visitacion	55	E	1.08		
	Sum:	295			Sum:	147.5
	Average:	147.5				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	11.6	B		11	12
12	Velasco/Santos	12.4	B			
	Sum:	24			Sum:	132
	Average:	12				

PM Southbound/Westbound Transit Travel Delay: 598.5 seconds

Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	11.2	B		11	10.7
12	Velasco/Santos	10.2	B			
	Sum:	21.4			Sum:	117.7
	Average:	10.7				

PM Northbound/Eastbound Transit Travel Delay: 572.0 seconds

Muni Route **8BX**

Baseline PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.32	1	141.0
11	Bayshore/Visitacion	42	D	1.02		
	Sum:	282			Sum:	141.0
	Average:	141.0				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	10	A		11	10.2
12	Velasco/Santos	10.4	B			
	Sum:	20.4			Sum:	112.2
	Average:	10.2				
	PM Southbound/Westbound Transit Travel Delay:				**555.6**	**seconds**

Plus Project PM - Southbound/Westbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	240	F	1.60	1	147.5
11	Bayshore/Visitacion	55	E	1.08		
	Sum:	295			Sum:	147.5
	Average:	147.5				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	11.6	B		11	12
12	Velasco/Santos	12.4	B			
	Sum:	24			Sum:	132
	Average:	12				
	PM Southbound/Westbound Transit Travel Delay:				**598.5**	**seconds**

Baseline PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.13		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	9.6	A		11	8.9
12	Velasco/Santos	8.2	A			
	Sum:	17.8			Sum:	97.9
	Average:	8.9				
	PM outbound Transit Travel Delay:				548.6	seconds

Plus Project PM Outbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	(s)	LOS	v/c	# Signalized Int.	Avg. Delay
7	Geneva/Santos	48.6	D	0.53	1	144.3
11	Bayshore/Visitacion	240	F	1.16		
	Sum:	288.6			Sum:	144.3
	Average:	144.3				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
5	Sunnydale/Santos	12.2	B		11	12.1
12	Velasco/Santos	11.9	B			
	Sum:	24.1			Sum:	132.6
	Average:	12.1				
	PM outbound Transit Travel Delay:				589.6	seconds

Muni Route **56**

Baseline PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	20.3	C		5	20.3
	Sum:	20.3			Sum:	101.5
	Average:	20.3				
	PM Inbound Transit Travel Delay:				121.8	seconds

Plus Project PM Inbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
	Unsignalized Intersection				# Unsignalized Int.	Avg. Delay
3	Sunnydale/Schwerin	37.3	E		5	37.3
	Sum:	37.3			Sum:	186.5
	Average:	37.3				
	PM Inbound Transit Travel Delay:				223.8	seconds

Baseline PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
2	Sunnydale/Sawyer	9.5	A		6	11.2
3	Sunnydale/Schwerin	12.8	B		Sum:	66.9
	Sum:	22.3				
	Average:	11.2				
	PM Northbound/Eastbound Transit Travel Delay:				**89.2**	**seconds**

Plus Project PM - Northbound/Eastbound

Study Intersections					Intersections Not Studied	
Int #	Signalized Intersection	Approach Delay (s)	LOS	v/c	# Signalized Int.	Avg. Delay
	Sum:	0			Sum:	0.0
	Average:	#DIV/0!				
Int #	Unsignalized Intersection	Approach Delay (s)	LOS	v/c	# Unsignalized Int.	Avg. Delay
2	Sunnydale/Sawyer	10.2	B		6	12.5
3	Sunnydale/Schwerin	14.7	C		Sum:	74.7
	Sum:	24.9				
	Average:	12.5				
	PM Northbound/Eastbound Transit Travel Delay:				**99.6**	**seconds**

*For intersections that operate at LOS F with a calculated average delay greater than 100 seconds per vehicle and the v/c ratio greater than 1.02, intersection delay was assumed to be 240 seconds per vehicle.

APPENDIX M SAN FRANCISCO FIRE CODE COMPLIANCE

VAN METER
WILLIAMS
POLLACK LLP

November 18, 2010

Sunnydale Hope SF
SF Fire Department Fire Access Pre-Application Meeting

Distribution To: All attendees, Ramie Dare MHC, Steve Ronzone

Present:	Organization:	sent via email
Bruce Guitron	SFFD	
Steve Murray	KPFF – Civil Engineers	
Karen Murray (KM)	Van Meter Williams Pollack- Master Plan Architect	

This meeting was held to discuss fire access and issues related to the site proposal for the Sunnydale HOPE SF. The meeting was held on Tuesday, October 19, 2010 at 9:30 am at the SF Fire Department. The following issues were discussed during the meeting:

Meeting Minutes

1. Phasing/Transitions to existing roads
Fencing, Grading and street closure/demo must all be planned to maintain access to existing occupied units. No dead-ends of 150' or more will be permitted without 80' turn-arounds.

2. Height
2010 SFFC Appendix section D105 may be adopted by Administrative Bulletin in January, 2011. This would require that all buildings 30 ' or higher have 26' of clear roadway width for aerial fire apparatus access. Access must be from a minumim 15', and maximum 30 ' distance from roadway to building.

3. Bulb-Outs
Lt. Guitron gave dimensions of rig to Steve Murray to model turns. 20'-22' width is acceptable at limited bulb-outs only. Bulb-outs should be limited to corners and focused locations. Extended Bulb outs inhibit fire access.

4. Hydrants/Standpipes
2010 California Fire code, section 905.3 sets the standards for all locations where standpipes are required. There is an exception for R-3 and R3.1 occupancies. Generally, all buildings over 30' tall, sprinklered or not, need a standpipe. Every required exit stair needs a standpipe also. Standpipes need to be within 100'of a hydrant.

5. Water/ Fire Flow
Fire flow to hydrants typically drives water demand. A fire flow test costs $220. Steve Murray to find out if Avila has done this. If not, he will authorize test. Car lifts increase sprinkler demand immensely. Sprinklered buildings get up to a 75% reduction in fire flow demand, but in no case will less than 1,500 gallons per minute for the prescribed duration be allowed. (2010 California fire code appendix section B105.2).

6. Building Access
East Property Line: An Emergency Vehicle Access lane is not required at the rear property as building can be accessed from 'A' Street.
North Property Line: 40' setback distance from Sunnydale Avenue was discussed but will not be an issue as buildings can be accessed from driveways. Driveways need to be 26' wide* (can be combination of paving and structured landscape) and less than 150' in length. Driveway/roadway must be able to support fire apparatus weighing 75,000 pounds. Main entries to lobbies need to have a path of travel from the street. *w/new code for buildings requiring aerial apparatus access.
West Property Line: Buildings can be accessed from Brookdale. The stepped townhouse liner building at Block 31 may present a laddering problem. This will need to be studied further.

After reviewing this document, please forward any comments concerning errors, omissions, or discrepancies to Van Meter Williams Pollack. After compiling all comments, a final copy of these notes will be issued. If no comments are received, this will serve as the final copy.

Regards,

Karen Murray
Project Architect

Signed

Lt. Bruce Guitron

-----Original Message-----
From: Barbara.Schultheis@sfgov.org
[mailto:Barbara.Schultheis@sfgov.org]

Sent: Monday, November 22, 2010 8:27 AM
To: Steve Ronzone
Cc: 'Karen Murray'; Ramie Dare; Bruce.Guitron@sfgov.org
Subject: Re: Follow-Up On Sunnydale Street Width Question

Hi Steve-

The fire code appendix chapter was amended by the Board of Sups in the approval process.

The way it ended up is:

APPENDIX D - FIRE APPARATUS ACCESS ROADS
SECTION D105-AERIAL FIRE APPARATUS ACCESS ROADS

The following San Francisco section replaces the corresponding International Fire Code section.

D105.1 [For SF] Where required. Buildings or portions of buildings or facilities exceeding 30 feet (914 mm) in height above the lowest level of fire department vehicle access shall be provided with approved fire department access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

Exception: Buildings that are equipped throughout with approve automatic sprinkler systems.

Barbara Schultheis
Fire Marshal
San Francisco Fire Department
698 2nd St.
San Francisco, CA 94107
(415) 558-3320 ph.
(415) 558-3322 fax

"Steve Ronzone" steve@steveronzone.com
To <barbara.schultheis@sfgov.org>
11/19/2010 11:49 AM

Cc "'Ramie Dare'" <rdare@mercyhousing.org>, "'Karen Murray'" karen@vmwp.com

Subject Follow-Up On Sunnydale Street Width Question

Hi Barbara: Thanks so much for your time on Wednesday to review 1198 Mission. As you may recall at the end of the meeting I asked you a question regarding street width requirements for the new Sunnydale HOPE SF Project.
I understood your response to be that for buildings greater than 30' in height that do not have full sprinklers, that it was required that the streets be a total of 26' wide. However, if the buildings are

residential and have full sprinklers as required, then we could maintain the new street width as 20' wide. Did I recall your answer correctly?

You had referenced section D.105.2, which does not appear to reference the provision of sprinklers. Is there a more specific section which indicates the above?

The Sunnydale team had met previously on 10/19 with Bruce Guitron who indicated the information below. I am hopeful you can assist to clear up this item for us. We look forward to your response back.

2. Height
2010 SFFC Appendix section D105 may be adopted by Administrative Bulletin in January, 2011. This would require that all buildings 30 ' or higher have 26' of clear roadway width for aerial fire apparatus access. Access must be from a minimum 15', and maximum 30'distance from roadway to building.

Thanks ..... Steve

Steven P. Ronzone
415-332-1446 (o)
415-686-7175 (c)
steve@steveronzone.com

APPENDIX N NON-RESIDENTIAL PARKING REQUIREMENTS

Sunnydale HOPE SF			
Calculation of Off Street Parking requirements for non residential construction			
Revised Sept 1, 2011			
Summary non residential uses square footage	**Sq footage**	**Parking required**	
Stand alone recreation/community center Block 1	45,000	111	
Amount for retail in ground floor of Block 3	16,200	39	
Community Services in ground floor of Block 3	19,500	45	
Amount in community building at Overlook Park Block 30	3,000	-	
Amount of Pavilion next to Community Garden Block 4	5,000	0	
Total Recreation and Community Space square footage	**88,700**	**195**	
Recreation/Community Center Block 1	**Sq footage**	**Parking required**	**Calculation per Sec 151 of Planning Code**
Gymnasium (gym, fitness room, courts)	15,000	95	1 for 200 sq ft. Includes locker room
Locker rooms	4,000		Included in Gym # above
Arts and crafts room Boys & Girls Club	3,000	0	for Arts (not theater)
Computer learning center (1 room)	2,000		for Elementary Classrooms; 1 per 6 rooms
Homework room (1 room)	2,500		for Elementary Classrooms; 1 per 6 rooms
Multi purpose room(s)	4,500	15	Estimate 120 people occupancy for any given event; 1 parking per 8 people
Classrooms (4)	4,000	1	for Elementary Classrooms; 1 per 6 rooms
Lobby/circulation/utiilty rooms	5,000		
Public restrooms	1,000		
staff / case mgmt offices	2,000	0	Per Sec 151 for Other Business
Café	2,000	0	Per Sec 151 for Restaurants
subtotal	**45,000**	**111**	
Retail in Block 3	**Sq footage**	**Parking required**	**Calculation per Sec 151 of Planning Code**
eatery 1	1,000		included in eatery 4 calc below
eatery 2	1,200		included in eatery 4 calc below
eatery 3	1,100		included in eatery 4 calc below
eatery 4	1,400	24	Includes eateries. Restaurant: 1 for each 200 sq ft occupied area over 5000 sq ft
Arts Center (not theater)	2,500	0	Arts: 1 for each 2000 sq ft if exceeds 7500 sq ft
Other Retail (police substation, leasing office)	4,300	15	1 for each 500 sq ft if space is between 5000 and 20,000 sq ft
retail 1	600	0	Included in Other Retail calc above
retail 2	600	0	Included in Other Retail calc above
corner store	2,000	0	Included in Other Retail calc above
(4) unisex retail restrooms	200	0	not counted
retail trash & circulation	1,300	0	not counted
subtotal	**16,200**	**39**	
Community Services in Block 3	**Sq footage**	**Parking required**	**Calculation per Sec 151 of Planning Code**
Health Center (outpatient)	12,000	40	1 for each 300 sq ft if exceeds 5000 sq ft
Child Care (100 slots)	5,000	4	1 for each 25 children where center exceeds 24 children
Public restrooms for neighborhood green/garden	100		not counted
Post secondary educational program: 2 classrooms	2,400	1	1 for each 2 classrooms
Subtotal	**19,500**	**45**	
Community Building in Overlook Park Block 30	**Sq footage**	**Parking required**	**Calculation per Sec 151 of Planning Code**
Recreation room	3,000	0	Used Restaurant/Bowling Alley calc: 1 for each 200 sq ft if over 5000 sq ft
Subtotal	**3,000**	**0**	
Pavilion in Block 4			
Pavilion structure for farmer markets, community events	5,000	0	Used Restaurant/Bowling Alley calc: 1 for each 200 sq ft if over 5000 sq ft
Subtotal	**5,000**	**0**	

CHS Consulting Group

MEMORANDUM

DATE: September 4, 2014

TO: Sue Mickelson

FROM: Chi-Hsin Shao and Migi Lee

RE: Sunnydale-Velasco Housing Development Traffic Study – Update of Traffic and Transit Conditions under Existing Plus Project and 2040 Cumulative Conditions

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This technical memorandum presents the traffic and transit impacts based on the updated trip generation and future traffic volume estimations for the *Sunnydale Velasco Housing Development Project Transportation Impact Study* (*Sunnydale TIS*).

Introduction

The Sunnydale-Velasco Housing Development Project (herein referred to as the "proposed project"), located in Superdistrict 3 of San Francisco, would replace the existing 785 affordable public housing units with a combination of 1,700 market-rate and affordable housing units for a net addition of 915 new housing units on the project site. The proposed project would also provide approximately 30,000 square feet of community and retail spaces on the site.

Project impacts for the proposed project had been previously analyzed by CHS Consulting Group (CHS) as part of the submittal for the *Sunnydale TIS* in June, 2012. In the *Sunnydale TIS*, modal split assumptions used for the project trip generation were based on the 2000 U.S. Census data, and the future cumulative traffic volumes had been developed for Year 2030 primarily based on the future volumes presented in the *Candlestick Point – Hunters Point Shipyard Phase II Development Plan Transportation Study (CPHPTS).*

The San Francisco Planning Department has determined the necessity to update the traffic information in the *Sunnydale TIS* to be consistent with the department's current methodology for evaluating cumulative traffic impacts. As such, CHS updated the project trip generation using the modal split assumptions found in the 2012 American Community Survey data and developed future cumulative traffic volumes for Year 2040 using the latest SF-CHAMP model outputs.[1]

[1] The American Community Survey (ACS) is conducted every year to provide up-to-date information about the social and economic needs of communities, whereas the census is conducted every 10 years to provide an official count of the entire U.S. population to Congress.

Trip Generation Update

The proposed project would generate a total of 10,914 person trips on a daily basis, of which approximately 1,483 person trips would occur during the PM peak hour.[2] The total PM peak-hour person trips were assigned to different transportation modes based on the modal split data obtained from the 2012 American Community Survey. **Appendix A** includes the summary tables from the 2012 American Community Survey, and **Appendix B** includes detailed trip generation calculations based on the new modal split assumptions. **Table 1** presents the comparison of modal trip generation based on the 2000 Census vs. the 2012 American Community Survey data. The mode data in the study area from 2000 and 2012 indicate that there has been an approximately five percent increase in the share of people who commute via automobile (i.e., drive alone or carpool to work) and a reduction in the transit share by the same amount.[3]

Table 1 – PM Peak-Hour Person Trip Generation by Mode

	Modal Splits Based on 2000 Census		Modal Splits Based on 2012 American Community Survey		Change	
Mode	**Trips**	**Percent**	**Trips**	**Percent**	**Trips**	**Percent**
Auto	812	54%	879	59%	67	5%
Transit	562	38%	493	33%	-69	-5%
Walk	67	5%	66	5%	-1	-0%
Other	42	3%	45	3%	3	0%
Total	1,483	100%	1,483	100%	0	0%

Source: *San Francisco Guidelines*, October 2002, 2000 US Census; 2012 American Community Survey.

The total auto person trips were converted into vehicle trips using the vehicle occupancy rate of 1.2 persons per vehicle, obtained from the 2012 American Community Survey data. There is no change in vehicle occupancy rates from 2000 to 2012. **Table 2** presents the comparison of vehicle trip generation for the proposed project based on the 2000 Census vs. the 2012 American Community Survey data. The proposed project would generate a total of 674 PM peak hour vehicle trips including 430 trips in the inbound direction and 244 trips in the outbound direction. This represents an increase of approximately 53 vehicle trips during the PM peak hour compared to the estimation based on the 2000 U.S. Census data. While the new estimate of vehicle trip generation based on the 2012 American Community Survey data is higher than what was analyzed previously using the 2000 Census data, the overall cumulative traffic impacts are lesser in 2040 than in 2030 due to a reduction in the estimated number of background traffic. The change in background traffic from 2030 to 2040 is further explained below under "*Changes in 2040 Cumulative Impacts Determination*."

[2] There is no change in the number of person trips generated when compared to those reported in the *Sunnydale TIS*.

[3] The mode shift from 2000 to 2012 is attributed to an increase in the share of people who drive alone by two percent (from 39% to 41%) and an increase in those who carpool by four percent (from 13% to 17%) for residential uses. Mode splits for non-residential uses are assumed to be the same.

Table 2 – PM Peak-Hour Vehicle Trip Generation

	Modal Splits Based on 2000 Census	Modal Splits Based on 2012 American Community Survey	Change
Inbound	394	430	+36
Outbound	227	244	+17
Total	621	674	+53

Source: *San Francisco Guidelines*, October 2002, 2000 US Census; 2012 American Community Survey.

Changes in Project Impacts Determination

Traffic Impacts

Intersection operating conditions were re-analyzed at the twelve study intersections using the updated vehicle trip generation. **Table 3** presents the comparison of intersection operating conditions for the Existing Plus Project conditions with modal split assumptions based on the 2000 U.S. Census vs. the 2012 American Community Survey data. As shown, the study intersections would continue to operate satisfactorily at LOS C or better under the Existing Plus Project conditions with an increase in 53 vehicle trips. Therefore, the project impacts on traffic would continue to be ***less than significant***. **Appendix C** contains detailed LOS calculations.

Table 3 – Intersection Level of Service: Existing Plus Project Conditions Weekday PM Peak-Hour

Intersection	Type[1]	Modal Splits Based on 2000 Census		Modal Splits Based on 2012 American Community Survey	
		Delay	LOS[2]	Delay	LOS[2]
1 Sunnydale Avenue/ Persia Street	TWSC	16.5	C (NB)	16.8	C (NB)
2 Sunnydale Avenue/ Sawyer Street	FWSC	10.1	B (WB)	10.4	B (WB)
3 Sunnydale Avenue/ Schwerin Street	FWSC	12.6	B (WB)	13.0	B (WB)
4 Sunnydale Avenue/ Bayshore Boulevard	Signalized	24.4	C	24.8	C
5 Sunnydale Avenue/ Santos Street	FWSC	11.5	B (WB)	12.0	B (WB)
6 Geneva Avenue/ Brookdale Avenue	TWSC	22.0	C (SB)	21.9	C (SB)
7 Geneva Avenue/ Santos Street	Signalized	23.9	C	24.2	C
8 Geneva Avenue/ Calgary Street	TWSC	30.4	D (SB)	31.3	D (SB)
9 Geneva Avenue/ Schwerin Street	Signalized	15.9	B	15.9	B
10 Geneva Avenue/ Bayshore Boulevard	Signalized	24.0	C	24.1	C
11 Visitacion Avenue/ Bayshore Boulevard	Signalized	13.1	B	13.0	B
12 Velasco Avenue/ Santos Street	FWSC	9.3	A (NB)	9.4	A (NB)

Source: CHS Consulting Group, 2014

Notes:

1. TWSC indicates two-way stop-controlled intersection; delay is presented as the worst approach delay; FWSC indicates four-way stop-controlled intersection.
2. Worst approach is indicated in parentheses (NB=northbound; SB=southbound; WB=westbound; EB=eastbound)

Transit Impacts

In the *Sunnydale TIS*, the project impacts related to transit were considered to be less than significant because the project would not increase the bus travel time by more than half of its headway or the project's contribution to the local and regional transit screenlines would not exceed the utilization standards. The project transit trip generation based on modal split assumptions obtained from the 2012 American Community Survey data shows there would be a reduction in transit person trips by 69 trips (493 total person trips on transit) during the PM peak hour compared to the estimation based on the 2000 U.S. Census data. With the reduction in project-generated transit trips, the project impacts on transit would continue to be ***less than significant***.

Changes in 2040 Cumulative Impacts Determination

Traffic Impacts

The *Sunnydale TIS* had previously analyzed the cumulative traffic impacts for Year 2030 using the future traffic volumes obtained from the *CPHPTS*, which used the San Francisco County Transportation Authority (SFCTA)'s traffic forecasting model (SF-CHAMP) projections for Year 2030 as the base and overlaid the trips associated with seven major developments in the area.[4] Such developments include *India Basin Development Plan*, *Hunters Point Shipyard Phases I and II Projects*, *Hunters View Housing Development*, *Executive Park – Candlestick Cove*, *Visitacion Valley Redevelopment Program*, and *Brisbane Baylands Specific Plan*. The *Sunnydale TIS* used the future traffic volumes presented in the *CPHPTS* because the SF-CHAMP model projection for Year 2030 did not include a full build-out of the listed projects and the volumes presented in the *CPHPTS* were considered to provide the most conservative estimation of traffic volumes for Year 2030 at the time of analysis.

The SFCTA has since developed the SF-CHAMP model projection for Year 2040, which includes a full build-out of all major developments in the area including those listed above with two exceptions. The *Brisbane Baylands Specific Plan* development, which is located just south of the County of San Francisco limits, thus its contribution to the model network is unknown. Moreover, while the Year 2040 projection assumes a full build-out of the proposed land uses in the *Visitacion Valley Redevelopment Plan* area, its trips were not assigned to Bayshore Boulevard specifically. Therefore, in order to account for the trips associated with these two projects in the estimation of Year 2040 traffic volumes, CHS extracted the projected traffic growth from Year 2010 to Year 2040 from the SF-CHAMP model, manually added the travel demand estimates used in the environmental review of these two projects, and added the growth onto the existing traffic counts collected in Year 2010.[5,6] **Appendix D** includes tables summarizing the estimation of intersection turning movement volumes for Year 2040.

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[4] The future growth at the three study intersections along Bayshore Boulevard (i.e., Bayshore Boulevard/Visitacion Avenue, Bayshore Boulevard/Sunnydale Avenue, and Bayshore Boulevard/Geneva Avenue) and the growth in the east-west direction along Visitacion Avenue, Sunnydale Avenue and Geneva Avenue were taken directly from the *HPCPTS*. In order to complement the growth projections in the north-south direction along Schwerin Street, Calgary Street, Sawyer Street, Santos Street, and Brookdale Streets, the SF-CHAMP model outputs containing traffic assignments for the PM peak periods were used.

[5] The increase in vehicle trips between existing conditions and 2040 baseline conditions was based on a comparison between model outputs for 2005 and 2040 conditions, prorated to reflect the growth from 2010 to 2040. The growth was then added onto existing intersection traffic volumes collected in 2010.

[6] The traffic growth estimated under the 2040 methodology is substantially lower than the 2030 projection used in the *CPHPTS* and the *Sunnydale TIS*.

The SF-CHAMP model projections for Year 2040 including manual addition of the *Visitacion Valley Redevelopment Program* and *Brisbane Baylands Specific Plan* volumes show substantially lower traffic volumes along Geneva Avenue and Bayshore Boulevard than those forecast by *CPHPTS* for Year 2030 conditions because the SF-CHAMP model discounts internal trips occurring within or between future developments (e.g., India Basin Development, Hunters Point Shipyard Phases I and II Projects, Hunters View Housing Development, Executive Park – Candlestick Cove, Visitacion Valley Redevelopment Program, and Brisbane Baylands*)* located east of Bayshore Boulevard and north of Geneva Avenue that would otherwise be assumed to use Bayshore Boulevard or Geneva Avenue to access the future developments. The SF-CHAMP model is an activity based travel demand model that has been validated to represent future transportation conditions considering the available roadway capacity, origin-destination demand and travel speeds when assigning the future travel demand to the roadway network. An activity based model also considers the jobs and housing balance between traffic analysis zones (TAZs) and the dynamics of trips within as well as between each TAZ. As such, internal trips generated within each of the seven major project sites as well as inter-project site trips that have one end of a trip in one project site and the other end of a trip in another project site do not contribute to the total "external" trip generation. Whereas, the volumes from the *CPHPTS* present a cumulative effect of all seven major developments in the area, whose travel demand estimates were obtained from those used in the environmental review of each project, which tend to present the most conservative estimation of trip generation for each project. Therefore, the future cumulative traffic volumes estimated in the *CPHPTS* presents a substantially more conservative (i.e. worst case) estimation of future traffic volumes for Year 2030.

Intersection level of service at study intersections were re-analyzed for Year 2040 using the updated vehicle trip generation presented in **Table 2** above. **Table 4** presents the comparison of intersection operating conditions for the Future Cumulative (Years 2030 and 2040) conditions with modal split assumptions based on the 2000 U.S. Census vs. the 2012 American Community Survey data. **Appendix C** contains detailed LOS calculations.

Table 4 – Intersection Level of Service: Future Cumulative Conditions Weekday PM Peak-hour

Intersection	Type[1]	Based on 2000 Census				Based on 2012 American Community Survey			
		Future (2030)		Future Plus Project (2030)		Future (2040)		Future Plus Project (2040)	
		LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]
1 Sunnydale Avenue/ Persia Street	TWSC	C (NB)	17.6	C (NB)	21.9	C (NB)	20.7	**E** (NB)	**42.6**
2 Sunnydale Avenue/ Sawyer Street	FWSC	B (WB)	10.0	B (WB)	11.4	B (WB)	10.6	B (WB)	12.8
3 Sunnydale Avenue/ Schwerin Street	FWSC	C (WB)	17.9	D (WB)	26.5	C (WB)	16.8	D (WB)	26.1
4 Sunnydale Avenue/ Bayshore Boulevard	Signalized	**E**	**69.7 (1.11)**	**F**	**>80 (1.20)**	**F**	**>80 (1.14)**	**F**	**>80 (1.24)**
5 Sunnydale Avenue/ Santos Street	FWSC	A (WB)	9.7	B (WB)	12.2	B (WB)	11.7	C (WB)	17.4
6 Geneva Avenue/ Brookdale Avenue	TWSC	**F** (SB)	**>50**	**F** (SB)	**>50**	**E** (SB)	**41.8**	**F** (SB)	**>50**
7 Geneva Avenue/ Santos Street	Signalized	**F**	**>80 (1.50)**	**F**	**>80 (1.58)**	C	21.2	C	33.8
8 Geneva Avenue/ Calgary Street	TWSC	**F** (SB)	**>50**	**F** (SB)	**>50**	**F** (SB)	**>50**	**F** (SB)	**>50**
9 Geneva Avenue/ Schwerin Street	Signalized	**F**	**>80 (1.70)**	**F**	**>80 (1.75)**	B	15.4	B	16.3
10 Geneva Avenue/ Bayshore Boulevard	Signalized	**F**	**>80 (1.58)**	**F**	**>80 (1.62)**	D	46.0	D	50.7
11 Visitacion Avenue/ Bayshore Boulevard	Signalized	**E**	**71.8 (1.13)**	**F**	**>80 (1.16)**	C	28.1	C	29.8
12 Velasco Avenue/ Santos Street	FWSC	A (SB)	9.5	B (SB)	12.3	A (SB)	8.5	B (NB)	11.3

Source: CHS Consulting Group, 2014

Notes:

1. Intersections operating at unacceptable levels of service, LOS E or LOS F, are shaded and in bold.
2. TWSC indicates two-way stop-controlled intersection; delay is presented as the worst approach delay; FWSC indicates four-way stop-controlled intersection.
3. Worst approach is indicated in parenthesis (NB=northbound; SB=southbound; WB=westbound; EB=eastbound).
4. For intersections operating at LOS E or LOS F, volume to capacity (v/c) ratio is reported.

Based on the significance criteria discussed in the *Sunnydale TIS*, the proposed project would result in significant Cumulative (2040) Plus Project operational impacts at the intersection of Sunnydale Avenue/ Persia Street during the PM peak-hour:

Intersection #1: Sunnydale Avenue/ Persia Street (Unsignalized)

The proposed project would cause the intersection operating condition to deteriorate from LOS C to E and would be therefore considered a significant traffic impact. The addition of project-generated trips in the northbound approach (by approximately 49 vehicles) would increase the northbound vehicle delays by 22 seconds. Improvements such as adding a left-turn lane at the northbound approach on Sunnydale Avenue would improve operating conditions to LOS C.

Since the intersection of Sunnydale Avenue and Persia Street is located within the John McLaren Park, this improvement would require approval by the San Francisco Recreation and Park Commission and the SFMTA Board of Directors. The *McLaren Park - Mansell Corridor Improvements Project*, planned by the Recreation and Parks Department, would remove the existing pork chop at this intersection and add a pedestrian bulb-out at the southwest corner. This project is intended to increase the amount of usable park space in McLaren Park and shorten the intersection crossing distance for pedestrians. With implementation of the *McLaren Park – Mansell Corridor Improvements Project*, the width of Sunnydale Avenue at the subject intersection would be too narrow to accommodate a standard left turn pocket in the northbound direction. As such, adding a left-turn lane at the northbound approach would not be feasible. Because no feasible mitigation measure is identified for this intersection, future cumulative impacts on the Sunnydale Avenue/Persia Street intersection would remain ***significant and unavoidable***.

In addition, the following three intersections would operate at LOS E or LOS F under 2040 Cumulative conditions, and would operate at the LOS F under 2040 Cumulative Plus Project conditions during the PM peak-hour:

- Intersection #4: Sunnydale Avenue/ Bayshore Boulevard (Signalized)
- Intersection #6: Geneva Avenue/ Brookdale Avenue (Unsignalized)
- Intersection #8: Geneva Avenue/ Calgary Street (Unsignalized)

Each of these intersections would operate at unacceptable levels under Cumulative conditions. Therefore, for a signalized intersection, the project's contribution to the intersection's critical movements was identified to determine if the project would result in a cumulatively considerable contribution to intersection operations; and for an unsignalized intersection, a signal warrant was evaluated to determine whether the project would cause the signal warrant to be met.

Intersection #4: Sunnydale Avenue/ Bayshore Boulevard (Signalized)

The intersection would continue to operate at LOS F under 2040 conditions with or without the proposed project. The proposed project would add 50 vehicles to the critical northbound through (NBT) movement during the PM peak-hour, approximately 4.6 percent of the NBT volume. This would be considered a less-than-significant contribution, and the project specific impact would be considered to be ***less-than-significant***.

Intersection #6: Geneva Avenue/ Brookdale Avenue (Unsignalized)

The proposed project would cause the intersection operating condition to deteriorate from LOS E to F and would therefore be considered a significant traffic impact. The project traffic would not cause signal warrants to be met due to low traffic volumes in the worst approach. Southbound Brookdale Avenue would carry a total of 91 vehicles (including the addition of 48 project trips) during the PM peak hour while a minimum of 100 vehicle trips are needed to meet the signal warrant. Since the intersection would not meet the signal warrant due to low traffic volume in the worst approach (i.e., southbound), the project specific impact would be considered to be ***less-than-significant***.

Although the intersection operational impacts would be considered to be less-than-significant, southbound traffic on Brookdale Avenue would not be able to make left-turns when traffic volumes are heavy along Geneva Avenue, and therefore improvement measures were considered to improve this less-than-significant impact. Approximately 48 vehicles would be making left-turns from Brookdale Avenue onto Geneva Avenue (i.e., 44 project trips and four background trips) during the PM peak-hour, and these vehicles would likely to take alternative routes to access Geneva Avenue such as Santos Street, Schwerin Street, or Sunnydale Avenue. With diverted trips, the operating conditions at the intersections of Geneva Avenue/ Santos Street, Geneva Avenue/ Schwerin Street, and Sunnydale Avenue/ Bayshore Boulevard would remain at a less-than-significant level because the project contribution to critical movements would not be substantial.

> **Improvement Measure 1** – Considering the history of frequent vehicle collisions at the intersection even though there is no project generated LOS impact to the intersection, the project sponsor would work with SFMTA to prohibit left-turns at the intersection by installing raised pavement markers along the median on Geneva Avenue at the intersection with Brookdale Avenue..

Installing raised pavement markers along the median on Geneva Avenue at the intersection with Brookdale Avenue would prohibit vehicles making a left-turn from the southbound Brookdale Avneue onto Geneva Avenue (48 vehicles) and those making a left-turn from the westbound Geneva Avenue onto Brookdale Avenue (100 vehicles). As discussed above, these vehicles would likely to take alternative routes such as Santos Street, Schwerin Street or Sunnydale Avenue to make protected left-turns at the Geneva Avenue/Santos Street, Geneva Avenue/Schwerin Street, or Sunnydale Avenue/ Bayshore Boulevard intersections. With the addition of diverted trips, the operating conditions at these intersections would remain at a less-than significant level.

<u>Intersection #8: Geneva Avenue/ Calgary Street (Unsignalized)</u>

The intersection would continue to operate at LOS F under 2040 conditions with or without the proposed project, and the intersection would meet the Caltrans signal warrants under either condition. The worst approach would occur in the southbound direction. Since the project would not contribute any trips to the southbound approach, the project impact would be considered ***less-than-significant***. The SFMTA has no plan to signalize this intersection at this time.

Under 2040 cumulative-plus-project conditions, the following eight intersections would operate acceptably during the PM peak-hour:

- Intersection #2: Sunnydale Avenue/ Sawyer Street (Unsignalized)
- Intersection #3: Sunnydale Avenue/ Schwerin Street (Unsignalized)
- Intersection #5: Sunnydale Avenue/ Santos Street (Unsignalized)
- Intersection #7: Geneva Avenue/ Santos Street (Signalized)

- Intersection #9: Geneva Avenue/ Schwerin Street (Signalized)
- Intersection #10: Geneva Avenue/ Bayshore Boulevard (Signalized)
- Intersection #11: Visitacion Avenue/ Bayshore Boulevard (Signalized)
- Intersection #12: Velasco Avenue/ Santos Street (Unsignalized)

Intersections #2, #3, #5, #7, #9, #10, #11, and #12 would operate at LOS D or better under 2040 Cumulative and 2040 Cumulative Plus Project Conditions, thus cumulative impacts would be ***less-than-significant***.

In summary, the proposed project would result in significant and unavoidable impacts at one intersection (i.e., Persia Street/ Sunnydale Avenue) under Year 2040 future cumulative conditions. The resulting cumulative project impacts determinations were compared with those identified in the *Sunnydale TIS*. **Table 5** presents the comparison of cumulative project impact determinations. With the change in modal splits and the future baseline conditions, the total number of intersections with significant and unavoidable impacts would be reduced from five to one..

Table 5 – Cumulative Project Impacts Determination

Intersection	Future Year 2030 with Modal Splits Based on 2000 Census	Future Year 2040 with Modal Splits Based on 2012 American Community Survey
1 Sunnydale Avenue/ Persia Street	LS	SU
2 Sunnydale Avenue/ Sawyer Street	LS	LS
3 Sunnydale Avenue/ Schwerin Street	LS with IM	LS
4 Sunnydale Avenue/ Bayshore Boulevard	SU	LS
5 Sunnydale Avenue/ Santos Street	LS	LS
6 Geneva Avenue/ Brookdale Avenue	LS with IM	LS with IM
7 Geneva Avenue/ Santos Street	SU with MM	LS
8 Geneva Avenue/ Calgary Street	LS	LS
9 Geneva Avenue/ Schwerin Street	SU with MM	LS
10 Geneva Avenue/ Bayshore Boulevard	SU	LS
11 Visitacion Avenue/ Bayshore Boulevard	SU	LS
12 Velasco Avenue/ Santos Street	LS	LS

Source: CHS Consulting Group, 2014
Notes:
LS=Less than Significant; SU=Significant and Unavoidable; and IM=Improvement Measure

Transit Impacts

In the *Sunnydale TIS*, cumulative impacts related to transit were considered to be less than significant because the project would not increase the bus travel time by more than half of its headway or the project's contribution to the local and regional transit screenlines would not exceed the utilization standards. The project transit trip generation based on modal split assumptions obtained from the 2012 American Community Survey data shows there would be a reduction in transit person trips by 69 trips (493 total person trips on transit) during the PM peak hour compared to the estimation based on the 2000 U.S. Census data. Similar to the findings in the *Sunnydale TIS*,

there would be cumulative transit impacts, but the project contribution would not be considerable. Therefore, the cumulative project impacts on transit would continue to be ***less than significant***.

APPENDIX NO

Noise Measurements

Calculated Ldn from long-term noise monitoring data - Santos Street, north of Velasco Avenue

		TIME		dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values
4/25/2013	Midnight	0 / 24		57.9	616595	6165950	1949845
	am	1:00	100	55.4	346737	3467369	1096478
		2:00	200	51.6	144544	1445440	457088
		3:00	300	51.0	125893	1258925	398107
		4:00	400	53.2	208930	2089296	660693
		5:00	500	56.0	398107	3981072	1258925
		6:00	600	59.4	870964	8709636	2754229
		7:00	700	62.9	1949845	19498446	6165950
		8:00	800	62.5	1778279	17782794	5623413
		9:00	900	61.8	1513561	15135612	4786301
		10:00	1000	63.1	2041738	20417379	6456542
4/24/2013		11:00	1100	77.7	58884366	588843655	186208714
		12:00	1200	78.7	74131024	741310241	234422882
	pm	1:00	1300	77.3	53703180	537031796	169824365
		2:00	1400	77.6	57543994	575439937	181970086
		3:00	1500	77.0	50118723	501187234	158489319
		4:00	1600	75.6	36307805	363078055	114815362
		5:00	1700	72.8	19054607	190546072	60255959
		6:00	1800	70.4	10964782	109647820	34673685
		7:00	1900	70.4	10964782	109647820	34673685
		8:00	2000	71.0	12589254	125892541	39810717
		9:00	2100	72.2	16595869	165958691	52480746
		10:00	2200	70.8	12022644	120226443	38018940
	pm	11:00	2300	59.9	977237	9772372	3090295

Leq Morning Peak Hour 7:00-10:00 a.m.
62 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.
73 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not penalized)
62 dBA

Leq Daytime 7:00 am-10:00 p.m.
74 dBA

Leq 24-Hour
72 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
74 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m., and 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
74 dBA

CNEL - Ldn 0.6204963

Calculated Ldn from long-term noise monitoring data - Sunnydale Avenue, west of Hahn Street

		TIME		dBA	Remove LOG	10 dBA Penalized Values	5 dBA Penalized Values
4/25/2013	Midnight	0 / 24		55.1	323594	3235937	1023293
	am	1:00	100	54.4	275423	2754229	870964
		2:00	200	50.8	120226	1202264	380189
		3:00	300	50.2	104713	1047129	331131
		4:00	400	50.0	100000	1000000	316228
		5:00	500	54.4	275423	2754229	870964
		6:00	600	57.7	588844	5888437	1862087
		7:00	700	60.7	1174898	11748976	3715352
		8:00	800	62.9	1949845	19498446	6165950
		9:00	900	61.6	1445440	14454398	4570882
		10:00	1000	59.3	851138	8511380	2691535
4/24/2013		11:00	1100	66.1	4073803	40738028	12882496
		12:00	1200	67.0	5011872	50118723	15848932
	pm	1:00	1300	66.6	4570882	45708819	14454398
		2:00	1400	67.0	5011872	50118723	15848932
		3:00	1500	66.0	3981072	39810717	12589254
		4:00	1600	64.8	3019952	30199517	9549926
		5:00	1700	63.1	2041738	20417379	6456542
		6:00	1800	62.4	1737801	17378008	5495409
		7:00	1900	61.4	1380384	13803843	4365158
		8:00	2000	60.8	1202264	12022644	3801894
		9:00	2100	60.6	1148154	11481536	3630781
		10:00	2200	59.4	870964	8709636	2754229
	pm	11:00	2300	57.8	602560	6025596	1905461

Leq Morning Peak Hour 7:00-10:00 a.m.
62 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.
63 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not penalized)
56 dBA

Leq Daytime 7:00 am-10:00 p.m.
64 dBA

Leq 24-Hour
62 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
65 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m., and 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
65 dBA

CNEL - Ldn 0.46601071

Note: When meter was retreived, microphone had been displaced, indicating tampering.
Data show annamously high reading during 2300 hour. This data point was adjusted to be the logarithmic average of the previous and subsequent hours.

HUD > Program Offices > Community Planning and Development > Environment > DNL Calculator

Site DNL Calculator

For more information on using the noise calculator, to access the user guidebook, or send comments, please visit the following page:
Day/Night Noise Level Electronic Assessment Tool

Guidelines:

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- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

Site ID: SF HOPE
Record Date: 8/18/14
User's Name: Chris Sanchez

Road # 1 Name: Sunnydale 2040 + RDA

Road #1			
Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	7159	146	215
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	57.2406	50.3356	72.5315
Calculate Road #1 DNL	72.7079	Reset	

Add Road Source | Add Rail Source

Airport Noise Level

Loud Impulse Sounds? ○Yes ○No

0

HUD > Program Offices > Community Planning and Development > Environment > DNL Calculator

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- **Note #2:** DNL Calculator assumes roadway data is always entered.

Site ID	SF HOPE
Record Date	8/18/14
User's Name	Chris Sanchez

Road # 1 Name: Sunnydale 2040 + Project

Road #1			
Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	7590	155	215
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	57.4945	50.5954	72.5315
Calculate Road #1 DNL	72.7207	Reset	

Add Road Source | Add Rail Source

Airport Noise Level

Loud Impulse Sounds? ○Yes ○No

0

Site DNL Calculator

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- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
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- **Note #2:** DNL Calculator assumes roadway data is always entered.

Site ID SF HOPE
Record Date 04/26/13
User's Name Sanchez

Road # 1 Name: Santos Street Existing + Project

Road #1			
Vehicle Type	Cars ☐	Medium Trucks ☐	Heavy Trucks ☐
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	4044	83	373
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	54.7602	47.8828	74.9235
Calculate Road #1 DNL	74.9235	Reset	

Add Road Source | Add Rail Source

Airport Noise Level
Loud Impulse Sounds? ○Yes ○No

Site DNL Calculator

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- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

Site ID SF HOPE
Record Date 04/26/13
User's Name Sanchez

Road # 1 Name: Santos Street Existing

Road #1			
Vehicle Type	Cars ☐	Medium Trucks ☐	Heavy Trucks ☐
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	1180	24	373
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	49.4109	42.4942	74.9235
Calculate Road #1 DNL	74.9235	Reset	

Add Road Source | Add Rail Source

Airport Noise Level
Loud Impulse Sounds? ○Yes ○No

HUD > Program Offices > Community Planning and Development > Environment > DNL Calculator

Site DNL Calculator

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Site ID SF HOPE
Record Date 04/26/13
User's Name Chris Sanchez

Road # 1 Name: Sunnydale Avenue Existing

Road #1			
Vehicle Type	Cars ☐	Medium Trucks ☐	Heavy Trucks ☐
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	1867	38	215
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	51.4035	44.4899	72.5315
Calculate Road #1 DNL	72.5315	Reset	

Add Road Source Add Rail Source

Airport Noise Level
Loud Impulse Sounds? ○Yes ○No

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Site ID SF HOPE
Record Date 04/26/13
User's Name Chris Sanchez

Road # 1 Name: Sunnydale Avenue Existing + Project

Road #1			
Vehicle Type	Cars	Medium Trucks	Heavy Trucks
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	4190	86	215
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	54.9142	48.037	72.5315
Calculate Road #1 DNL	72.5315	Reset	

Add Road Source Add Rail Source

Airport Noise Level
Loud Impulse Sounds? ○Yes ○No

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- **Note #2:** DNL Calculator assumes roadway data is always entered.

Site ID SF HOPE
Record Date 04/26/13
User's Name Chris Sanchez

Road # 1 Name: Sunnydale Avenue Cumulative + Project

Road #1			
Vehicle Type	Cars ☐	Medium Trucks ☐	Heavy Trucks ☐
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	5366	110	215
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	55.9886	49.106	72.5315
Calculate Road #1 DNL	72.6455	Reset	

Add Road Source | Add Rail Source

Airport Noise Level
Loud Impulse Sounds? ○Yes ○No

HUD > Program Offices > Community Planning and Development > Environment > DNL Calculator

Site DNL Calculator

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- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

Site ID SF HOPE
Record Date 04/26/13
User's Name Sanchez

Road # 1 Name: Santos Street Cu,ulative + Project

Road #1			
Vehicle Type	Cars ☐	Medium Trucks ☐	Heavy Trucks ☐
Effective Distance	30	30	30
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	7700	157	373
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	57.557	50.6511	74.9235
Calculate Road #1 DNL	74.9235	Reset	

Add Road Source | Add Rail Source

Airport Noise Level
Loud Impulse Sounds? ○Yes ○No

MUNI Bus Volumes

		Time:	7 to 9	9 to 4	4 to 6	6 to 9	9 to 1	**Daily Volumes**
Route:	8X							
		Headways (minurtes):	8	9	8	12	15	
		One Way Buses in period =	15	47	15	15	16	
		Route 8X is one direction during peak hour						
		Total Bus Volume =	15	93	15	30	32	**185**
Route:	8BX							
		Headways (minurtes):	8	0	8	0	0	
		One Way Buses in period =	15	0	15	0	0	
		Route 8BX is peak direection during peak hours						
		Total Bus Volume =	15		15			**30**
Route:	9							
		Headways (minurtes):	12	12	12	15	20	
		One Way Buses in period =	10	35	10	12	12	
		Total Bus Volume =	20	70	20	24	24	**158**

Sunnydale Avenue: 8X and 8BX =	**215**
Santos Avenue: 8X, 8BX and 9 =	**373**

HUD Noise Assessment - Santos Street

Noise Assessment Location (NAL) = Residences on Santos Street

Sources:

2. Santos Street Traffic

Santos Street north of Velasco Avenue

PM peak hour - No Project	195
PM Peak hour Volume 2010 w/Project =	450
PM Peak hour volume 2030 No Project =	500
PM Peak hour Volume 2030 w/Project =	823
% increase =	83%

2030 with Project condition (Cumulative)

Source 2: Santos Street Traffic

2010 10 times peak hour of TIS = 8230

Total = 8230

Heavy Truck assumptions =	All MUNI
Medium Truck Assumption =	2.0%
Auto percentage =	98%
Heavy Truck ADT =	373
Medium Truck ADT =	157.14
Auto ADT =	7699.86

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 9271.26

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 1947

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (Use tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 302

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (Use tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 74.9

HUD Noise Assessment - Santos Street

Noise Assessment Location (NAL) = Residences on Santos Street

Sources:

2. Santos Street Traffic

Santos Street north of Velasco Avenue

PM peak hour - No Project	195
PM Peak hour Volume 2010 w/Project =	450
PM Peak hour volume 2030 No Project =	500
PM Peak hour Volume 2030 w/Project =	823
% increase =	83%
PM Peak hour Volume 2010 w/RDA =	365
PM Peak hour Volume 2030 w/RDA =	715

Cumulative Plus Reduced Density Alternative Condition

Source 2: Santos Street Traffic

2010 10 times peak hour of TIS = 7150

Total = 7150

Heavy Truck assumptions = All MUNI
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 373
Medium Truck ADT = 135.54
Auto ADT = 6641.46

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 7996.86

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 1679

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (Use tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 302

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (Use tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 75

HUD Noise Assessment - Santos Street

Noise Assessment Location (NAL) = Residences on Santos Street

Sources:
2. Santos Street Traffic

Santos Street north of Velasco Avenue

PM peak hour - No Project	195
PM Peak hour Volume 2010 w/Project =	450
PM Peak hour volume 2030 No Project =	500
PM Peak hour Volume 2030 w/Project =	823
% increase =	83%

Existing Plus Project Condition

Source 2: Santos Street Traffic

2010 10 times peak hour of TIS = 4500

Total = 4500

Heavy Truck assumptions =	All MUNI
Medium Truck Assumption =	2.0%
Auto percentage =	98%
Heavy Truck ADT =	373
Medium Truck ADT =	82.54
Auto ADT =	4044.46

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 4869.86

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 1023

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (Use tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 302

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (Use tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 74.9

HUD Noise Assessment - Santos Street

Noise Assessment Location (NAL) = Residences on Santos Street

Sources:
2. Santos Street Traffic

Santos Street north of Velasco Avenue

PM peak hour - No Project	195
PM Peak hour Volume 2010 w/Project =	450
PM Peak hour volume 2030 No Project =	500
PM Peak hour Volume 2030 w/Project =	823
% increase =	83%
PM Peak hour Volume 2010 w/RDA =	365
PM Peak hour Volume 2030 w/RDA =	715

Existing Plus Reduced Density Alternative Condition

Source 2: Santos Street Traffic

2010 10 times peak hour of TIS = 3650

Total = 3650

Heavy Truck assumptions = All MUNI
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 373
Medium Truck ADT = 65.54
Auto ADT = 3211.46

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 3866.86

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 812

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (Use tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 302

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (Use tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 75

HUD Noise Assessment - Santos Street

Noise Assessment Location (NAL) = Residences on Santos Street

Sources:
2. Santos Street Traffic

Santos Street north of Velasco Avenue

PM peak hour - No Project	195
PM Peak hour Volume 2010 w/Project =	450
PM Peak hour volume 2030 No Project =	500
PM Peak hour Volume 2030 w/Project =	823
% increase =	83%

Existing condition

Source 2: Santos Street Traffic

2010 10 times peak hour of TIS = 1950

Total = 1577

Heavy Truck assumptions = All Muni Buses
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 373 (buses per SFMTA schedule)
Medium Truck ADT = 24.08
Auto ADT = 1179.92

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 1420.72

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 298

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (Use tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 302

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (Use tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 74.9

METROSONICS db-308 SN 2593 V2.3 3/87

CURRENT DATE: 4/26/13
CURRENT TIME: 6:10:08

Long-term Noise Monitoring Sunnydale Avennue

_____

_____

_____

CALIBRATED: 4/24/13 @   8:24:26

DISPLAY RANGE: 42.2dB TO 138.2dB

DOUBLING RATE: 3 dB

FILTER: A WGHT

RESPONSE: SLOW

SCHEDULED RUN: OFF

   START DATE: 4/24/13
   START TIME:11:00:00
   LENGTH: 24:00:00

** OVERALL REPORT **

TEST STARTING DATE: 4/24/13
TEST STARTING TIME: 11:00:19
TEST LENGTH: 1DAYS 0:00:00

Lav   = 67.7dB
Lav 80= 66.2dB
Lav 90= 66.2dB
SEL   =116.9dB

Lmax =114.8dB ON 4/24/13 @ 23:44:11
Lpk = 132dB ON 4/24/13 @ 23:43:59

TIME OVER 115dB 0D 0:00:00.00

DOSE CRITERION: 90dB

 8 HR DOSE (80dB CUTOFF)= 1.24%
 8 HR DOSE (90dB CUTOFF)= 1.21%

** TIME HISTORY REPORT **

MODE: CONTINUOUS
PERIOD LENGTH: 1:00:00
TIME HISTORY CUTOFF: NONE
Ln(1): 50.0% Ln(2): 90.0%

INT#	START	Lav	Lmax	Lpk		
TAG#	TIME	ET	L1	L2		
1	4/24/13	66.1	77.2	<117	*	+
0	11:00:19	1:00:00	65	60		

2	4/24/13	67.0	76.1	<117	
0	12:00:19	1:00:00	65	60	
3	4/24/13	66.6	77.8	<117	
0	13:00:19	1:00:00	65	60	
4	4/24/13	67.0	86.0	<117	
0	14:00:19	1:00:00	65	60	
5	4/24/13	66.0	76.5	<117	
0	15:00:19	1:00:00	64	60	
6	4/24/13	64.8	76.6	<117	
0	16:00:19	1:00:00	63	58	
7	4/24/13	63.1	80.5	<117	
0	17:00:19	1:00:00	61	57	
8	4/24/13	62.4	76.6	<117	
0	18:00:19	1:00:00	60	55	
9	4/24/13	61.4	75.5	<117	
0	19:00:19	1:00:00	59	55	
10	4/24/13	60.8	78.2	<117	
0	20:00:19	1:00:00	58	53	
11	4/24/13	60.6	76.9	<117	
0	21:00:19	1:00:00	58	53	
12	4/24/13	59.4	73.0	<117	
0	22:00:19	1:00:00	55	49	
13	4/24/13	80.0	114.8	132	
0	23:00:19	1:00:00	47	43	
14	4/25/13	55.1	79.8	<117	
0	0:00:19	1:00:00	43	42	
15	4/25/13	54.4	80.0	<117	
0	1:00:19	1:00:00	42	42	

♀ INT# TAG#	START TIME	Lav ET	Lmax L1	Lpk L2	
16	4/25/13	50.8	74.8	<117	
0	2:00:19	1:00:00	42	42	
17	4/25/13	50.2	71.2	<117	
0	3:00:19	1:00:00	42	42	
18	4/25/13	50.0	73.4	<117	
0	4:00:19	1:00:00	42	42	
19	4/25/13	54.4	78.5	<117	
0	5:00:19	1:00:00	42	42	
20	4/25/13	57.7	77.6	<117	
0	6:00:19	1:00:00	50	45	
21	4/25/13	60.7	78.6	<117	
0	7:00:19	1:00:00	55	47	
22	4/25/13	62.9	79.6	<117	
0	8:00:19	1:00:00	59	52	

23	4/25/13	61.6	79.6	<117		*	+
0	9:00:19	1:00:00	55	47			
24	4/25/13	59.3	79.6	<117		*	+
0	10:00:19	PARTIAL	51	45			

♀** AMPLITUDE DISTRIBUTION REPORT **

TOTAL SAMPLES = 691200

dB	SAMPLES		% OF TOTAL
42	116174	**********	16.80
43	15405	**	2.22
44	13871	**	2.00
45	14102	**	2.04
46	14551	**	2.10
47	13316	**	1.92
48	14301	**	2.06
49	15434	**	2.23
50	14159	**	2.04
51	13432	**	1.94
52	14355	**	2.07
53	14724	**	2.13
54	14880	**	2.15
55	18491	***	2.67
56	22700	***	3.28
57	25008	****	3.61
58	30730	****	4.44
59	31498	*****	4.55
60	32009	*****	4.63
61	33589	*****	4.85
62	31946	*****	4.62
63	33090	*****	4.78
64	29906	****	4.32
65	25805	****	3.73
66	21592	***	3.12
67	17920	***	2.59
68	18606	***	2.69
69	11049	**	1.59
70	7572	*	1.09
71	4925	*	.71
72	2631	+	.38
73	1374	+	.19
74	820	+	.11
75	450	.	.06
76	254	.	.03
77	135	.	.01
78	73	.	.01
79	66		.00
80	18		.00
81	14		.00
82	10		.00
83	10		.00
84	10		.00
85	13		.00
86	20		.00
87	15		.00
88	14		.00
89	15		.00
90	15		.00
91	11		.00
92	11		.00
93	8		.00

♀

dB	SAMPLES		% OF TOTAL

94	10	.00
95	4	.00
96	6	.00
97	5	.00
98	4	.00
99	6	.00
100	5	.00
101	4	.00
102	6	.00
103	4	.00
104	2	.00
105	1	.00
106	2	.00
107	2	.00
108	2	.00
109	1	.00
110	2	.00
111	2	.00
112	1	.00
113	2	.00
114	2	.00

Ln(0.0) = 114dB
Ln(10.0) = 66dB
Ln(50.0) = 57dB
Ln(99.9) = 42dB

	NO CUTOFF	80.0dB CUTOFF	90.0dB CUTOFF
Ldod	61.9dB	52.1dB	51.7dB
Losha	60.3dB	45.7dB	45.3dB
Leq(6)	59.5dB	43.4dB	43.1dB

♀

METROSONICS db-308 SN 2490 V2.3 3/87

CURRENT DATE: 4/26/13
CURRENT TIME: 6:15:38

Long-term Noise Monitoring Santos Street

_____

_____

_____

CALIBRATED: 4/24/13 @   8:32:18

DISPLAY RANGE: 42.2dB TO 138.2dB

DOUBLING RATE: 3 dB

FILTER: A WGHT

RESPONSE: SLOW

SCHEDULED RUN: OFF

   START DATE: 4/24/13
   START TIME:11:00:00
   LENGTH: 24:00:00

** OVERALL REPORT **

TEST STARTING DATE: 4/24/13
TEST STARTING TIME: 11:00:19
TEST LENGTH: 1DAYS 0:00:00

Lav   = 72.5dB
Lav 80= 69.8dB
Lav 90= 55.3dB
SEL   =121.7dB

Lmax = 93.9dB ON 4/24/13 @ 12:10:22
Lpk = 124dB ON 4/24/13 @ 17:20:48

TIME OVER 115dB 0D 0:00:00.00

DOSE CRITERION: 90dB

 8 HR DOSE (80dB CUTOFF)= 2.84%
 8 HR DOSE (90dB CUTOFF)= 0.09%

** TIME HISTORY REPORT **

MODE: CONTINUOUS
PERIOD LENGTH: 1:00:00
TIME HISTORY CUTOFF: NONE
Ln(1): 90.0% Ln(2): 50.0%

INT#	START	Lav	Lmax	Lpk
TAG#	TIME	ET	L1	L2
1	4/24/13	77.7	89.7	122
0	11:00:19	1:00:00	64	73

* +

2	4/24/13	78.7	93.9	124	
0	12:00:19	1:00:00	66	75	
3	4/24/13	77.3	92.5	124	
0	13:00:19	1:00:00	61	72	
4	4/24/13	77.6	90.0	123	
0	14:00:19	1:00:00	62	73	
5	4/24/13	77.0	92.6	122	
0	15:00:19	1:00:00	61	72	
6	4/24/13	75.6	92.1	123	
0	16:00:19	1:00:00	59	70	
7	4/24/13	72.8	90.0	124	
0	17:00:19	1:00:00	55	66	
8	4/24/13	70.4	89.6	121	
0	18:00:19	1:00:00	56	64	
9	4/24/13	70.4	86.7	119	
0	19:00:19	1:00:00	54	64	
10	4/24/13	71.0	84.9	119	
0	20:00:19	1:00:00	59	68	
11	4/24/13	72.2	88.9	118	
0	21:00:19	1:00:00	58	68	
12	4/24/13	70.8	83.4	117	
0	22:00:19	1:00:00	52	67	
13	4/24/13	59.9	78.6	<117	
0	23:00:19	1:00:00	43	47	
14	4/25/13	57.9	80.0	<117	
0	0:00:19	1:00:00	42	43	
15	4/25/13	55.4	78.2	<117	
0	1:00:19	1:00:00	42	42	

♀ INT# TAG#	START TIME	Lav ET	Lmax L1	Lpk L2
16 0	4/25/13 2:00:19	51.6 1:00:00	74.5 42	<117 42
17 0	4/25/13 3:00:19	51.0 1:00:00	74.2 42	<117 42
18 0	4/25/13 4:00:19	53.2 1:00:00	74.5 42	<117 42
19 0	4/25/13 5:00:19	56.0 1:00:00	79.6 42	<117 42
20 0	4/25/13 6:00:19	59.4 1:00:00	80.7 44	<117 50
21 0	4/25/13 7:00:19	62.9 1:00:00	80.6 45	<117 55
22 0	4/25/13 8:00:19	62.5 1:00:00	81.8 46	<117 54

```
   23  4/25/13   61.8    78.7 <117                    *            +
    0  9:00:19  1:00:00  48     56

   24  4/25/13   63.1    81.7 <117                     *             +
    0 10:00:19  PARTIAL  49     56

♀** AMPLITUDE DISTRIBUTION REPORT **

TOTAL SAMPLES =    691200

   dB   SAMPLES                                                  % OF TOTAL
──────────────────────────────────────────────────────────────────────────
   42    117625 ****************                                    17.01
   43     12906 **                                                   1.86
   44     12830 **                                                   1.85
   45     12627 **                                                   1.82
   46     12795 **                                                   1.85
   47     11074 **                                                   1.60
   48     11307 **                                                   1.63
   49     12309 **                                                   1.78
   50     11814 **                                                   1.70
   51     13083 **                                                   1.89
   52     13609 **                                                   1.96
   53     14394 **                                                   2.08
   54     13074 **                                                   1.89
   55     16073 **                                                   2.32
   56     16907 **                                                   2.44
   57     16149 **                                                   2.33
   58     16999 **                                                   2.45
   59     16551 **                                                   2.39
   60     15159 **                                                   2.19
   61     15868 **                                                   2.29
   62     14470 **                                                   2.09
   63     15516 **                                                   2.24
   64     15301 **                                                   2.21
   65     14606 **                                                   2.11
   66     15031 **                                                   2.17
   67     15859 **                                                   2.29
   68     20703 ***                                                  2.99
   69     18290 ***                                                  2.64
   70     18922 ***                                                  2.73
   71     18234 ***                                                  2.63
   72     18751 ***                                                  2.71
   73     17077 **                                                   2.47
   74     15997 **                                                   2.31
   75     14268 **                                                   2.06
   76     13151 **                                                   1.90
   77     11157 **                                                   1.61
   78     10009 *                                                    1.44
   79      9433 *                                                    1.36
   80      8886 *                                                    1.28
   81      5687 *                                                     .82
   82      5330 *                                                     .77
   83      4200 *                                                     .60
   84      2899 +                                                     .41
   85      1695 +                                                     .24
   86      1082 +                                                     .15
   87       727 +                                                     .10
   88       400 .                                                     .05
   89       186 .                                                     .02
   90       112 .                                                     .01
   91        47                                                       .00
   92        17                                                       .00
   93         4                                                       .00
♀
Ln( 0.0) =  93dB
Ln(10.0) =  76dB
```

Ln(50.0) = 59dB
Ln(99.9) = 42dB

	NO CUTOFF	80.0dB CUTOFF	90.0dB CUTOFF
Ldod	70.0dB	64.7dB	42.9dB
Losha	68.4dB	60.2dB	43.4dB
Leq(6)	67.2dB	55.6dB	42.6dB

♀

HUD Noise Assessment - Sunnydale Avenue

Noise Assessment Location (NAL) = Residences on Sunnydale Avenue.

Sources:
1. Sunnydale Street Traffic

Sunnydale east of Hahn Street

PM peak hour - No Project	212
PM Peak hour Volume 2010 w/Project =	449
PM Peak hour volume 2030 No Project =	439
PM Peak hour Volume 2030 w/Project =	569
PM Peak hour Volume 2040 w/Project =	796
% increase =	27%

2030 with Project condition (Cumulative)

Source 1: Sunnydale Street Traffic

2010 10 times peak hour of TIS = 7960

Total = 7960

Heavy Truck assumptions = All Muni buses
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 215
Medium Truck ADT = 154.9
Auto ADT = 7590.1

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 9139.1

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 1919

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (use Tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 174

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (use Tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 72.6

HUD Noise Assessment - Sunnydale Avenue

Noise Assessment Location (NAL) = Residences on Sunnydale Avenue.

Sources:

1. Sunnydale Street Traffic

Cumulative Plus Reduced Density Alternative Condition

Source 1: Sunnydale Street Traffic

2040 10 times peak hour of TIS = 7520

Total = 7520

Heavy Truck assumptions = All MUNI
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 215
Medium Truck ADT = 146.1
Auto ADT = 7158.9

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 8619.9

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 1810

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (use Tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 174

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (use Tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 72.5

Sunnydale east of Hahn Street

PM peak hour - No Project	212
PM Peak hour Volume 2010 w/Project =	449
PM Peak hour volume 2030 No Project =	439
PM Peak hour Volume 2030 w/Project =	569
% increase =	27%
PM Peak hour Volume 2010 w/RDA =	370
PM Peak hour Volume 2030 w/RDA =	525
Difference btw RDA & Project =	44
PM Peak hour Volume 2040 w/RDA =	752

HUD Noise Assessment - Sunnydale Avenue

Noise Assessment Location (NAL) = Residences on Sunnydale Avenue.

Sources:
1. Sunnydale Street Traffic

Sunnydale east of Hahn Street

PM peak hour - No Project	212
PM Peak hour Volume 2010 w/Project =	449
PM Peak hour volume 2030 No Project =	439
PM Peak hour Volume 2030 w/Project =	569
% increase =	27%

Existing Plus Project Condition

Source 1: Sunnydale Street Traffic

2010 10 times peak hour of TIS = 4490

Total = 4490

Heavy Truck assumptions = All MUNI
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 215
Medium Truck ADT = 85.5
Auto ADT = 4189.5

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 5044.5

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 1059

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (use Tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 174

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (use Tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 72.5

HUD Noise Assessment - Sunnydale Avenue

Noise Assessment Location (NAL) = Residences on Sunnydale Avenue.

Sources:

1. Sunnydale Street Traffic

Sunnydale east of Hahn Street

PM peak hour - No Project	212
PM Peak hour Volume 2010 w/Project =	449
PM Peak hour volume 2030 No Project =	439
PM Peak hour Volume 2030 w/Project =	569
% increase =	27%
PM Peak hour Volume 2010 w/RDA =	370
PM Peak hour Volume 2030 w/RDA =	525

Existing Plus Reduced Density Alternative Condition

Source 1: Sunnydale Street Traffic

2010 10 times peak hour of TIS = 3700

Total = 3700

Heavy Truck assumptions = All MUNI
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 215
Medium Truck ADT = 69.7
Auto ADT = 3415.3

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 4112.3

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 864

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (use Tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 174

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (use Tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 72.5

HUD Noise Assessment - Sunnydale Avenue

Noise Assessment Location (NAL) = Residences on Sunnydale Avenue.

Sources:
1. Sunnydale Street Traffic

Sunnydale east of Hahn Street

PM peak hour - No Project	212
PM Peak hour Volume 2010 w/Project =	449
PM Peak hour volume 2030 No Project =	439
PM Peak hour Volume 2030 w/Project =	569
% increase =	27%

Existing condition

Source 1: Sunnydale Street Traffic

2010 10 times peak hour of TIS = 2120

Total = 2120

Heavy Truck assumptions = All MUNI Buses
Medium Truck Assumption = 2.0%
Auto percentage = 98%

Heavy Truck ADT = 215
Medium Truck ADT = 38.1
Auto ADT = 1866.9

Autos + Med Trucks: Adjusted Auto+Medium Truck ADT = 2247.9

Speed Assumption = 25 mph Speed adustment factor = 0.21

Speed adjusted Auto/MT ADT = 472

Distance = 30 feet

Auto/MT DNL (from Workchart 1) = 0 (use Tool) 1

Heavy Trucks:

Speed Adjustment at 25 mph = 0.81

Speed adjusted heavy truck ADT= 174

Distance = 30 feet

Heavy Truck DNL (from Workchart 2) = 0 (use Tool) 1

Roadway Noise Contribution = 3

RESULT from HUD DNL CALCULATOR = 72.5

APPENDIX AQ

Air Quality Technical Report and Supporting Documentation

SUNNYDALE-VELASCO HOPE SF PROJECT
SAN FRANCISCO, CALIFORNIA

Air Quality Technical Report

Prepared for:
San Francisco Planning Department

June 2014

ESA

SUNNYDALE-VELASCO/HOPE SF PROJECT
SAN FRANCISCO, CALIFORNIA

Air Quality Technical Report

Prepared for:
San Francisco Planning Department

June 2014

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210039

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SUNNYDALE-VELASCO HOPE SF PROJECT
Air Quality Technical Report

I. Executive Summary

This report has been prepared as a resource document for the San Francisco Planning Department as part of its environmental review for the proposed Sunnydale-Velasco HOPE SF Project (proposed project).

This analysis uses tools and methodology established as part of the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines to identify criteria air pollutant emission increases and increases in health risks and hazards related to the proposed project.

The analysis is divided into two primary discussions: criteria air pollutants and community risks. Criteria air pollutants from construction and operation of the proposed project are described separately. Community risk and hazards impacts are addressed by incorporating the findings of a Health Risk Assessment conducted for the proposed project by ENVIRON. There is also an analysis of the two project alternatives. The analysis finds the following:

- Average daily uncontrolled emissions of criteria air pollutants during the construction of the proposed project would be 28 pounds per day of reactive organic gases (ROG), 48 pounds per day of nitrogen oxides (NOx), and 2.2 pounds each per day of particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$).

- Average daily controlled emissions of criteria air pollutants during the construction of the proposed project would be 25 pounds per day of ROG, 32 pounds per day of NOx, and 0.3 pounds each per day of PM_{10} and $PM_{2.5}$.

- Uncontrolled annual emissions of criteria air pollutants during operation of the proposed project would be 6.41 tons per year of ROG, 3.56 tons per year of NOx, 3.49 ton per year of PM_{10} and 1.04 tons per year of $PM_{2.5}$. Uncontrolled daily emissions of criteria air pollutants during operation of the proposed project would be 38 pounds per day of ROG, 22 pounds per day of NOx, 22 pounds per day of PM_{10} and 7 pounds per day of $PM_{2.5}$.

- Carbon Monoxide (CO) emissions from project-generated vehicle trips are not anticipated to result in regional non-attainment or localized health risks.

- Emissions from construction equipment and trucks to construct the proposed project would expose sensitive receptors to substantial pollutant concentrations that could pose a health risk in an uncontrolled scenario with cumulative increased cancer risks at off-site receptors exceeding 100 in one million. By using off-road construction equipment with Tier 3 emissions standard promulgated by the U.S. Environmental Protection Agency (USEPA) plus level 3 Verified Diesel Emission Control Strategies (VDECS), emissions from

construction equipment and trucks in a controlled scenario would not expose sensitive receptors to substantial pollutant concentrations that could pose a health risk.

- New mobile and stationary sources of emissions from the proposed project would not expose sensitive receptors to substantial pollutant concentrations that could pose a health risk.

- The Reduced Development/Density Alternative would have fewer construction-related emissions and health risks than the proposed project.

- The Reduced Development/Density Alternative would have fewer operational emissions and the same level of health risks as the proposed project.

- The One-for-One Replacement Alternative would have greater construction-related emissions of NOx than the proposed project but lesser incremental health risks.

- There would be no increase in operational emissions compared to existing conditions under the One-for-One Replacement Alternative.

II. Understanding of the Proposed Project

The proposed project, Sunnydale-Velasco HOPE SF Master Plan Project, would include demolition of the existing buildings, including 785 family and senior dwelling units, at the Sunnydale and Velasco public housing complexes in the Visitacion Valley neighborhood, and construction of replacement and new housing, new infrastructure, open space and community amenities. Project elements would include:

- Demolition of existing buildings, including 785 family and senior dwelling units in 94 two-story residential buildings at the Sunnydale and Velasco public housing complexes in the Visitacion Valley neighborhood. Demolition would remove 765,000 square feet of residential uses and 29,000 square feet of daycare and other community-serving uses;

- Construction of up to 1,700 units of housing, including public housing replacement units, affordable rental units and market rate and affordable for-sale units;

- Construction of approximately 72,500 square feet of community service, recreational and educational facilities;

- Construction of 11.5 acres of new parks and open spaces, including a community garden, a farmer's market pavilion and secure outdoor courtyards within residential buildings;

- Construction of 12.2 acres of a new and reconfigured street network potentially including "green" features such as bioswales and landscaping; and

- Construction of up to 16,200 square feet of neighborhood-serving retail.

The project would include demolition of 94 two-story residential buildings within the Sunnydale and Velasco public housing developments and construction of 34 new two- to six-story buildings. The existing site plan showing buildings to be demolished is presented in **Figure 1**. The proposed

new site plan is presented in **Figure 2**. The completed project would occupy approximately 2.2 million square feet of floor area for a net increase of about 1.4 million square feet. The height of the new buildings would range from 40 to 60 feet above ground level with 18 buildings at 40 feet or less in height and 15 buildings at 50 feet in height, and one building at 60 feet in height. Thirty-three of the buildings would contain single- and multi-family dwelling units; the single building at 60 feet in height would contain senior housing and would have some retail and community services on the ground floor. The buildings would be a mix of the following:

- Townhouse/Rowhouse—Attached, multistory, single-family homes (15 to 30 units per acre)
- Stacked Flats—One-story apartments arranged one over the other (25 to 40 units per acre)
- Podium Building—A building with a parking garage below and residences or other uses above (40 to 50 units per acre)
- Corridor Building—An apartment building with units accessed from a central corridor (40 to 60 units per acre)
- Mixed Use—Retail or public use on ground floor with senior housing above (50 to 80 units per acre). This is depicted in the northeast corner of the project site as Building 3 in Figure 2

Also proposed is a separate two-story community center up to 72,500 square-feet in size, which would house recreational facilities for use by project residents and residents of the neighborhood, with youth and early childhood education programs. This is depicted in the northeast corner of the project site as Building 1 in Figure 2.

The project sponsor proposes realigning Sunnydale, Brookdale and Blythedale Avenues and Santos Street and adding new cross streets to create a street grid that would improve connectivity and access within the development and to Hahn Street. A new cross street would connect Brookdale Avenue to Sunnydale Avenue; new cross streets would connect Blythedale Avenue to Sunnydale Avenue at three different locations; Blythedale Avenue would be realigned at Velasco Avenue to connect with Sunrise Way; and, Hahn Street one block to the north (see **Figure 3**).

The proposed project would increase the total net number of dwelling units on the site from 785 to approximately 1,700, an increase of 915 units. The project site currently contains 430 off-street surface parking spaces and 452 on-street parking spaces. The proposed project would provide approximately 1,437 off-street parking spaces in underground and at-grade parking garages in mixed-use and residential buildings, and 525 on-street parking spaces.

The proposed project would include a stormwater management system that would meet the City's Stormwater Management Ordinance requirements. The project sponsor anticipates that the proposed project would be built to LEED® ND standards (conditional certification as LEED ND Gold was approved in December 2011) and would be designed to include energy saving and sustainability features.

The proposed project would introduce new sources of air emissions. The new, more densely developed, residential uses would be sensitive receptors. This analysis quantifies the construction

and operational criteria air pollutant emissions that would result from the proposed project. These include the ozone precursor's reactive organic gases (ROG) and oxides of nitrogen (NOx), inhalable particulate matter less than 10 microns in diameter (PM_{10}) and fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). In addition, community risk and hazards due to construction and operational emissions of the separate class of pollutants categorized as toxic air contaminants (TACs), including organic gases and diesel particulate matter (DPM), are also analyzed and resultant excess cancer risk and localized concentrations of $PM_{2.5}$ are predicted.

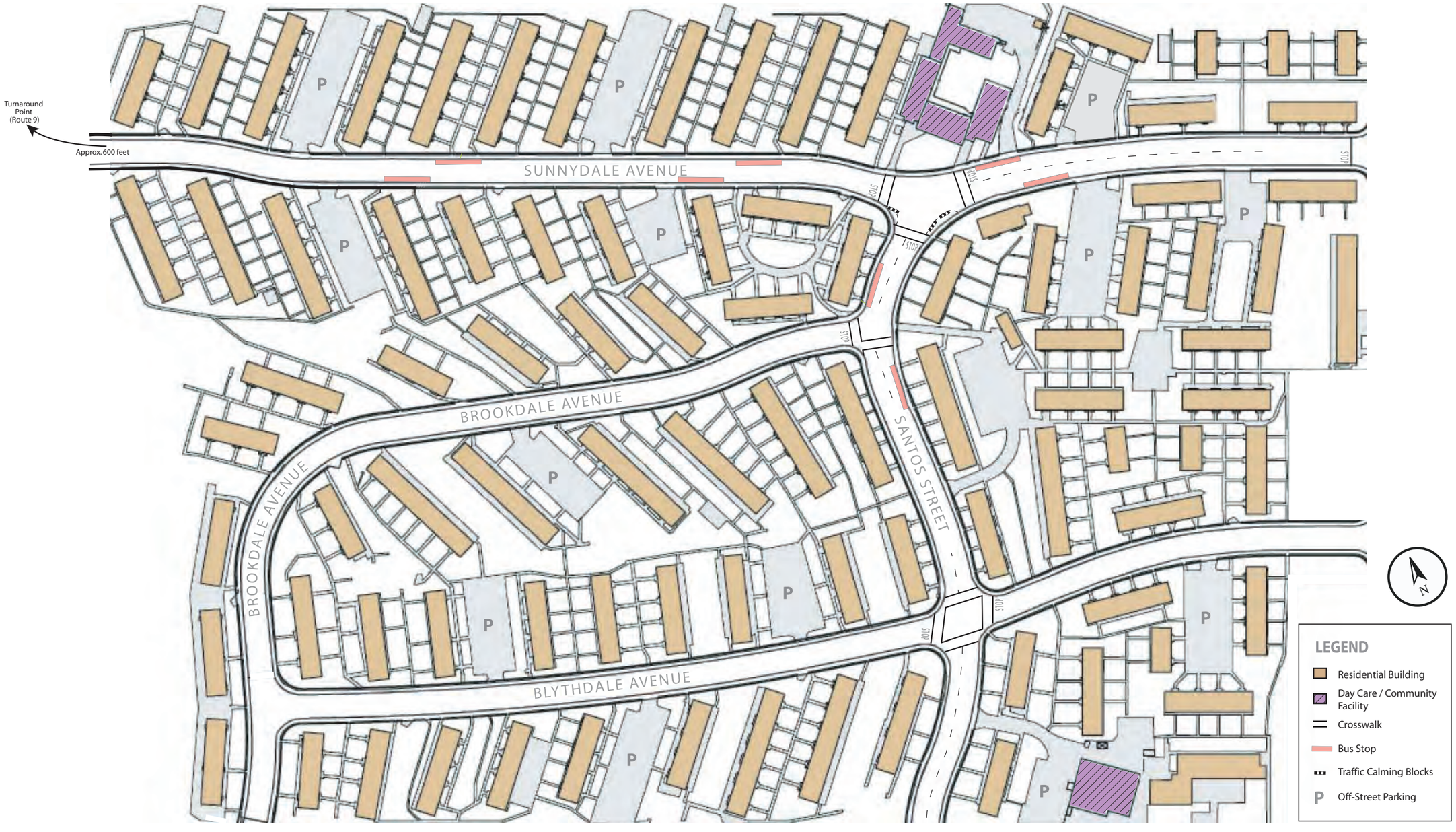
Anticipated Construction-Related Sources

Construction equipment, construction-related vehicle trips, construction worker vehicle trips, and ground disturbing activities (e.g., excavation and grading) would generate direct emissions of toxic air contaminants, criteria air pollutants (*e.g.*, ROG, NOx, PM_{10}, $PM_{2.5}$, and CO), and fugitive dust emissions. Diesel-fueled equipment would result in emissions of DPM, which is a TAC that is a primary concern because many toxic compounds adhere to diesel exhaust particles.

The project is anticipated to commence in January 2016 with construction occurring in three phases. Phase I is anticipated to begin in January 2016 and last 44 months, while Phases II and III are anticipated to last 42 and 48 months, respectively. It is assumed that Phase II construction would begin immediately after or shortly after Phase I (i.e., 2019), and Phase III would begin immediately after or shortly after Phase II (i.e., 2023). It is our understanding that residential units may be occupied while other phases are active. The project would also involve installation of one diesel-powered emergency generator, located in a building to be used for senior housing and retail mixed-use, at the northeast corner of the project site. The emergency generator would meet the federal Tier 3 diesel engine standards for particulate matter for diesel engines with a rating between 75 and 750 horsepower.

Within each phase, individual buildings would be constructed incrementally, and the new dwellings would be occupied as each phase is completed. The current residents of the project site would be moved to available vacant residences on the project site as each phase is constructed, or they would be given housing vouchers by the San Francisco Housing Authority for temporary relocation elsewhere during the construction period. For example, when Phase I is under construction, existing buildings in Phase II and III areas would continue to be occupied, including by some residents of Phase I buildings. There would be no more than one phase under demolition or construction at any given time. **Figure 4** presents the proposed construction phasing.

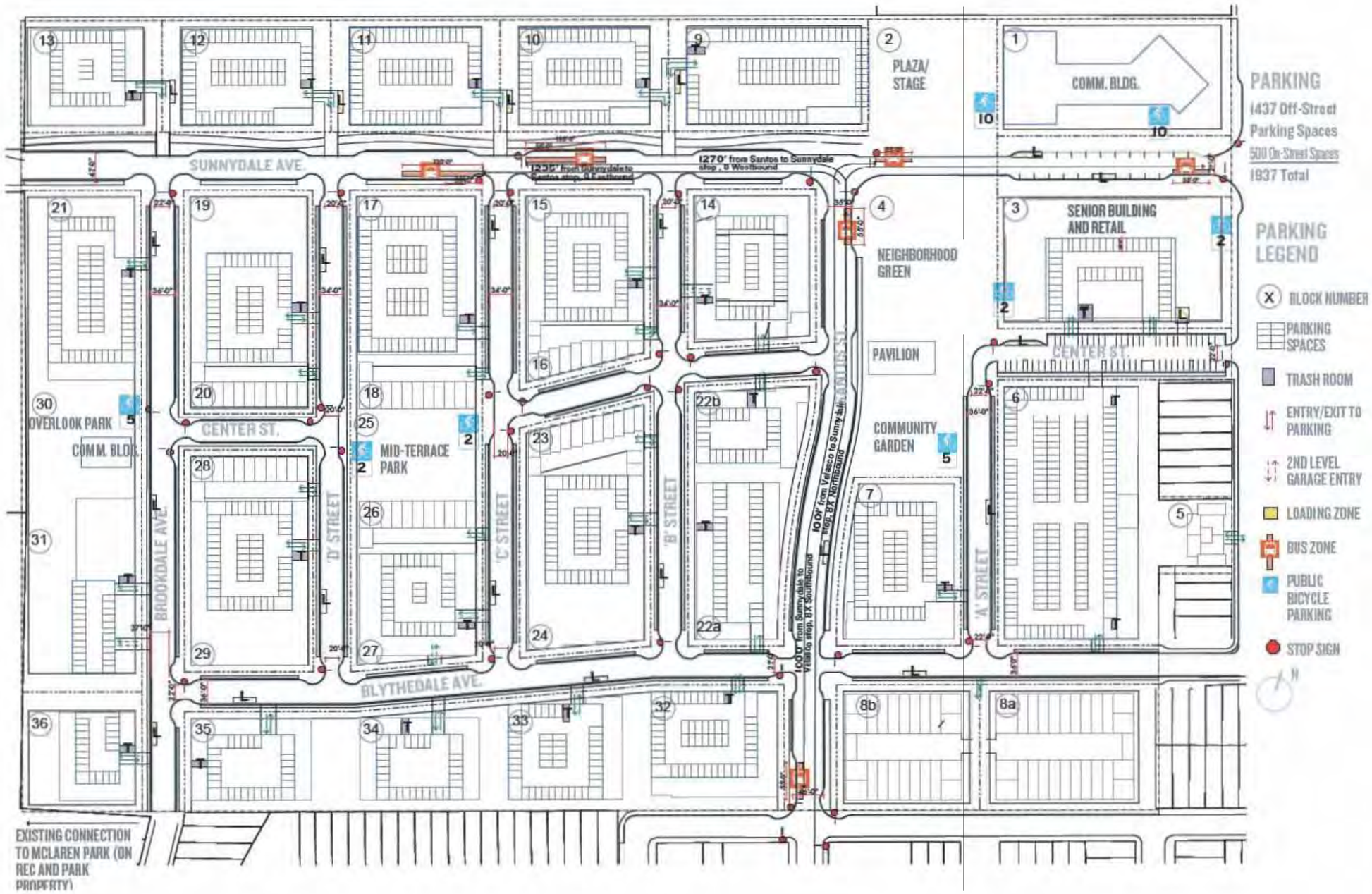
The first phase of construction would demolish 316 existing dwelling units and construct 521 new units and the community support services in the eastern portion of the project site (i.e., Blocks 1 through 9 in Figure 3). Eastern portions of Sunnydale Avenue and Blythedale Avenue, and Santos Street would be reconfigured during this first phase. Phase II would continue the reconfiguration of Sunnydale Avenue west and introduce the new north-south streets, "B", "C", and "D" Streets. During this phase, 279 existing dwelling units would be demolished and 625 new units would be developed in the northwestern portion of the project site (i.e., Blocks 10 through 21).



SOURCE: CHS Consulting Group

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 1
Existing Site Plan



SOURCE: CHS Consulting Group; Mercy Housing Related; and Van Meter Williams Pollack, LLP

Figure 2
Proposed Site Plan

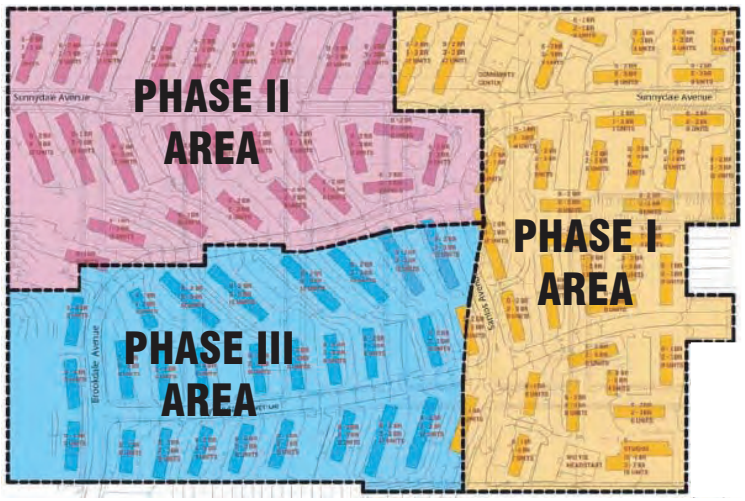


SOURCE: CHS Consulting Group

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 3

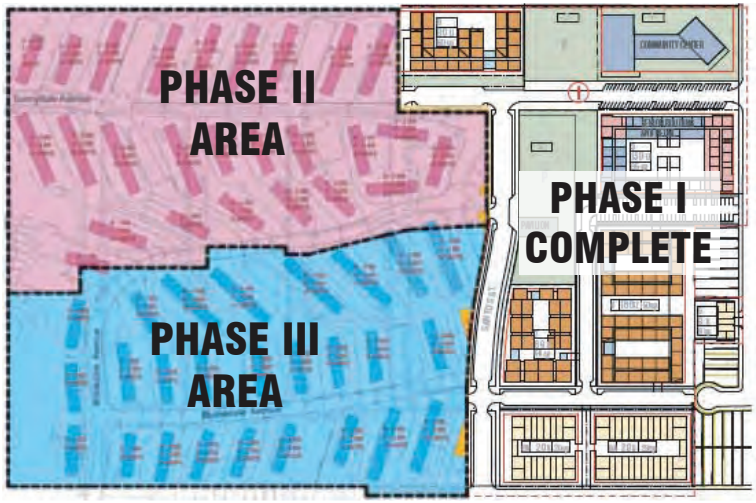
Existing and Proposed Street Layout



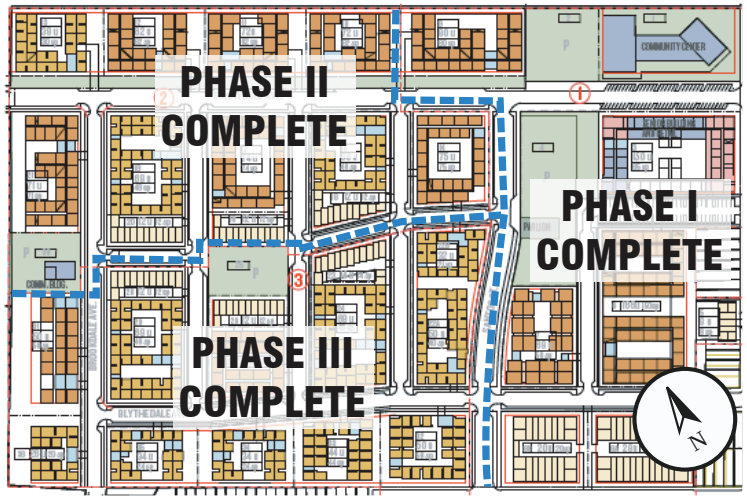
EXISTING CONDITION (PRE-PHASE I)



AT THE END OF PHASE II



AT THE END OF PHASE I



AT THE END OF PHASE III

SOURCE: CHS Consulting Group

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 4
Construction Phasing

Phase III would connect the new north-south streets to Blythedale Avenue. During this phase, 191 existing dwelling units would be demolished and 554 new dwelling units would be constructed in the southwest portion of the project site (i.e., Blocks 22 through 36).

During each phase, the existing buildings, streets, and utilities would be demolished first, and rough grading of the streets, building pads and open space would occur. The construction of new underground utility infrastructure with appropriate tie-ins to existing utilities (e.g., neighborhood power transformers, and sanitary sewer boxes) would follow, and then buildings would be constructed as determined by the financing available as well as the best scenarios for facilitating equipment and material access to the building sites.

The project sponsor has provided detailed information on construction phases and off-road equipment types proposed for each phase[1] which are presented in **Table 1** below. On-road haul truck traffic would be dominated by material delivery to the site and removal of demolition and excavation materials. Approximately 221,000 cubic yards (CY) of soil would be hauled away from the entire site for all three phases of construction, resulting in a maximum of 10 round trips per day (20 one-way trips), including both soil off-haul and demolition spoils, in Phase 3. There would be additional trucks required for concrete plus vendor trips.

Anticipated Operational Sources

Operational emissions from the proposed project would result from the following sources:

- A standby diesel generator subject to the permitting requirements of BAAQMD.
- Net new motor vehicle trips generated by the intensification of residential and other uses of the site. The Transportation Impact Study estimates that the project would generate approximately 4,425 net new vehicle trips per day; and
- Area sources including residential water heaters, operation of landscape maintenance equipment, emissions from use of commercial products resulting from an increase in population density and maintenance application of architectural coatings (paint).

The dominant operation-related emission sources for land use development projects are typically the vehicle trips generated by residents and workers. The magnitude of this mobile source activity is predicted for the proposed project in a separate Transportation Impact Study.[2]

The only new project-related stationary emission sources likely to require pre-construction permits from the BAAQMD would be the proposed diesel-fueled emergency generator engine. The required permits would be applied for and issued after the conclusion of the CEQA process.

1 Construction Resource Management, EIR, Sunnydale HOPE SF, Construction Equipment for Air Quality Analysis, November, 2011.

2 CHS Consulting Group, *Sunnydale-Velasco Housing Development Traffic Study*, May 30, 2013

TABLE 1
OFF-ROAD CONSTRUCTION EQUIPMENT PROPOSED
FOR EACH PHASE OF CONSTRUCTION ACTIVITY

Construction Activity	Construction Equipment	Quantity	Horsepower
Demolition	Excavators	2	247
	Track loader	1	200
	Street Sweeper	1	180
	End Dump Trucks	4	350
Mass Excavation	D-6 Dozer	1	185
	D-8 Dozer	1	310
	Scrapers	2	330
	Compactor	1	240
	Motor Grader	1	185
	Water Truck	1	185
	Dump Trucks	2	300
	Street sweeper	1	200
Fine Excavation	Excavator	1	330
	Dump Trucks	3	300
	D-4 Dozer	1	85
	Water Truck	1	185
Grading	Motor Grader	1	185
	Roller	1	100
	Water Truck	1	185
	Skip Loader	2	46
	Dump Truck	1	300
	Back hoe	1	85
	Lift	1	185
	Crane	1	420
	Cut Saw	1	5
	Pump	1	350
	Concrete Saw	1	3
	Power Trowels	3	15
	Vibrating Plates	6	5
Trenching	Excavator	1	330
	Dump Truck	1	300
	Back Hoe	1	54
	Back hoe	1	85
	Skip Loader	1	46
	Roller	1	55
Building Construction	Lift	1	185
	Crane	1	420
	Welder	1	85
	Truck Crane	1	230
	Pump	1	45
	Pump	1	25
	Boom Truck	1	185

TABLE 1 (Continued)
OFF-ROAD CONSTRUCTION EQUIPMENT PROPOSED FOR EACH CATEGORY OF CONSTRUCTION ACTIVITY

Construction Activity	Construction Equipment	Quantity	Horsepower
Paving	Paver	1	155
	Rollers	2	100
	Street Sweeper	1	185
	Asphalt Machine	1	120
	Vibrating Plates	2	5
	Concrete Saw	1	10
Architectural Coating	Lift	1	185
	Drywall Rig	1	25
	Pump	1	25
	Boom Lift	1	85

SOURCE: CRM, 2011

Proposed Standby Generator Engine

The proposed project would install a stationary source (a backup diesel generator) in an area surrounded by residential uses in Phase 1 of the development. This generator, which is required for the 4-story, 150-unit senior housing building, would be located in a building to be used for senior housing and retail mixed use at the northeast corner of the project site, and would be located 100 feet from the nearest residential structure and would be adjacent to a proposed park/open space of the project. The generator is conservatively assumed to vent at the ground level.

The standby diesel generator engine would likely be limited to 50 hours per year of non-emergency use because of Airborne Toxic Control Measure (ATCM) requirements, and it would be subject to BAAQMD limits and best available control technology (BACT) requirements. The rating of the standby generator would be about approximately 400 horsepower (hp). This proposed source would be subject to certain limits including an emission limit of 0.15 g/hp-hr (0.493 lb/hr) for $PM_{2.5}$ or DPM and an operation limit of no more than 50 hours per year (0.0675 lb per average day) for non-emergency purposes, as required by state regulations (17 CCR §§93115.4 & 93115.6. ATCM for Stationary CI Engines – Emergency Standby Diesel-Fueled CI Engine).

The analysis of generator emissions assumed that this proposed generator would meet the federal Tier 3 diesel engine standards for particulate matter for diesel engines with a rating between 75 and 750 horsepower. Common stack parameters for emergency generators were applied as follows:

- Stack diameter: 0.203 meters;
- Stack height: 3.048 meters;
- Exhaust temperature: 730 Kelvin
- Exhaust rate: 32.7 meters per second

III. Alternatives

Alternative 1: Reduced Development / Density Alternative

The Reduced Development/Density Alternative would demolish existing buildings, including 785 family and senior dwelling units in 94 two-story residential buildings and would construct up to 1,372 units of housing and construct approximately 72,500 square feet of community service, recreational and educational facilities. Although this Alternative would have fewer dwelling units, building footprints are assumed to be the same and roadway and infrastructure would be the same as under the proposed project.

It is anticipated that the Reduced Development/Density Alternative would also be divided into three construction phases and that each phase of construction would last between 3 to 5 years for a total of 9 to 15 years in duration for the entire project. There would be no more than one phase under demolition or construction at any given time.

Alternative 2: One-for-One Replacement Alternative

The One-for-One Replacement Alternative would demolish existing buildings, including 785 family and senior dwelling units in 94 two-story residential buildings and would construct up to 785 units of housing.

It is anticipated that the One-for-One Replacement Alternative would also be divided into three construction phases and that each phase of construction would last two years for a total of six years in duration for the entire project. There would be no more than one phase under demolition or construction at any given time.

IV. Air Quality Setting

The project site is located in the Visitacion Valley area of San Francisco. The project site is bounded by Hahn Street to the east, Velasco Avenue to the south, and McLaren Park to the north and west. Elevations range from 250 feet at the western edge of the site to 75 feet at the southeastern corner. The project sponsor proposes to demolish and replace the existing 94 two-story residential buildings within the Sunnydale and Velasco public housing development.

The project site is adjacent to Gleneagles International Golf Course on the north. The golf course is a part of John McLaren Park, which occupies 317 acres and includes Herz Playground, Coffman Pool, and an assortment of playgrounds, athletic fields, tennis and basketball courts, as well as an outdoor amphitheatre, trails, open meadows, a lake and a reservoir.[3] Another open space area near the project site is Crocker Amazon Playground, which is to the west of the project

[3] Welcome to McLaren Park. *Features of McLaren Park*, http://www.jennalex.com/projects/fomp/homepage/index.html, accessed July 18, 2010.

site and includes play areas as well as athletic fields, tennis and basketball courts, a skateboard park, community garden and recreation center.[4]

The project site is adjacent to residential neighborhoods to the south and east.

Existing Sources

The BAAQMD recommends investigating a 1,000 foot radius around the project property boundary for assessing the individual and cumulative health risk and hazard effects of nearby sources;[5] this is the "zone of influence" for air pollution sources and receptors related to this project.

BAAQMD guidance indicates that roadways with volumes exceeding 10,000 average annual daily traffic (AADT) should be considered with regard to their impact to the siting of new sensitive receptors if within 1,000 feet of any receptor. A review of 24-hour roadway volumes of the SF CHAMP model indicates that Geneva Avenue is the only roadway within the 1,000-foot zone of influence that exceeds 10,000 vehicles per day. A single segment of Sunnydale Avenue that exceeds 10,000 vehicles per day is beyond the 1,000-foot zone of influence.

There is only one stationary source in the zone of influence identified in the Google Earth application inventory from the BAAQMD. This source is operated by Verizon Wireless at 2600 Geneva Avenue. Health risks and hazards from this permitted source are included in the cumulative analysis of health risks and hazards analyzed in the AQTR.

Geneva Avenue has an existing daily roadway volume of 21,199 and may be expected to have a relatively high truck percentage due to its role as a major east-west arterial street. Other roadways considered for their contribution to localized health risks and hazards due solely on their proximity in and around the Project site include Brookdale Avenue, Sunnydale Avenue and New Santos Street

Sensitive Receptors

Existing sensitive receptors include existing residential units on the project site in the Phase 2 and Phase 3 areas that would be present during construction of Phase 1 of the proposed project; those in the Phase 3 area would also be present during Phase 2 construction. The closest existing off-site sensitive receptors to the project site consist of one residential unit on Brookdale Avenue that abuts the southwest project boundary and four residential units on the west side of Hahn Street that abut the eastern project boundary, as do the westernmost dwellings on the south side of Sunrise Way and on the north side of Velasco Avenue. Additionally residential units line the east side of Hahn Street and the south side of Velasco Avenue, and are approximately 60 feet from the project site. A review of the State Community Care Licensing Division database revealed that there are two existing child care facilities on the project site: the Willie Brown Youth Center at

[4] San Francisco Neighborhood Parks Council. Crocker Amazon Park History, http://www.sfnpc.org/crockeramazonpghistory, accessed 18 July 2010.

[5] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, Updated May 2012.

1652 Sunnydale Avenue that would be demolished in Phase 1 construction, and the Wu Yee Children's Service at 700 Velasco Avenue that would be demolished in Phase 3 of construction. There is one other existing facility within 1,000 feet of the project site: the John McLaren Child Development Center at 2055 Sunnydale Avenue, approximately 100 feet west of the northwest project boundary.

Sensitive receptors to be located on the project site would consist of each of the new residential units. Additionally, Building 1 in Figure 2 would be a community center that would offer recreational opportunities for the community, including small children, and would include replacement of the existing child care facilities. There would be no dedicated schools as part of the proposed project.

V. Criteria Air Pollutants

Methodology for Criteria Air Pollutant Analysis

Construction Emissions

Project construction-related emissions were estimated using an equipment mix provided by the project sponsor and emission factors calculated from the OFFROAD2007 model and the 2011 Inventory Model for the In-use Off-road Equipment Rule of the California Air Resources Board (CARB). The project sponsor provided detailed information on construction phases and equipment types proposed, which would be the same for all phases.[6] Activity data for off-road construction equipment, on-road construction worker trips, haul truck trips, vendor truck trips, and concrete truck trips were provided by either Construction Resource Management, Inc. (CRM) or Mercy Housing.

Operational Emissions

Project operational criteria pollutant emissions were estimated using the CalEEMod model, version 2013.2.2. The model was refined to reflect the project-specific trip generation as determined in the Transportation Analysis, which considered the availability of transit systems within the area. Vehicle trip lengths from CalEEMod, which were developed with input from the BAAQMD, were used to determine the increase in vehicle miles travelled from the proposed project, as project-specific trip lengths are not estimated in the Transportation Analysis. CalEEMod default emission factors for motor vehicle trips are from EMFAC2011. Estimated emissions of reactive organic gases (ROG) from maintenance applications of architectural coatings reflect volatile organic compounds (VOC) content limits of Regulation 8, Rule 3 of the BAAQMD.

Potential localized carbon monoxide concentrations impacts were assessed using BAAQMD screening criteria. In addition, regional contributions of CO emissions were calculated to assess

6 Construction Resource Management, EIR, Sunnydale HOPE SF, Construction Equipment for Air Quality Analysis, November, 2011

the need for General Conformity Assessment pursuant to under the National Environmental Policy Act (NEPA).

Potential emissions from the emergency diesel generator (a stationary source) were estimated based on ARB/USEPA Tier 3 emission standards. At this point in time, the project applicant has confirmed that specifications for the proposed generator are not available. In order to estimate emissions associated with the generator, it was assumed that this proposed generator, which is required for the 4-story, 150-unit senior care facility building, would meet the federal Tier 3 diesel engine standards for particulate matter for diesel engines with a rating between 75 and 750 horsepower, consistent with U.S. EPA regulations for emergency stationary diesel generators manufactured after 2010. Project operational emissions of criteria pollutants from vehicle, stationary (backup generator) and area sources are summed.

Results of the Criteria Pollutant Analysis

Demolition, excavation, foundation installation and erection of structures are all construction activities that would temporarily affect local air quality during the anticipated 3-phase construction schedule. These activities would cause temporary increases in particulate matter (fugitive dust) and other pollutant emissions. Construction dust includes PM_{10} and $PM_{2.5}$, primarily from "fugitive" sources; use of construction equipment and worker vehicles results in combustion-related emissions of criteria air pollutants (ROG, NOx, PM_{10}, and $PM_{2.5}$); and evaporative emissions (ROG) occur during application of architectural coatings for interior and exterior finishes. The following discussion addresses fugitive dust and construction criteria air pollutant emissions.

Fugitive Dust

The San Francisco Health Code Article 22B and San Francisco Building Code Section 106A.3.2.6 collectively constitute San Francisco's Construction Dust Control Ordinance (adopted in July 2008). The Construction Dust Control Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specific dust control measures whether or not the activity requires a permit from the Department of Building Inspection (DBI). For projects over one-half acre, the Construction Dust Control Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Department of Public Health (DPH) prior to issuance of a building permit by the DBI.

The Construction Dust Control Ordinance has a mandate for "no visible dust." The ordinance requires project sponsors and contractors responsible for construction activities to control construction dust on the site using a menu of specified procedures or implement other practices acceptable to the Director of Public Health that result in equivalent dust control. Dust suppression activities, referred to as best management practices or BMPs, may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works

Code. Section 1247 of Article 22B requires that all City Agencies that authorize construction or other improvements on City property adopt rules and regulations to ensure that the dust control requirements identified in Article 22B are followed. The BMPs employed in compliance with the City's Construction Dust Control Ordinance provide an effective strategy for controlling fugitive dust and satisfy BAAQMD's recommendation to implement BMPs to control fugitive dust. Therefore, particulate matter emissions from fugitive dust are not quantified in this report.

Construction-Related Emissions

Demolition, excavation, foundation installation and erecting the structures all involve construction activities that would temporarily affect local air quality during the anticipated 3-phase construction schedule. Use of construction equipment and worker vehicles results in combustion-related emissions of criteria air pollutants (ROG, NOx, PM_{10}, and $PM_{2.5}$); and evaporative emissions (ROG) occur during application of architectural coatings for interior and exterior finishes.

Each of the major categories of construction emissions sources were calculated separately[7]. On-road vehicle trips include emissions from haul trucks for delivering construction material and removing debris and excavation spoils, and on-road emissions also include worker commutes that may occur locally or elsewhere in the region if workers access mass transit. The inventory of off-road equipment comes from project sponsor plans with project-specific equipment capacity information.

The VOC content for architectural coatings in the uncontrolled ROG emissions reflects the upper end of the VOC content of coatings (150 g/L for exterior and 100 g/L for interior coatings), allowed for non-specialty coatings (effective in 2011) stated in BAAQMD's Regulation 8, Rule 3.

Criteria pollutant emissions from use of construction equipment and other construction-related sources are quantified by phase in **Table 2**, which shows uncontrolled emission results and in **Table 3** which shows controlled emission results. Controlled emissions assume operation of off-road construction equipment with USEPA's Tier 3 emissions standard plus level 3 VDECS.

Operational Emissions

The emissions increases attributable to operation of the proposed project would be from the one proposed stationary source subject to BAAQMD permitting, the increase in operational vehicle trips generated by increased use and occupation of the proposed project, and area sources such as use of natural gas for heating and cooking.

Criteria pollutant emissions from the anticipated operation-related sources at project buildout are quantified in **Table 4**.

7 ENVIRON, *Air Quality and Health Risk Assessment Sunnydale-Velasco HPE Project, San Francisco, California,* May 2014.

Emission estimates are based upon the following regulatory requirements:

- Standby emergency generator engine compliant with U.S. EPA Tier 3 emission standards, or higher, and compliant with ATCM and BACT in compliance with current regulations.
- Natural gas–fired mechanical systems compliant with BAAQMD Regulation 9, Rule 7 and BACT.
- Use of architectural coatings complaints with BAAQMD's Regulation 8, Rule 3.

Prior to full build out of all three project phases, operational emissions at the completion of Phase I would overlap with construction emissions of Phase II while operational emissions at the completion of Phase II would overlap with construction emissions of Phase III. Emissions from these simultaneous scenarios are quantified in **Table 2** and **Table 3**.

TABLE 2
UNCONTROLLED AVERAGE DAILY AND MAXIMUM ANNUAL EMISSIONS FOR THE PROPOSED PROJECT

	Average Daily Emissions (lb/day)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction	**30**	**69**	**43**	**3.3**	**3.3**
Phase II Construction	32	53	38	2.4	2.4
Phase I Operation	16	13	80	9.1	2.7
Phase II Total	**48**	**66**	**118**	**11.5**	**5.1**
Phase III Construction	24	26	24	1.1	1.1
Phase I & II Operation	27	17	126	16	4.8
Phase III Total	**91**	**43**	**150**	**17**	**5.9**
Year	**Maximum Annual Emissions (Ton/year)**				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction Only[a]	**5.5**	**12.6**	**7.8**	**0.6**	**0.6**
Phase II Construction[b]	5.8	9.7	6.9	0.4	0.4
Phase I Operation[b]	2.6	2.0	10	1.4	0.4
Phase II Total[b]	**8.4**	**12**	**17**	**1.8**	**0.8**
Phase III Construction[c]	4.4	4.7	4.4	0.2	0.2
Phase I & II Operation[c]	4.6	2.6	16	2.5	0.7
Phase III Total[c]	**9.0**	**7.3**	**20**	**2.7**	**0.9**

SOURCE: ENVIRON, 2014.

a worst case year 2016 assumed.

b worst case year 2019 assumed.

c worst case year 2023 assumed.

TABLE 3
CONTROLLED AVERAGE DAILY AND MAXIMUM ANNUAL RELATED EMISSIONS FOR THE PROPOSED PROJECT

	Average Daily Emissions (lb/day)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction	**25**	**35**	**41**	**0.4**	**0.3**
Phase II Construction	28	36	41	0.4	0.4
Phase I Operation	16	13	80	9.1	2.7
Phase II Total	**44**	**49**	**121**	**9.5**	**3.1**
Phase III Construction	25	32	35	0.3	0.3
Phase I & II Operation	27	17	126	16	4.8
Phase III Total	**52**	**49**	**161**	**16**	**5.1**
	Maximum Annual Emissions (Ton/year)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction Only[a]	**4.6**	**6.6**	**7.5**	**0.1**	**0.1**
Phase II Construction[b]	5.1	6.6	7.5	0.1	0.1
Phase I Operation[b]	2.6	2.0	10	1.4	0.4
Phase II Total[b]	**7.7**	**8.6**	**18**	**1.5**	**0.5**
Phase III Construction[c]	4.6	5.8	6.4	0.1	0.1
Phase I & II Operation[c]	4.6	2.6	16	2.5	0.7
Phase III Total[c]	**9.2**	**8.4**	**22**	**2.6**	**0.8**

SOURCE: ENVIRON, 2014 and ESA, 2014.

a worst case year 2016 assumed.

b worst case year 2019 assumed.

c worst case year 2023 assumed.

TABLE 4
AVERAGE DAILY AND MAXIMUM ANNUAL OPERATIONAL EMISSIONS AT PROJECT BUILDOUT

	Average Daily Emissions (lb/day)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Area Source	26.8	0.9	75.4	0.4	0.4
Energy	0.3	2.3	1.1	0.2	0.2
Mobile	10.6	18.4	89.0	21.3	6.0
Stationary Source (generator)	0.1	0.6	0.6	<0.1	<0.1
Total	**37.8**	**22.2**	**166.1**	**21.9**	**6.6**
	Maximum Annual Emissions (Ton/year)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Area Source	4.7	0.1	6.8	<0.1	<0.1
Energy	0.1	0.4	0.2	<0.1	<0.1
Mobile	1.7	3.0	13.8	3.4	1.0
Stationary Source (generator)	<0.1	0.1	0.1	<0.1	<0.1
Total	**6.4**	**3.6**	**20.9**	**3.5**	**1.0**

SOURCE: ENVIRON, 2014 and ESA, 2014.

Localized Carbon Monoxide

Emissions from traffic at congested intersections can, under certain circumstances, cause a localized build-up of CO concentrations. Regional ambient air quality monitoring data demonstrate that CO concentrations are well below the applicable standards, despite long-term upward trends in vehicle miles traveled. This confirms that the potential for localized increases in CO concentrations from increased traffic has been greatly reduced in recent years. Improvements in motor vehicle exhaust controls since the early 1990s and the use of oxygenated fuels have significantly reduced CO emissions from motor vehicles.

Elevated concentrations of localized CO from congested traffic would not have the potential to cause a violation of ambient air quality standards because the following three criteria would be met:

- The 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. The proposed project would be consistent with these regional plans by increasing density in an area proximate to transit options.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. The Transportation Study[8] indicates that the study intersections with the highest volumes would experience fewer than 10,000 vehicles per peak hour under existing plus project and cumulative scenarios.
- The project traffic would not increase traffic volumes at affected intersections where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Because each of the three criteria would be met, elevated concentrations of localized CO from congested traffic would not cause a violation of ambient air quality standards.

Federal General Conformity Applicability

The proposed project would require a proposed federal action which is the approval by the United States Department of Housing and Urban Development (HUD) of funding and development agreements associated with redevelopment of the project site with affordable housing. As a consequence of this federal action the proposed project is subject to the requirements of the General Conformity Rule.

The project site lies in the San Francisco Bay air basin, which is currently designated as non-attainment for the federal 8-hour ozone standard and the federal $PM_{2.5}$ standard. The basin is designated as a maintenance area with respect to the federal CO standard. The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality. The General Conformity Rule requires federal agencies to ensure that actions undertaken in nonattainment or maintenance areas are consistent with the air quality plans established in the applicable state implementation plans for these pollutants. Implementation of the General Conformity Regulations

8 CHS Consulting Group, *Sunnydale-Velasco Housing Development Traffic Study*, May 30, 2013.

fall into three phases: applicability analysis, conformity determination, and review process. The regulations recognize that the vast majority of federal actions do not result in a significant increase in emissions and, therefore, include a number of exemptions, the most predominantly implemented of which is the *de minimis* emission levels based on the type and severity of the nonattainment problem. If the action will cause emissions above the *de miminis* in any nonattainment or maintenance area and the action is not otherwise exempt, "presumed to conform," or included in the existing emissions budget of the State Implementation Plan, the agency must conduct a conformity determination before it takes the action.

To determine whether federal conformity rule analysis is required, annual emissions from the project construction and operation were calculated for ozone precursors (ROG and NOx), $PM_{2.5}$, and CO) and may be compared to the *de minimis* thresholds for the San Francisco Bay Area Air Basin, which are 100 tons per year for each of these four pollutants. **Tables 2** and **4** provide the estimated tons of CO, NO_x, ROG, and $PM_{2.5}$ emissions that would be generated from the construction and operation of the proposed project. The maximum annual emissions of NOx would occur during the initial year of construction (2016) when 12.6 tons per year would be generated. The maximum annual emissions of ROG would occur during simultaneous construction of Phase III and operation of phases I and II (2023) when 9.0 tons per year would be generated. The maximum annual emissions of $PM_{2.5}$ would occur after completion of the proposed project (2028) when 1.0 ton per year would be generated. Maximum emissions of NO_x, ROG, and $PM_{2.5}$ are estimated to be well under the annual *de minimis* threshold levels applicable to the project area. The proposed project therefore would be exempt from General Conformity determination requirements, and the annual emissions would not result in an adverse impact.

VI. Community Risk and Hazards

The proposed project is not located within an "air pollution exposure zone" as determined by citywide modeling undertaken by the BAAQMD in conjunction with the Planning Department and SFDPH. However, because of the large scale of this project, the extended duration and the phasing of construction, and the presence of on-site and adjacent sensitive receptors, the project could have the potential to result in new or expansion of an existing air pollution exposure zone. Consequently, a Health Risk Assessment was conducted for the proposed project to provide a detailed assessment of excess cancer risk and localized $PM_{2.5}$ concentrations.[9]

The project-level Health Risk Assessment was conducted using the AERMOD air dispersion model and utilized the same receptor grid used in San Francisco's citywide modeling. The receptor grid used is based on the City's 20 meter receptor grid, but included a more refined 10 meter by 10 meter receptor grid to assess onsite construction health risks. Receptor points with the greatest cancer risk and $PM_{2.5}$ from the proposed project and in combination with existing sources were determined.

9 ENVIRON, *Air Quality and Health Risk Assessment Sunnydale-Velasco HOPE Project, San Francisco, California,* March 2014.

Risks and Hazards

The cumulative risk analysis for construction and operation estimated potential DPM, organic toxic compounds and $PM_{2.5}$ impacts on the sensitive receptors, inclusive of occupied dwellings within the project site and 1,000 feet from the project boundary.

This assessment estimated diesel exhaust PM, $PM_{2.5}$ and speciated total organic gas concentrations based on data generated by the OFFROAD2007 mobile source inventory and the 2011 Inventory Model for the In-use Off-road Equipment Rule. DPM, total organic gases (TOG) and $PM_{2.5}$ emissions rates were used as input into AERMOD to predict worst case DPM, TOG and $PM_{2.5}$ concentrations, respectively. DPM and speciated TOG concentrations were then used to determine increased cancer risk based on the health risk assessment methodology published by BAAQMD and the Office of Environmental Health Hazard Assessment and age sensitivity factors. Construction activities were modeled as volume sources and haul trips as line sources.

Using a more refined 10 meter receptor grid based on the City's 20-meter receptor grid, the DPM and $PM_{2.5}$ concentrations for each phase of construction were modeled separately (ConP1, ConP2, and ConP3) and the project-generated excess cancer risk was determined. The total excess cancer risk and $PM_{2.5}$ concentrations from the sum of all sources (existing sources plus ambient [for $PM_{2.5}$ only] plus project sources) for each receptor point were plotted on a GIS file used to report the on-site and off-site Maximum Exposed Individual Sensitive Receptor (MEISR) from project construction. The maximum impact to off-site and on-site receptors was determined for each of the three phases of construction. The following discussion summarizes the analysis methods of the health risk assessment (HRA). Refer to Appendix A for a more detailed discussion of dispersion modeling methodology and calculation of increased cancer risks.

Air Dispersion Model Selection

Near-field air dispersion modeling of DPM and gasoline TOGs from project sources was conducted using the USEPA's AERMOD model (version 12345, USEPA 2012).[10] For each receptor location, the model generates annual average air concentrations (or air dispersion factors as unit emissions) that result from emissions from multiple sources. Air dispersion models such as AERMOD require a variety of inputs such as source parameters, meteorological parameters, topography information, and receptor parameters. When site-specific information is unknown, ENVIRON used default parameter sets that are designed to produce conservative (i.e. overestimates of) air concentrations.

Meteorological Data

Air dispersion modeling applications require the use of meteorological data that ideally are spatially and temporally representative of conditions in the immediate vicinity of the site under consideration. For the HRA, meteorological data collected and processed by BAAQMD[11] at the

10 On November 9, 2005, the USEPA promulgated final revisions to the federal Guideline on Air Quality Models, in which they recommended that AERMOD be used for dispersion modeling evaluations of criteria air pollutant and toxic air pollutant emissions from typical industrial facilities.

11 BAAQMD processed the data using AERMET 12345.

Mission Bay station were used.[12] The Mission Bay station is about 5 miles north-northeast of the Project site. The BAAQMD San Francisco Sewage Treatment Plant (STP) station is slightly closer to the site and has a similar wind pattern to the Mission Bay station. Given there is no AERMOD-ready meteorological station available for San Francisco STP station, however, the Mission Bay data was used.

Receptors

Air concentrations were evaluated at locations within 1 kilometer of the project boundary. Construction of the Project is split to three phases, and residents may be on-site while the project is constructed. As a result, both on-site and off-site receptors were evaluated. For on-site residential receptors, depending on which construction phase was evaluated, a 10 meter by 10 meter receptor grid was placed on either existing buildings or future buildings to represent indoor residential locations. Building height maps for the existing and future buildings were used to develop the vertical levels of the receptors. The receptor height at each building level was calculated by adding 1.8 meter to the building height at that level extracted from the building height maps. In addition, a 20 meter by 20 meter receptor grid was placed on the on-site area outside of the building footprint to represent outdoor locations, with a single height of 1.8 meters. A single receptor was also placed at the northeastern corner of the Project site to represent the proposed day care facility after Phase I construction is completed.

Source Configurations – Construction

Emitting activities were modeled between 7 AM and 3 PM, 7 days a week to reflect the duration of construction activities. According to the project traffic study, [13] construction activity can occur 7AM to 8 PM. However the project sponsor confirmed that the days with the extended construction activity would represent a relatively small percentage of the total construction period, such that the majority of construction would occur between the hours of 7 AM to 3 PM.

Emissions were modeled such that each phase had unit emission rates (i.e., 1 gram per second [g/s]), and the model estimated annual average dispersion factors. To calculate annual average ambient air concentrations by phase, the annual average dispersion factors were multiplied by the average annual emission rates by phase.

Source Configurations – Operation

Emissions from the emergency generator were modeled between 8 AM and 6 PM, 7 days a week to reflect the likely duration of the non-emergency maintenance and testing hours. Emissions from project-generated traffic were modeled 24 hours a day, with an hour-of-day temporal profile reflecting the fluctuation of traffic volume in San Francisco County, extracted from EMFAC 2011. To calculate annual average ambient air concentrations, the annual average dispersion factors were multiplied by the average annual emission rates for the generator. Actual emission factors were modeled for the project-generated increment traffic.

[12] The ESA Air Quality Technical Report Scope of Work approved by the San Francisco EP suggested using this meteorological station.

[13] CHS Consulting Group, *Sunnydale-Velasco Housing Development Traffic Study*, May 30, 2013.

Source Parameters – Construction

At any given time there would be multiple emissions sources associated with construction equipment within the construction zone. Each construction phase was modeled as a series of adjacent volume sources, the dimensions of which varied depending on the sources considered. A release height of 5 meters was used, with an initial vertical dimension of 1.4 meters[14] and an initial lateral dimension calculated by dividing the width of the volume source by 4.3. Emissions for each phase were distributed uniformly amongst all volume sources representing construction of that phase. Off-site vehicles (trucks and worker trips going to and from construction zones) were also modeled as volume sources, but the initial lateral dimension was calculated by dividing the width by 2.15, consistent with USEPA guidance[15] for modeling adjacent volume sources as a line source.

Source Parameters – Operation

Because the actual location of the emergency generator at the proposed senior housing and retail mixed-use building is unknown, 19 representative locations were modeled, of which the maximum concentration was used for the cancer risk and $PM_{2.5}$ analysis. The senior housing and retail mixed-use building together with surrounding buildings were also included in the model for building downwash impact analysis. Generic stack parameters for emergency generators provided by ESA were used for the analysis. Project-generated traffic were also modeled as volume sources, but the initial lateral dimension was calculated by dividing the width by 2.15, consistent with guidance for modeling adjacent volume sources as a line source.[16]

Risk and Hazard Calculations: Dose/Risk

Exposure Assessment

Cancer risk and $PM_{2.5}$ concentrations were evaluated for project construction assuming duration of 11.2 years (134 months) divided into three phases and project operation consisting of non-emergency maintenance and testing of an emergency diesel generator and project-generated vehicle traffic.

This evaluation conservatively evaluated the exposure and risks to off-site and on-site child residents for the project construction as well as off-site and on-site 70-year lifetime residents during project operation. As the residential exposure assumptions are more conservative with respect to length of exposure on both a daily and lifetime basis than those for other sensitive receptor types (including the future on-site day care facility, the off-site schools and other sensitive receptors), a conservative approach of considering all sensitive receptors as residential receptors was applied in the HRA.

14 South Coast Air Quality Management District (SCAQMD). 2008. *Final Localized Significance Threshold (LST) Methodology*. July. Available at http://www.aqmd.gov/ceqa/handbook/lst/Method_final.pdf

15 USEPA. 1995. *User's Guide for the Industrial Source Complex (ISC3) Dispersion Models. Volume II - Description of Model Algorithms*. September. Available at http://www.epa.gov/scram001/userg/regmod/isc3v2.pdf

16 *Ibid*.

As mentioned above, on-site residents within the two non-construction phase areas may be present during construction of a given phase. For example, residential units located in the Phase II and Phase III areas may be occupied during demolition and construction of Phase I. In addition, residents within a given phase may re-locate to a different phase while the original phase is being constructed. For example, residents currently in the Phase I area may relocate to the Phase II or Phase III areas during construction.

All possible combinations of locations for an on-site resident were considered and exposures assessed for these combinations. One combination, which assumes child residents would be present in Phase III existing buildings during Phase I and II construction and in Phase II new buildings during Phase III construction, was considered representative and reasonably conservative because this scenario assumes that that the resident stays on-site during the entire construction of the project, which would likely result in high exposure to the TAC emissions.[17]

Off-site child residents (living adjacent to the project site and not within any of the project's three phases) were assumed to be present at one location during the entire construction. Off-site and on-site 70-year lifetime residents were assumed to be present at one location during the entire 70 year period.

Calculation of Intake Dose

The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, IF_{inh}, can be calculated as follows:

$$IF_{inh} = \frac{DBR * ET * EF * ED * CF}{AT}$$

Where:

IF_{inh}	=	Intake Factor for Inhalation (m^3/kg-day)
DBR	=	Daily Breathing Rate (L/kg-day)
ET	=	Exposure Time (hours/24 hours)
EF	=	Exposure Frequency (days/year)
ED	=	Exposure Duration (years)
AT	=	Averaging Time (days)
CF	=	Conversion Factor, 0.001 (m^3/L)

The chemical intake or dose is estimated by multiplying the inhalation intake factor by the chemical concentration in air. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the OEHHA Hot Spots guidance.[18]

[17] Some residents within a certain phase may temporarily re-locate to off-site locations during the construction of that phase, and then move back to a new building once its construction is completed. This report does not analyze this scenario because it would not represent the conservative worst case.

[18] Cal/EPA. 2003. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. August

Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories – cancer and non-cancer endpoints. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk assessment.

Cancer risk calculations for both project construction and operation utilized the toxicity values for DPM and for TACs from speciated gasoline TOGs. Excess lifetime cancer risks[19] were estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF).

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$Risk_{inh} = C_i \times CF \times IF_{inh} \times CPF \times CRAF$$

Where:

$Risk_{inh}$	=	Cancer Risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unitless)
C_i	=	Annual Average Air Concentration for $Chemical_i$ ($\mu g/m^3$)
CF	=	Conversion Factor (mg/µg)
IF_{inh}	=	Intake Factor for Inhalation (m^3/kg-day)
CPF_I	=	Cancer Potency Factor for $Chemical_i$ (mg chemical/kg body weight-day)$^{-1}$
CRAF	=	Cancer Risk Adjustment Factor (unitless)

Cancer Risk Adjustment Factors

The estimated excess lifetime cancer risks for a resident child was adjusted using the age sensitivity factors (ASFs) recommended in the Cal/EPA OEHHA Technical Support Document (TSD)[20] and the cancer risk adjustment factors (CRAFs) recommended by BAAQMD[21]. This approach accounts for an "anticipated special sensitivity to carcinogens" of infants and children. Cancer risk estimates are weighted by a factor of 10 for exposures that occur from the third

19 Excess cancer risk as a result of the proposed project is the risk generated by that project that exceeds the risk that would otherwise exist.

20 Cal/EPA. 2009. *Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustment to Allow for Early Life Stage Exposures.* May.

21 BAAQMD. *2010. Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines.* January.

trimester of pregnancy to two years of age and by a factor of three for exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 to 70 years.

Results of Project Risk and Hazard Assessment

The estimated health risks and annual $PM_{2.5}$ concentrations from construction (for both the controlled and uncontrolled scenarios) and operation of the proposed project are presented in **Table 5** for off-site receptors and **Table 6** for on-site receptors. Construction-controlled emissions assume use of off-road construction equipment with USEPA's Tier 3 emissions standard plus level 3 VDECS. Note that the maximum excess lifetime cancer risks for these different source categories do not necessarily occur at the same location.

TABLE 5
MODELED EXCESS LIFETIME CANCER RISK AND $PM_{2.5}$ CONCENTRATION AT OFF-SITE MEISR.

Source	Lifetime Excess Cancer Risk (in one million)	$PM_{2.5}$ Concentration Contribution ($\mu g/m^3$)	Resultant $PM_{2.5}$ Concentration ($\mu g/m^3$)
Construction - uncontrolled	163	0.67	8.87
Construction - controlled	15	0.059	8.56
Operation – Emergency Generator	8.0	0.015	8.22
Operation – Vehicle Traffic	5.7	0.11	8.31

SOURCE: ENVIRON, 2014

TABLE 6
MODELED EXCESS LIFETIME CANCER RISK AND $PM_{2.5}$ CONCENTRATION AT ON-SITE MEISR

Source	Lifetime Excess Cancer Risk (in one million)	$PM_{2.5}$ Concentration Contribution ($\mu g/m^3$)	Resultant $PM_{2.5}$ Concentration ($\mu g/m^3$)
Construction - uncontrolled	52	0.17	8.77
Construction - controlled	5.5	0.020	8.62
Operation – Emergency Generator	7.9	0.015	8.62
Operation – Vehicle Traffic	2.5	0.047	8.65

SOURCE: ENVIRON, 2014

Results of Cumulative Risk and Hazard Assessment

The cumulative health risks and annual $PM_{2.5}$ concentrations from construction and operation of the proposed project for the controlled scenario, inclusive of all sources are presented in **Table 7** for off-site receptors and **Table 8** for on-site receptors. These risks and concentrations also include estimated cumulative health risks and annual $PM_{2.5}$ concentrations from roadway traffic on local roadways. Emissions from the lone local stationary source within 1,000 feet of the project site was included in the background cancer risk and $PM_{2.5}$ concentrations for off-site and on-site receptors. Controlled emissions assume operation of off-road construction equipment with

USEPA's Tier 3 emissions standard plus level 3 VDECS. Note that the cumulative MEISR is a different receptor than the Project level MEISR in Tables 4 and 5, and hence have different background values.

TABLE 7
CUMULATIVE CANCER RISK AND $PM_{2.5}$ CONCENTRATION AT OFF-SITE MEISR FOR THE CONTROLLED SCENARIO

Source	Lifetime Excess Cancer Risk (in one million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Background	19.4	8.5
Construction Total	9.2	0.011
Project Operations - Generator	7.4	0.01
Project Operations - Mobile	2.1	0.10
Cumulative Total	**38**	**8.5/8.6**[a]

SOURCE: ENVIRON, 2014

a Presented as construction total/operational total. Cumulative totals for $PM_{2.5}$ are separate for construction and operation as the worst case concentrations would not occur simultaneously.

TABLE 8
CUMULATIVE CANCER RISK AND $PM_{2.5}$ CONCENTRATION AT ON-SITE MEISR FOR THE CONTROLLED SCENARIO

Source	Lifetime Excess Cancer Risk in one million	PM2.5 Concentration ($\mu g/m^3$)
Background	35.7	8.6
Construction Total[a]	3.6/5.5	0.01/0.02
Project Operations - Generator	6.3	0.01
Project Operations - Mobile	1.8	0.03
Cumulative Total	**47/49**[a]	**8.6/8.6**[b]

SOURCE: ENVIRON, 2014

a Totals provide a range of values, the first of which is the mean value and the second of which is the mean plus one standard deviation.

b Presented as construction total/operational total. Cumulative totals for $PM_{2.5}$ are separate for construction and operation as the worst case concentrations would not occur simultaneously.

VII. Project Alternative Emissions

Alternative 1: Reduced Development / Density Alternative

Results of the Criteria Pollutant Analysis for Alternative 1

Construction-Related Emissions

Construction emissions under the Reduced Development/Density Alternative were calculated using the same methodology as for the proposed project. The difference in emissions is attributable to reduced square footage of construction. The emissions from the off-road

construction equipment are calculated by scaling down that the activities that will be affected by the reduced gross square footage of the Alternative by the ratio of the Project Alternative square footage to the Project square footage.

Because the criteria air pollutant emissions from the construction on-road vehicles are relatively small compared to that from the off-road equipment, no additional emissions scaling methodology was developed for these emissions. Instead, the ratio of the off- road emissions between the Reduced Development/Density Alternative and the Project were used to scale the on-road emissions.

It was assumed that the Reduced Development/Density Alternative would have approximately the same amount of new pavement. The architectural coating emissions for each construction phase however were scaled by the ratio of Project Alternative gross square footage over Project gross square footage.

Criteria pollutant emissions of the Reduced Development/Density Alternative from use of construction equipment and other construction-related sources are quantified by phase in **Table 9**, which shows uncontrolled emission results. Uncontrolled emissions of Alternative 1 would be less than those of the Proposed project; therefore, controlled emissions of this Alternative would also be less than those of the proposed project.

TABLE 9
AVERAGE DAILY AND MAXIMUM ANNUAL EMISSIONS FOR ALTERNATIVE 1

	Average Daily Emissions (lb/day)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction	**23**	**62**	**38**	**2.9**	**2.9**
Phase II Construction	23	47	33	2.1	2.1
Phase I Operation	10	11	54	6.0	2.0
Phase II Total	**35**	**58**	**87**	**8.1**	**4.1**
Phase III Construction	17	23	21	1.0	1.0
Phase I & II Operation	19	14	80	11	3.4
Phase III Total	**36**	**37**	**101**	**12**	**4.4**
Year	**Maximum Annual Emissions (Ton/year)**				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction Only[a]	**4.2**	**11**	**6.9**	**0.53**	**0.53**
Phase II Construction[b]	4.2	8.6	6.0	0.38	0.38
Phase I Operation[b]	1.7	1.4	6.7	0.92	0.28
Phase II Total[b]	**5.9**	**10**	**13**	**1.3**	**0.66**
Phase III Construction[c]	3.1	4.2	3.8	0.18	0.18
Phase I & II Operation[c]	3.1	1.9	9.8	1.6	0.50
Phase III Total[c]	**6.2**	**6.1**	**14**	**1.8**	**0.68**

SOURCE: ENVIRON, 2014.

a worst case year 2016 assumed.

b worst case year 2019 assumed.

c worst case year 2023 assumed.

Operational -Related Emissions

Similar to the emissions from the proposed project, the emissions increases attributable to operation of the Reduced Development/Density Alternative would be from the total of project-related stationary sources (a diesel-fueled backup emergency generator engine), operational vehicle trips generated by on-site project uses, and area sources such as use of natural gas for heating and cooking. Emissions were quantified for operation of the proposed land uses under the Reduced Development/Density Alternative using CalEEMod version 2013.2.2, and used the same methodologies that were previously described for the proposed project. Based on the Transportation Impact Study, a net vehicle trip generation increase of 3,183 daily trips was input into CalEEMod to calculate mobile emissions.

Criteria pollutant emissions from the anticipated operation-related sources of the Reduced Development/Density Alternative are quantified in **Table 10**. Uncontrolled emissions of criteria air pollutants during operation of the Reduced Development/Density Alternative would be less than those of the proposed project.

TABLE 10
AVERAGE DAILY AND MAXIMUM ANNUAL OPERATIONAL EMISSIONS OF THE REDUCED DEVELOPMENT/DENSITY ALTERNATIVE

Source	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Average Daily Emissions (pounds/day)					
Area Source	18	0.56	48	0.27	0.27
Energy	0.18	1.5	0.74	0.12	0.12
Mobile	7.5	12.7	62	14	4.11
Stationary Source (generator)	0.26	4.3	4.1	0.42	0.42
Total	**26**	**19**	**114**	**15**	**4.9**
Maximum Annual Emissions (short tons/year)					
Area Source	3.1	0.05	4.4	0.02	0.02
Energy	0.03	0.28	0.14	0.02	0.02
Mobile	1.2	2.0	9.6	2.3	0.66
Stationary Source (generator)	0.01	0.11	0.04	0.01	0.01
Total	**4.31**	**2.5**	**14**	**2.3**	**0.71**

SOURCE: ESA, 2013; ENVIRON 2014

Construction Risks and Hazards-Alternative 1

The estimated health risks and annual $PM_{2.5}$ concentrations from construction of the Reduced Development/Density Alternative for the uncontrolled scenario is presented in **Table 11** for off-site receptors and in **Table 12** for on-site receptors. Uncontrolled health risks and annual $PM_{2.5}$ concentrations from construction of the Reduced Development/Density Alternative would be less than those of the proposed project. Further, health risks in a controlled scenario for Alternative 1 would be less than those shown in Table 10, commensurate with the reduction indicated for the Proposed Project.

Operational Risks and Hazards-Alternative 1

Operational health risks and annual $PM_{2.5}$ concentrations of the Reduced Development/Density Alternative would be less than those of the proposed project because there would be reduced vehicle trip generation associated with Alternative 1. All other sources of operational health risks and annual $PM_{2.5}$ concentrations would be the same as the proposed project.

TABLE 11
CUMULATIVE CANCER RISK AND $PM_{2.5}$ CONCENTRATION FOR ALTERNATIVE 1 AT OFF-SITE MEISR FOR THE UNCONTROLLED SCENARIO

Source	Lifetime Excess Cancer Risk (in one million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Background	6.9	8.2
Construction Total	144	0.59
Project Operations - Generator	1.6	<0.01
Project Operations - Mobile	0.81	0.02
Cumulative Total	**153**	**8.8/8.2[a]**

SOURCE: ENVIRON, 2014

a Presented as construction total/operational total. Cumulative totals for $PM_{2.5}$ are separate for construction and operation as the worst case concentrations would not occur simultaneously.

TABLE 12
CUMULATIVE CANCER RISK AND $PM_{2.5}$ CONCENTRATION FOR ALTERNATIVE 1 AT ON-SITE MEISR FOR THE UNCONTROLLED SCENARIO

Source	Lifetime Excess Cancer Risk in one million	PM2.5 Concentration ($\mu g/m^3$)
Background	35.7	8.6
Construction Total [a]	28/48	0.08/0.16
Project Operations - Generator	6.3	0.01
Project Operations - Mobile	1.8	0.03
Cumulative Total	**72/92[a]**	**8.7/8.8[b]**

SOURCE: ENVIRON, 2014

a Totals provide a range of values, the first of which is the mean value and the second of which is the mean plus one standard deviation.

b Presented as construction total/operational total. Cumulative totals for $PM_{2.5}$ a separate for construction and operation as the worst case concentrations would not occur simultaneously.

Alternative 2: One-for-One Replacement Alternative

Results of the Criteria Pollutant Analysis - Alternative 2

Construction-Related Emissions

Construction emissions under the One-for-One Replacement Alternative were calculated using the same methodology as for the proposed project. The difference in emissions is attributable to reduced square footage of construction. The emissions from the off-road construction equipment are calculated by scaling down the activities that would be affected by the reduced gross square footage of the Alternative by the ratio of the Project Alternative square footage to the Project square footage.

Because the criteria air pollutant emissions from the construction on-road vehicles are relatively small compared to that from the off-road equipment, no additional emissions scaling methodology was developed for these emissions. Instead, the ratio of the off- road emissions between the One-for-One Replacement Alternative and the Project were used to scale the on-road emissions.

It was assumed that the One-for-One Replacement Alternative would have approximately the same amount of new pavement. The architectural coating emissions for each construction phase however were scaled by the ratio of Project Alternative gross square footage over Project gross square footage.

Construction activity under the One-for-One Replacement Alternative would be condensed and occur earlier than the Proposed project and, consequently the off-road equipment fleet and vehicle trip fleet would not have the emissions improvements that are assumed in the project and Alternative 1 analysis.

Criteria pollutant emissions of the One-for-One Replacement Alternative from use of construction equipment and other construction-related sources are quantified by phase in **Table 13**, which shows controlled emission results. Uncontrolled emission results are presented in **Table 14**.

TABLE 13
UNCONTROLLED AVERAGE DAILY AND MAXIMUM ANNUAL EMISSIONS FOR ALTERNATIVE 2

	Average Daily Construction Emissions (lb/day)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction	20	83	51	3.8	3.8
Phase II Construction	22	86	51	3.9	3.9
Phase III Construction	16	52	35	2.3	2.3
Year	**Maximum Annual Construction Emissions (Ton/year)**				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2016 Construction Only	3.7	15	9.3	0.69	0.69
2019 Construction	4.0	16	9.3	0.71	0.71
2023 construction	2.9	9.4	6.4	0.42	0.42

SOURCE: ENVIRON, 2014.

TABLE 14
CONTROLLED AVERAGE DAILY AND MAXIMUM ANNUAL EMISSIONS FOR ALTERNATIVE 2

	Average Daily Construction Emissions (lb/day)				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Phase I Construction	14	41	48	2.3	2.3
Phase II Construction	17	42	48	2.4	2.4
Phase III Construction	13	36	39	2.1	2.0
Year	**Maximum Annual Construction Emissions (Ton/year)**				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2016 Construction Only	2.6	7.5	8.8	0.42	0.42
2019 Construction	3.1	7.7	8.8	0.44	0.44
2023 construction	2.4	6.6	7.1	0.38	0.37

SOURCE: ENVIRON, 2014 and ESA, 2014.

Operational -Related Emissions

Unlike the emissions from the proposed project, the emissions increases attributable to operation of the One-for-One Replacement Alternative would not include project-related stationary sources (a diesel-fueled backup emergency generator engine) and operational vehicle trips would not change as the number of units would be the same as current conditions. Consequently there would be no net increase of operational emissions associated with implementation of the One-for-One Replacement Alternative. Increased efficiencies associated with upgrading building materials and heating systems may result in a marginal reduction in emissions from natural gas combustion under the One-for-One Replacement Alternative.

Construction Risks and Hazards - Alternative 2

The estimated health risks and annual $PM_{2.5}$ concentrations from construction of the One-for-One Replacement Alternative for the uncontrolled scenario is presented in **Table 15** for off-site receptors and in **Table 16** for on-site receptors. Uncontrolled health risks and annual $PM_{2.5}$ concentrations from construction of the One-for-One Replacement Alternative would be less than those of the proposed project.

TABLE 15
CUMULATIVE CANCER RISK AND $PM_{2.5}$ CONCENTRATION FOR ALTERNATIVE 2 AT OFF-SITE MEISR FOR THE CONTROLLED SCENARIO

Source	Lifetime Excess Cancer Risk (in one million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Background	6.9	8.2
Construction Total	139	0.80
Cumulative Total	**146**	**9.0**

SOURCE: ENVIRON, 2014

TABLE 16
CUMULATIVE CANCER RISK AND $PM_{2.5}$ CONCENTRATION FOR ALTERNATIVE 2 AT ON-SITE MEISR FOR THE UNCONTROLLED SCENARIO

Source	Lifetime Excess Cancer Risk in one million	PM2.5 Concentration ($\mu g/m^3$)
Background	35.7	8.6
Construction Total [a]	26/47	0.10/0.18
Cumulative Total[a]	**68/89**	**8.7/8.8**

SOURCE: ENVIRON, 2014

a Totals provide a range of values, the first of which is the mean value and the second of which is the mean plus one standard deviation.

Operational Risks and Hazards-Alternative 2

There would be no increase in operational health risks or annual $PM_{2.5}$ concentrations under Alternative 2 because there would be no increase in vehicle trip generation associated with Alternative 2 and no diesel generator proposed under Alternative 2. There would also be no change in on-site receptor locations under the One-for-One Replacement Alternative.

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APPENDIX A
Supporting Documentation

ENVIRON, *Air Quality and Health Risk Assessment Sunnydale-Velasco HOPE Project, San Francisco, California*, June 2014





Air Quality and Health Risk Assessment

Sunnydale-Valesco HOPE Project
San Francisco, California

Prepared for:
Environmental Science Associates (ESA)
Oakland, California

Prepared by:
ENVIRON International Corporation
San Francisco, California

Date:
June 2014

Project Number:
03-32363A

ENVIRON

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Acronyms and Abbreviations

ARB	California Air Resources Board
ASF	Age Sensitivity Factor
BAAQMD	Bay Area Air Quality Management District
CalEEMod™	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CAP	Criteria Air Pollutant
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
CRAF	Cancer Risk Adjustment Factor
CRM	Construction Resource Management, Inc
CRRP	Community Risk Reduction Plan
DPM	Diesel Particulate Matter
EMFAC	EMission FACtor model
ENVIRON	ENVIRON International Corporation
EP	Environmental Planning
ESA	Environmental Science Associates
HRA	Health Risk Assessment
IARC	International Agency for Research on Cancer
MEISR	Maximally Exposed Individual Sensitive Receptor
NED	National Elevation Dataset
OEHHA	Office of Environmental Health Hazard Assessment
$PM_{2.5}$	Fine Particulate Matter Less than 2.5 Micrometer in Aerodynamic Diameter
PM_{10}	Respirable Particulate Matter Less than 10 Micrometer in Diameter
STP	Sewage Treatment Plant
TAC	Toxic Air Contaminant
TOG	Total Organic Gases
TSD	Technical Support Document
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VDECS	Verified Diesel Emissions Control Strategy

WHO	World Health Organization
X/Q	“chi over q”, Also known as a dispersion factor

List of Units

g	gram
kg	kilogram
L	liter
m^3	cubic meter
μg	microgram
s	second

1 Introduction

At the request of Environmental Science Associates (ESA), ENVIRON International Corporation (ENVIRON) prepared a California Environmental Quality Act (CEQA) analysis of criteria air pollutants and precursors, as well as local risk and hazard impacts associated with the proposed construction and operation of the Sunnydale-Velasco HOPE Project ("Project"). The Project boundaries are shown in **Figure 1**. The Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (BAAQMD, 2011a and 2012a) recommend an analysis to evaluate air quality impacts, and associated risks and hazards from construction equipment exhaust and operational sources on on-site and adjacent sensitive receptors (including residents, schools, daycare facilities and hospitals). This analysis was performed to support the Project's CEQA documentation and per the request of the San Francisco Planning Department's Environmental Planning (EP) Division. To that end, a Scope of Work for this analysis was prepared by ESA and is attached as Appendix A.

1.1 Project Understanding

The Sunnydale-Valesco Project site is currently occupied by the Sunnydale and Valesco public housing complexes in the Visitacion Valley neighborhood. The existing site plan is shown in **Figure 2**. The Project developer, Mercy Housing, proposes the following:

- Demolition of existing buildings, including 785 family and senior dwelling units in 94 two-story residential buildings. Demolition would remove 765,000 square feet of residential uses and 29,000 square feet of daycare and other community-serving uses;
- Construction of up to 1,700 units of housing, including public housing replacement units, affordable rental units and market rate and affordable for-sale units;
- Construction of approximately 72,500 square feet of community service, recreational and educational facilities, with youth and early childhood education programs;
- Construction of 11.5 acres of new parks and open spaces, including a community garden, a farmer's market pavilion and secure outdoor courtyards within residential buildings;
- Construction of 12.2 acres of a new and reconfigured street network potentially including "green" features such as bioswales and landscaping; and
- Construction of up to 16,200 square feet of neighborhood-serving retail.

The proposed site plan is shown in **Figure 3**. The Project also includes realigning Sunnydale, Brookdale and Blythedale Avenues and Santos Street and adding new cross streets to create a street grid that would improve connectivity and access within the development and to Hahn Street.

The Project is anticipated to commence in January 2016 with construction occurring in three phases. Phase I is anticipated to begin in January 2016 and last 44 months, while Phases II and III are anticipated to last 42 and 48 months, respectively. It is assumed that Phase II construction would begin immediately after or shortly after Phase I (i.e., 2019), and Phase III would begin immediately after or shortly after Phase II (i.e., 2023). It is our understanding that residential units may be occupied while other phases are active. The Project would also involve

installation of one diesel-powered emergency generator, located in a building to be used for senior housing and retail mixed-use, at the northeast corner of the Project site. The emergency generator would meet the federal Tier 3 diesel engine standards for particulate matter for diesel engines with a rating between 75 and 750 horsepower.

Two Project Alternatives were also proposed as described below:

> Project Alternative 1 – "Reduced Density" alternative. This alternative shares approximately the same building footprint as the Project and would have the same construction phase durations as the Project. There would be roughly 29 percent less gross square feet and 19 percent fewer residential units constructed for this alternative compared to the Project.
>
> Project Alternative 2 – "One-on-One Replacement" alternative. This alternative would also be divided into three construction phases, but each phase would last approximately two years for a total of six years. This alternative would demolish the same amount of existing residential units and therefore have the same emissions from the demolition phase as the Project. However, there would be 72 percent less gross square feet constructed under this alternative than under the Project and 54 percent fewer residential units. In addition, the surface street improvements proposed for the Project would not be implemented for this alternative.

Existing Conditions: The City of San Francisco, in conjunction with the BAAQMD, has recently completed a City-wide HRA to evaluate cumulative cancer risks and $PM_{2.5}$ concentrations from existing stationary and mobile sources as part of the development of a Community Risk Reduction Plan (CRRP). For purposes of this report, the database developed for this effort is referred to as the CRRP-HRA.

The existing condition of the Project area was evaluated as part of that and included a human health impact analysis of the toxic air contaminants (TACs) sources on the existing and future residents throughout the City. Sources evaluated in this analysis included roadways, permitted stationary sources, Caltrain, marine sources, and transit center operations. The Sunnydale-Valesco Project site is at the southern edge of the receptor grid included in the CRRP-HRA. The background excess lifetime cancer risk and $PM_{2.5}$ concentration onsite and within 1-kilometer of the Project site boundary are summarized respectively below:

Background Risk and Concentration	Receptor Locations	Excess Lifetime Cancer Risk (# in one million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
2014	Onsite	3.4 – 35.7	8.1 – 8.5
2025		2.8 – 28.8	8.1 – 8.6
2014	Within 1 kilometer of site boundary	0.18 - 43.8	8.1 – 9.1
2025		0.14 – 36.8	8.1 – 9.4

Note: The CRRP-HRA analyzed background excess lifetime cancer risk and $PM_{2.5}$ concentration for years 2014 and 2020. Because the Project Phase I construction will be completed in 2019, which is between the two calendar years analyzed in the CRRP-HRA, the higher background excess lifetime cancer risk and $PM_{2.5}$ concentration between the two was chosen for this cumulative analysis.

Roadway sources are the primary contributor to the background excess lifetime cancer risk and $PM_{2.5}$ concentration, as shown in the CRRP-HRA.

1.2 Objective and Methodology

Per ESA's request, the purposes of this analysis are to assess potential criteria pollutant emissions from construction of the Project and operation of an emergency generator at the site, and to quantify health risks from Project construction, operational (ongoing) traffic, and operation of the emergency generator. The purpose of this analysis is to also determine whether the proposed Project would create a new or expand an existing air pollutant exposure zone, as defined by San Francisco as: 1) areas where the excess lifetime cancer risk from the contribution of emissions from all modeled sources is greater than 100 per one million population, and/or (2) areas where the sum of $PM_{2.5}$ concentrations from all modeled sources of toxic air contaminants (TACs) plus ambient $PM_{2.5}$ concentrations is greater than 10 micrograms per cubic meter ($\mu g/m^3$). These criteria were developed based on extensive communications with the BAAQMD and in support of the San Francisco's efforts to prepare a CRRP. The air pollutant exposure zone requires additional considerations when siting new sensitive receptors or when adding new sources of TACs. The Project site and vicinity is not within an existing air pollutant exposure zone, as shown in the Table in Section 1.1. However, large-scale, multi-phase projects, such as the proposed Project, are evaluated to determine whether these projects have the potential create a new air pollutant exposure zone or substantially increase health risk within an existing air pollutant exposure zone.

We understand that ESA is responsible for evaluating criteria pollutant emissions for the other Project operational sources including area sources (i.e., hearths, consumer products, and architectural coating), natural gas usage, and traffic and will be addressed in a separate document.

This analysis was conducted consistent with guidelines and methodologies from air quality agencies, specifically, the BAAQMD, the California Air Resources Board (ARB), the Office of

Environmental Health Hazard Assessment (OEHHA), and the US Environmental Protection Agency (USEPA). Consistent with these guidelines and methods recommended in those guidelines, the health risk assessment (HRA) estimated excess lifetime cancer risk and the particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$) concentrations associated with construction activities (i.e., off-road equipment and on-road vehicles) and operational TAC emissions (i.e., diesel generator and on-road vehicles). The cumulative analysis estimates excess lifetime cancer risks and $PM_{2.5}$ concentrations that are attributable to other mobile and stationary sources as evaluated in the CRRP-HRA in addition to impacts from the Project. Due to the size of this Project and its extensive construction activity, ENVIRON evaluated the Project sources within one kilometer of the Project boundary, consistent with the CRRP-HRA methodology.

Consistent with CEQA requirements, this analysis evaluated:

- Mass emissions of criteria air pollutants (CAP) from construction activities;
- Mass emissions of CAP from the emergency generator;
- Excess lifetime cancer risks and $PM_{2.5}$ concentrations associated with construction and operational emissions to onsite and offsite sensitive receptors; and
- Excess lifetime cancer risks and $PM_{2.5}$ concentrations (to both onsite and offsite sensitive receptors) resulting from the Project in addition to other cumulative sources (stationary and mobile emissions).

Per ENVIRON's discussion with the San Francisco EP and consistent with the CRRP-HRA methods, chronic and acute non-cancer impacts from land development projects are expected to be minimal. Therefore, non-cancer impacts were not explicitly evaluated in this analysis.

For off-road construction equipment emissions, both an uncontrolled and a controlled construction scenario were evaluated.

The HRA was conducted consistent with the following guidance:

- Air Toxics Hot Spots Program Risk Assessment Guidelines (California Environmental Protection Agency [Cal/EPA] 2003);
- May 2012 and May 2011 BAAQMD CEQA Guidelines (BAAQMD 2011a and 2012a);
- BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards (BAAQMD 2012b);
- The San Francisco Community Risk Reduction Plan: Technical Support Documentation, V10 (BAAQMD 2012c); and
- California Air Pollution Control Officer's Association (CAPCOA) Health Risk Assessment for Proposed Land Use Projects (CAPCOA 2009).

In addition, this report also quantifies the air quality and human health impact associated with construction of the two Project Alternatives.

1.3 Report Organization

This air quality and HRA report is divided into eight sections as follows:

Section 1.0 – Introduction: describes the purpose and scope of this analysis, the objectives and methodology used in this analysis and outlines the report organization.

Section 2.0 – Emissions Estimates: describes the methods used to estimate emissions of CAPs and TACs.

Section 3.0 – Air Concentration Estimates: discusses the air dispersion modeling, the selection of the dispersion models, the data used in the dispersion models (e.g., terrain, meteorology, source characterization), and the identification of residential and sensitive locations evaluated in this HRA.

Section 4.0 – Risk Characterization Methods: provides an overview of the methodology used for conducting the HRA.

Section 5.0 – Results for Project Analysis: presents the average daily criteria pollutant emissions for construction, estimated excess lifetime cancer risks and $PM_{2.5}$ concentrations for the Project.

Section 6.0 – Cumulative Analysis: summarizes the approach used in the cumulative analysis; presents the estimated cumulative excess lifetime cancer risks and $PM_{2.5}$ concentrations for the Project.

Section 7.0 – Impact of Project Alternatives: summarizes the approach used to quantify the CAP emissions, excess lifetime cancer risks and $PM_{2.5}$ concentrations associated with construction of the two Project Alternatives; then presents the results.

Section 8.0 – Uncertainties: identifies and describes the uncertainties associated with the emissions and risk estimates and discusses how these uncertainties may affect the conclusions of this report.

Section 9.0 – References: includes a listing of all references cited in this report.

2 Emissions Estimates

2.1 Calculation Methodologies for Construction Emission Sources

As described above, the Project construction would be implemented in three phases (labelled I, II, and III). In addition, each of the three phases consists of three sub-phases (labelled A, B, and C) which may overlap with each other.[1] Activity data for off-road construction equipment, on-road construction worker trips, haul truck trips, vendor truck trips, and concrete truck trips were provided by either Construction Resource Management, Inc. (CRM) or Mercy Housing. When project-specific data were not available, default parameters were used for the analysis.

2.1.1 Off-Road Construction Equipment

Mercy Housing provided construction equipment inventories that included details on the type, horsepower, quantity, fuel, and construction schedule for each piece of equipment for construction of Phase I (see **Appendix B**).[2] ENVIRON assumed default daily operational hours for construction equipment from the California Emissions Estimator Model (CalEEMod™, ENVIRON 2013).[3] As detailed construction equipment was not provided for Phases II and III, ENVIRON scaled the Phase I construction activity by the square footage of building to be built and to be demolished for these two phases respectively to estimate the level of construction activities (see **Appendix C**).

ENVIRON estimated emissions for an uncontrolled and a controlled construction scenario, where emissions associated with the off-road equipment were adjusted.[4] For the uncontrolled construction scenario, the ARB default emission factor from In-use Off-road 2011 Inventory Model (ARB 2011a) was used for years 2016, 2019, and 2023 for each of the three phases. For the controlled construction scenario, the emissions levels corresponding to the USEPA's Tier 3 engines plus level 3 Verified Diesel Emission Control Strategies (VDECS), or Tier 4 engine directly was assumed (ARB 2013).[5]

Load factors for each piece of equipment were also based on the Off-road 2011 model default load factor for each equipment type. Where the horsepower of the equipment was unknown, the CalEEMod™ default horsepower for each equipment type was used. The methodology used to calculate emissions from off-road equipment is presented in **Table 1,** the criteria pollutant emissions by phase are presented in **Table 2**, and the TAC emissions by phase are presented in **Table 3**.

[1] See Appendix B-3 for emails between Larry Cochran of Construction Resources Management and Ramie Dare of Mercy Housing on descriptions of these three sub-phases under each phase. The geographic locations of the sub-phases may be different but all within the geographic location of the given phase. For this analysis, the locations of the sub-phases were not considered. The emissions of the sub-phases were spread uniformly to the area of the phase.

[2] Construction equipment list specified by Mercy Housing is included in Appendix B-1.

[3] Mercy Housing confirmed by email that the default daily operational hours are acceptable.

[4] Impacts from operational sources were not adjusted.

[5] See Appendix C for detailed calculation. For Phases I and II, Tier 3 plus level 3 VDECS was assumed. For Phase III, because some of the engines would be Tier 4 (interim or final) by then, the controlled emission of CO and NOx were assumed to be the same of the uncontrolled emissions.

2.1.2 On-Road Vehicles

2.1.2.1 CAP

Haul truck emissions were calculated using cubic yards of soil to be hauled as estimated by CRM (see **Appendix B**) and cubic yards of demolished material to be hauled estimated by using the square footage building area to be demolished and CalEEMod™ methodology (see **Appendix D**). Vendor truck emissions were calculated using the number of trips estimated by CRM (see **Appendix B**). Concrete truck emissions were estimated using the duration of construction phases that would use concrete, and the number of concrete trucks used per day, both of which were provided by CRM (see **Appendix D**). Worker vehicle emissions were estimated using the number of workers together with a car pool rate of 16%.[6] Emission factors from ARB's EMission FACtor model (EMFAC) 2011 (ARB 2011b) for years 2016, 2019, and 2023 for the following vehicle types were assumed:

- Haul trucks, vendor trucks, and concrete trucks: a fleet mix of 50% medium heavy-duty (T6) and heavy heavy-duty trucks (T7)
- Worker commute vehicles: a fleet mix of 50% light-duty automobile (LDA), 25% light-duty truck 1 (LDT1), and 25% light-duty truck 2 (LDT2)

One way trip lengths were assumed as:

- Haul trucks: 20 miles
- Vendor trucks: 7.3 miles
- Concrete trucks: 7.3 miles
- Worker commute trips: 12.4 miles

An average idling time of 10 minutes (i.e., 5 minutes on each trip end) for haul trucks and vendor trucks, and 60 minutes for concrete trucks (i.e., 30 minutes on each trip end) were also assumed. The methodology used to calculate criteria pollutant emissions from on-road trucks is presented in **Table 1,** the criteria pollutant emissions by phase are presented in **Table 2.**

2.1.2.2 Toxic Air Contaminants

The methodology used to calculate TAC emissions from on-road vehicles was the same as that used to calculate CAP emissions, except that only emissions occurring within one kilometer of the Project site were included (See **Appendix D**) as it was assumed that onsite and the most affected offsite sensitive receptors would be exposed to those emissions occurring within one kilometer of the Project site. In addition, because the assumed idling time of the truck trips for the CAP emissions calculation occurs at both trip ends of the one-way trips, the assumed idling

[6] US Census Bureau. 2011. Community Survey, Table S0804, Means of Transportation to Work by Selected Characteristics for Workplace Geography. Available online at http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t and http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_S0804&prodType=table.

time for the TAC emissions calculation was half of that for the CAP emissions (one end trip is assumed offsite). The TAC emissions by phase are presented in **Table 3**.

2.2 Calculation Methodologies for Operational Emission Sources

As described above, the Project CAP emissions for area sources (i.e., hearths, consumer products, and architectural coating), natural gas usage, and traffic will be evaluated by ESA using CalEEMod™ and therefore were not evaluated in this report. However because CalEEMod™ does not report CAP emissions from the proposed emergency generator, its emissions are presented here. In addition, the TAC emissions from the Project-generated vehicular trips were also estimated below.

2.2.1 Emergency Generator

As described above, the Project would also involve installation of one diesel-powered emergency generator, located in a building to be used for senior housing and retail mixed-use, at the northeast corner of the Project site. The emergency generator would meet the federal Tier 3 diesel engine standards for particulate matter for diesel engines with a rating between 75 and 750 horsepower. It was assumed that the generator would operate a maximum of 50 hours per year undergoing non-emergency testing and maintenance.[7] The methodology used to calculate criteria pollutant emissions from the emergency generator is presented in **Table 1,** the criteria pollutant emissions are presented in **Table 4.**

It was assumed that the diesel particulate matter (DPM) and $PM_{2.5}$ emissions from the generator are equal to its respirable particulate matter less than 10 micrometer in diameter (PM_{10}) emissions. The TAC emissions for the generator are presented in **Table 5a.**

2.2.2 Mobile Sources

The Project-generated increment vehicular trips summarized in the Project Traffic Impact Study (CHS 2012) together with emission factors from EMFAC 2011 were used to calculate operational traffic emissions. The default fleet mix in EMFAC 2011 and a truck percentage of 2.85% recommended for San Francisco County (BAAQMD 2012b) were assumed. The methodology used to calculate vehicular TAC emissions is presented in Table 1. The TAC emissions are presented in **Table 5b** and the detailed calculation is presented in **Appendix E**.

[7] The Air Toxics Control Measure (ATCM) for Stationary Compression Ignition Engines (Section 93115, Title 17, California Code of Regulations [CCR]) limits maintenance and testing for non-emergency use to 50 hours per year for engines that emit less than 0.15 gram per brake horsepower-hour (i.e., 0.15 g/bhp-hr), which is defined as the Best Available Control Technology for Toxics (TBACT) by the District. Available: http://hank.baaqmd.gov/pmt/bactworkbook/default.htm

3 Air Concentrations Estimates

The methodologies used to evaluate concentrations for the Project HRA were based on the most recent BAAQMD Protocol (BAAQMD 2012b) and are discussed below.

3.1 Chemical Selection

The estimated excess lifetime cancer risks in the HRA for the Project are based on DPM concentrations and exhaust and evaporative emissions from gasoline vehicles.

Diesel exhaust, a complex mixture that includes hundreds of individual constituents (Cal/EPA 1998), is identified by the State of California as a known carcinogen (Cal/EPA 2013). Under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole. Cal/EPA and other proponents of using the surrogate approach to quantifying cancer risks associated with the diesel mixture indicate that this method is preferable to use of a component-based approach. A component-based approach involves estimating risks for each of the individual components of a mixture. Critics of the component-based approach believe it will underestimate the risks associated with diesel as a whole mixture because the identity of all chemicals in the mixture may not be known and/or exposure and health effects information for all chemicals identified within the mixture may not be available. Furthermore, Cal/EPA has concluded that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated components" (Cal/EPA 2003).

The speciated components of exhaust and evaporate total organic gases (TOGs) from gasoline vehicles (BAAQMD 2012b) were also included in the health risk calculation.

3.2 Methodologies

Near-field air dispersion modeling of DPM and gasoline TOGs from Project sources was conducted using the USEPA's AERMOD model (version 12345, USEPA 2012).[8] For each receptor location, the model generates annual average air concentrations (or air dispersion factors as unit emissions) that result from emissions from multiple sources.

Air dispersion models such as AERMOD require a variety of inputs such as source parameters, meteorological parameters, topography information, and receptor parameters. When site-specific information is unknown, ENVIRON used default parameter sets that are designed to produce conservative (i.e. overestimates of) air concentrations.

Meteorological data: Air dispersion modeling applications require the use of meteorological data that ideally are spatially and temporally representative of conditions in the immediate vicinity of the site under consideration. For this HRA, meteorological data collected and processed by the BAAQMD[9] at the Mission Bay station were used. The Mission Bay station is about 5 miles

[8] On November 9, 2005, the USEPA promulgated final revisions to the federal Guideline on Air Quality Models, in which they recommended that AERMOD be used for dispersion modeling evaluations of criteria air pollutant and toxic air pollutant emissions from typical industrial facilities.

[9] BAAQMD processed the data using AERMET 12345.

north-northeast of the Project site. Another BAAQMD San Francisco Sewage Treatment Plant (STP) station is slightly closer to the site and has a similar wind pattern to the Mission Bay station. However because there is no AERMOD-ready meteorological station available for San Francisco's STP station, Mission Bay data was used.

Terrain considerations: Elevation and land use data were imported from the National Elevation Dataset (NED) maintained by United States Geological Survey (USGS). An important consideration in an air dispersion modeling analysis is the selection of rural or urban dispersion coefficients, which are influenced by the level of development in the vicinity of the Project. Due to the proximity of the Project to John McLaren Park to the north, ENVIRON used rural dispersion coefficients, which is consistent with USEPA guidance (USEPA 2009) and the CRRP-HRA method.

Construction Emission rates: Emitting activities were modeled between 7 AM and 3 PM, 7 days a week to reflect the duration of construction activities.

According to the Project traffic study (CHS 2012), construction activity can occur 7AM to 8 PM. However Mercy housing confirmed that the days with the extended construction activity would represent a relatively small percentage of the total construction period, such that the majority of construction would occur between the hours of 7 AM to 3 PM.

Emissions were modeled using the X/Q ("chi over q") method, such that each phase had unit emission rates (i.e., 1 gram per second [g/s]), and the model estimated annual average dispersion factors (with units of [microgram per cubic meter] per [gram per second] [$\mu g/m^3$]/[g/s]). To calculate annual average ambient air concentrations by phase, the annual average dispersion factors were multiplied by the average annual emission rates by phase.

Emission rates used in the modeling are shown in **Table 3** (for the uncontrolled and controlled construction scenarios).

Operational Emission rates: Emissions from the emergency generator were modeled between 8 AM and 6 PM, 7 days a week to reflect the likely duration of the non-emergency maintenance and testing hours. Emissions from Project-generated traffic were modeled 24 hours a day, with an hour-of-day temporal profile reflecting the fluctuation of traffic volume in the San Francisco County, extracted from EMFAC 2011.

Emissions were modeled using the X/Q method for the emergency generator. To calculate annual average ambient air concentrations, the annual average dispersion factors were multiplied by the average annual emission rates for the generator. Actual emission factors were modeled for the Project-generated increment traffic.

Emission rates used in the modeling are shown in **Table 5a** for the emergency generator and **Table 5b** the Project-generated traffic. The hour-of-day temporal profile for traffic is also presented in **Table 5b**.

Construction Source parameters: Source locations and parameters are necessary to model the dispersion of air emissions. Details of the source parameters used for each phase are

presented in **Table 6**. At any given time there would be multiple emissions sources associated with construction equipment within the construction zone. Depending on the size of the construction zone, each construction phase was modeled as a series of adjacent volume sources, with the size and locations shown in **Figure 4**. A release height of 5 meters was used, with an initial vertical dimension of 1.4 meters (South Coast Air Quality Management District 2008) and an initial lateral dimension calculated by dividing the width of the volume source by 4.3. Emissions for each phase were distributed uniformly amongst all volume sources representing construction of that phase. Off-site vehicles (trucks and worker trips going to and from construction zones) were also modeled as volume sources (shown in **Figure 5**), but the initial lateral dimension was calculated by dividing the width by 2.15, consistent with guidance (USEPA 1995) for modeling adjacent volume sources as a line source.

Operational Source parameters: Details of the source parameters used for the emergency generator and the Project-generated increment traffic are presented in **Tables 7a** and **7b**. Because the actual location of the emergency generator at the proposed senior housing and retail mix-use building is unknown, 19 representative locations were modeled, of which the maximum concentration was used for the cancer risk and $PM_{2.5}$ analysis. **Figure 6** presents the 19 representative locations used in the model. The senior housing and retail mix-use building together with surrounding buildings (also shown in **Figure 6**) were also included in the model for building downwash impact analysis. Generic stack parameters for the emergency generator provided by ESA were used for the analysis. Project-generated traffic were also modeled as volume sources (shown in **Figure 7**), but the initial lateral dimension was calculated by dividing the width by 2.15, consistent with guidance (USEPA 1995) for modeling adjacent volume sources as a line source.

Receptors: Air concentrations were evaluated for onsite receptors and at locations within 1 kilometer of the Project boundary. The construction of the Project is split to three phases, and residents may be onsite while one of the three phases is being constructed. As a result, both onsite and offsite receptors were evaluated. For onsite residential receptors, depending on which construction phase was evaluated, a 10 meter by 10 meter receptor grid was placed on either existing buildings or future buildings to represent indoor residential locations. Building height maps for the existing and future buildings were used to develop the vertical levels of the receptors. The receptor height at each building level was calculated by adding 1.8 meter to the building height at that level extracted from the building height maps. In addition, a 20 meter by 20 meter receptor grid was placed on the onsite area outside of the building footprint to represent outdoor locations, with a single height of 1.8 meters. A single receptor was also placed at the northeastern corner of the Project site to represent the proposed day care facility conservatively expected to be in operation after Phase I construction is completed (thereby being exposed to Phase 2 and 3 construction emissions). **Figures 8a** and **8b** present the locations of the onsite receptors.

Offsite receptors were modeled with a 20 meter by 20 meter receptor grid, aligned with that used in the CRRP-HRA effort (BAAQMD 2012c), up to 1 kilometer from the Project boundary. **Figure 8c** presents the location of the offsite receptors. All receptors were assumed to be residential receptors even though some of the locations may not be on actual residential

dwellings. This approach is consistent with the CRRP-HRA modeling approach and Section 4.2 further substantiates this approach.

4 Risk Characterization Methods

The following sections discuss in detail the various components required to conduct the HRA.

4.1 Project Sources Evaluated

As discussed in Section 1.2, ENVIRON evaluated excess lifetime cancer risk, and $PM_{2.5}$ concentrations for the following scenarios (including duration as listed).

1. Project construction (11.2 years; or 134 months; split to three phases); and
2. Project operation including non-emergency maintenance and testing of an emergency diesel generator and Project-generated traffic. It was conservatively assumed that the effects of full build out at Project operations would start after Phase I construction is completed.

4.2 Exposure Assessment

Potentially Exposed Populations: This evaluation conservatively evaluated the following receptor populations:

- Offsite and onsite child residents for the Project construction.
- Offsite and onsite 70-year lifetime residents for the Project operation.

As the residential exposure assumptions are more conservative than those for other sensitive receptor types (including the future onsite day care facility, the offsite schools and other sensitive receptors), a conservative approach of considering all sensitive receptors as residential receptors was used in this HRA.

As mentioned above, onsite residents within the other two phases may be present during construction of a given phase. For example, residential units located in the Phase II and Phase III areas may be occupied during demolition and construction of Phase I. In addition, residents within a given phase may re-locate to a different phase while the original phase is being constructed. For example, residents currently in the Phase I area may relocate to the Phase II or Phase III areas during construction. Then the resident may or may not move back to a new building in the original phase once its construction is completed. Furthermore, some residents within a certain phase may temporarily re-locate to offsite locations during the construction of that phase, and then move back to a new building once its construction is completed.

ENVIRON defined all possible combinations of locations for an onsite resident, and assessed exposures for these combinations (see **Appendix G**). One combination, which assumes child residents would be present in Phase III existing buildings during Phase I and II construction and in Phase II new buildings during Phase III construction, was considered representative and reasonably conservative for the following reasons:

- This scenario assumes that the resident only moves once, which is more likely than a resident being relocated multiple times;

- This scenario assumes that that the resident stays onsite during the construction of the entire Project, which would result in higher exposure to the construction-period TAC emissions;
- This scenario yielded highest excess lifetime cancer risks using different ranking methods (i.e., average, mean, 50th percentile, 75th percentile, 95th percentile) as shown in **Appendix G**; and
- Although another combination yields a higher excess lifetime cancer risk which assumes that the resident always lives in a unit being exposed to the highest impact from another phase, this situation is not expected to occur and would result in an overly conservative estimate of Project-generated excess lifetime cancer risk.

Therefore, this combination approved by the San Francisco EP was used in this HRA to evaluate excess lifetime cancer risks and $PM_{2.5}$ impacts.[10]

Offsite child residents were assumed to be present at one location during the entire construction period. Offsite and onsite 70-year lifetime residents were assumed to be present at one location during the entire 70 year period.

Exposure Assumptions: The exposure parameters used to estimate excess lifetime cancer risks for all potentially exposed populations for the Project construction and operation were obtained using risk assessment guidelines from BAAQMD (BAAQMD 2010), unless otherwise noted, and are presented in **Table 8** and **Table 9**, respectively.

Calculation of Intake: The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, IF_{inh}, can be calculated as follows:

$$IF_{inh} = \frac{DBR * ET * EF * ED * CF}{AT}$$

Where:

IF_{inh}	=	Intake Factor for Inhalation (m^3/kg-day)
DBR	=	Daily Breathing Rate (L/kg-day)
ET	=	Exposure Time (hours/24 hours)
EF	=	Exposure Frequency (days/year)
ED	=	Exposure Duration (years)
AT	=	Averaging Time (days)
CF	=	Conversion Factor, 0.001 (m^3/L)

[10] Email communication from Wade Wietgrefe of San Francisco EP to Michael Keinath of ENVIRON, dated August 13, 2013. San Francisco EP approved using this combination for the HRA.

The chemical intake or dose is estimated by multiplying the inhalation intake factor, IF_{inh}, by the chemical concentration in air, C_i. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the OEHHA Hot Spots guidance (Cal/EPA 2003).

4.3 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories – cancer and non-cancer endpoints. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk assessment.

For cancer risk calculations for both Project construction and operation, ENVIRON used the toxicity values for DPM and for TACs from speciated gasoline TOGs. Toxicity values are summarized in **Table 10**.

4.4 Cancer Risk Adjustment Factors

The estimated excess lifetime cancer risks for a resident child was adjusted using the age sensitivity factors (ASFs) recommended in the Cal/EPA OEHHA Technical Support Document (TSD) (Cal/EPA 2009) and the cancer risk adjustment factors (CRAFs) recommended by BAAQMD (BAAQMD 2010). This approach accounts for an "anticipated special sensitivity to carcinogens" of infants and children. Cancer risk estimates are weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age and by a factor of three for exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 to 70 years. **Table 11** shows the CRAFs used for child residents for a construction period lasting approximately 134 months and the CRAF used for 70-year lifetime residents for the Project operation.

4.5 Risk Characterization

4.5.1 Estimation of Cancer Risks

Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF).

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$Risk_{inh} = C_i \times CF \times IF_{inh} \times CPF \times CRAF$$

Where:

$Risk_{inh}$ = Cancer Risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unit-less)

C_i = Annual Average Air Concentration for $Chemical_i$ ($\mu g/m^3$)

CF = Conversion Factor (mg/µg)

IF_{inh} = Intake Factor for Inhalation (m^3/kg-day)

CPF_I = Cancer Potency Factor for $Chemical_i$ $(mg\ chemical/kg\ body\ weight\text{-}day)^{-1}$

CRAF = Cancer Risk Adjustment Factor (unitless)

5 Results for Project Analysis

This section presents the Project impact for onsite and offsite residents. As mentioned in Section 2.1.1, emissions from both uncontrolled and controlled construction scenarios were evaluated. For the uncontrolled construction scenario, the ARB default emission factor from In-use Off-road 2011 Inventory Model (ARB 2011a) was used for years 2016, 2019, and 2023 for each of the three phases. For the controlled construction scenario, the emissions levels corresponding to the USEPA's Tier 4 emissions standard, which can be achieved by using Tier 3 engines plus level 3 Verified Diesel Emission Control Strategies (VDECS), or Tier 4 engine directly was assumed (ARB 2013).[11] The Project health impact was also evaluated for these two scenarios as described below.

5.1 Emissions of Criteria Air Pollutants

5.1.1 Construction

Table 2 shows the total and average daily emissions of the criteria air pollutants by construction phase, for both uncontrolled and controlled scenarios. For both scenarios, the paving and architectural coating contributes the majority of the ROG emissions while the construction off-road emissions dominate the emissions for other chemicals including PM_{10}, $PM_{2.5}$, CO, and NOx. The control measure reduces the average daily NOx emissions by 24 lbs for phase I and 17 lbs for phase II.

5.1.2 Operation

Table 4 shows the annual and average daily emissions for the criteria air pollutants for the emergency generator. Average daily emissions from the non-emergency testing and maintenance of the generator are below 1 lb for all chemicals.

5.2 Risk Results

5.2.1 Offsite Risks

Table 12 shows the excess lifetime cancer risk for the offsite maximally exposed individual sensitive receptor (MEISR) during Project construction (for both uncontrolled and controlled scenarios) and due to non-emergency maintenance and testing of the emergency generator and Project-generated traffic. **Table 12** presents the results of project-specific risks to off-site receptors for both construction and operation. Excess lifetime cancer risk at the offsite MEISR is 163 in a million for the uncontrolled scenario and 15 in a million for the controlled scenario. Excess lifetime cancer risk from the emergency generator is 8.0 in a million while that from the Project traffic is 5.7 in a million. $PM_{2.5}$ concentration at the offsite MEISR is 0.67 $\mu g/m^3$ for the uncontrolled scenario and 0.059 $\mu g/m^3$ for the controlled scenario. $PM_{2.5}$ concentration from the emergency generator is 0.015 $\mu g/m^3$ while that from the Project traffic is 0.11 $\mu g/m^3$. Note that the maximum excess lifetime cancer risks for these different source categories do not necessarily occur at the same location. **Figures 9a** and **9b** show the isopleths of the combined excess lifetime cancer risk from Project construction, emergency generator, and traffic for the

[11] See Appendix C for detailed calculation.

uncontrolled and controlled scenarios.[12] **Figures 9c** and **9d** show the isopelths of the combined $PM_{2.5}$ concentration from Project construction, emergency generator, and traffic for the uncontrolled and controlled scenarios.[13] The Excess lifetime cancer risks and $PM_{2.5}$ concentrations used to generate these isopleths figures are summarize in Appendix H.

5.2.2 Onsite Risks

Table 13 shows the excess lifetime cancer risk and $PM_{2.5}$ concentration for the onsite MEISR during Project construction (without and with control) and due to non-emergency maintenance and testing of the emergency generator and Project-generated traffic.

Note that because a combination of locations was evaluated for onsite receptors during construction, the MEISR for Project construction was associated with a combination of locations rather than a specific location. For the case evaluated in this study, the combination of locations assumed residents occupying Phase III existing buildings during Phases I and II construction and relocating to Phase II new buildings during Phase III construction. In addition, because multiple receptors exist in each location (in this case, Phase III existing buildings, and Phase II new buildings), it is overly conservative to pick one single receptor that is closest to the construction zone or that is maximally exposed to the construction emissions of each phase. In other words, it is not expected that a resident would be in the Phase III existing building that was maximally exposed to Phase I construction, and move to another Phase III existing building that was maximally exposed to Phase II construction, and then move to a Phase II new building that was maximally exposed to Phase III construction. Therefore, ENVIRON averaged the locations within each Phase by their risks from being exposed to another Phase of construction emissions. For example, ENVIRON averaged the results for all the locations in Phase III existing buildings being exposed to the Phase I construction for the mean risk. ENVIRON then averaged the same locations in Phase III existing buildings being exposed to the Phase II construction. Note that because the construction sources are different, the averaging of the same locations would be different too. ENVIRON then averaged the locations in Phase II new buildings being exposed to the Phase III construction. Then the mean risks were summed respectively to yield the final mean risk. In addition, ENVIRON evaluated all the possible combinations of receptors at these three locations (e.g., Phase III existing buildings exposed to Phase I construction, Phase III existing buildings exposed to Phase II construction, and Phase II new buildings exposed to Phase III construction), and presented a risk of one standard deviation above mean. A similar approach was used to estimate $PM_{2.5}$ concentrations. This approach was discussed and approved by the San Francisco EP as a reasonable, yet conservative (high) exposure scenario.[14]

On the other hand, the onsite MEISR for the emergency generator and Project-generated traffic is associated with a specific location.

[12] Mean plus one standard deviation of the construction cancer risk for the onsite receptor was incorporated in these figures.

[13] Mean plus one standard deviation of the construction $PM_{2.5}$ concentration for the onsite receptors was incorporated in these figures.

[14] Email communication from Wade Wietgrefe of San Francisco EP to Michael Keinath of ENVIRON, dated August 13, 2013.

Excess lifetime cancer risks range from 32-52 in a million for the uncontrolled construction scenario and 3.6-5.5 in a million for the controlled construction scenario. Excess lifetime cancer risk from the emergency generator is 7.9 in a million while that from the Project traffic is 2.5 in a million. $PM_{2.5}$ concentrations are 0.087-0.17 $\mu g/m^3$ for the uncontrolled construction scenario and 0.012-0.020 $\mu g/m^3$ for the controlled construction scenario. The $PM_{2.5}$ concentration from the emergency generator is 0.015 $\mu g/m^3$ while that from the Project traffic is 0.047 $\mu g/m^3$.

6 Cumulative Analysis

A cumulative analysis of all TAC emissions sources was conducted to be consistent with the CRRP-HRA methodology, which includes stationary sources (such as diesel-fueled standby emergency generators), mobile sources within 1 kilometer of the Project, marine sources, and Caltrain.[15] The existing excess lifetime cancer risks and $PM_{2.5}$ concentrations for these cumulative sources, together with the ambient $PM_{2.5}$ concentration were all extracted from the CRRP-HRA database (BAAQMD 2012c).

The results provided in the SF CRRP-HRA database for these cumulative sources[16] were then added to the estimated excess lifetime cancer risk and $PM_{2.5}$ concentration associated with the Project's mobile, emergency generator, and construction to yield the cumulative total excess lifetime cancer risks and $PM_{2.5}$ concentrations. The cumulative total excess lifetime cancer risks and $PM_{2.5}$ concentrations for the Project's offsite MEISR location are reported in **Tables 14a** and **14b** and **Tables 15a** and **15b,** respectively. The predicted excess lifetime cancer risk at the Project's offsite MEISR from permitted stationary sources, roadways, Caltrain, and Project impact is cumulatively 173 in a million for the uncontrolled scenario and 38 in a million for the controlled scenario. The predicted $PM_{2.5}$ concentration at the offsite MEISR from permitted stationary sources, roadways, Caltrain, and the Project impact is cumulatively 8.9 $\mu g/m^3$ for the uncontrolled scenario and 8.6 $\mu g/m^3$ for the controlled scenario.

Similarly, the cumulative total excess lifetime cancer risks and $PM_{2.5}$ concentrations for the Project's onsite MEISR location are reported in **Tables 16a** and **16b,** respectively. The predicted excess lifetime cancer risk at the onsite MEISR from permitted stationary sources, roadways, Caltrain, and Project impact is cumulatively 96 in a million for the uncontrolled scenario and 49 in a million for the controlled scenario, assuming mean plus one standard deviation for construction risk. The predicted $PM_{2.5}$ concentration at the onsite MEISR from permitted stationary sources, roadways, Caltrain, and Project impact is cumulatively 8.8 $\mu g/m^3$ for the uncontrolled scenario and 8.6 $\mu g/m^3$ for the controlled scenario, assuming mean plus one standard deviation for construction $PM_{2.5}$ concentration. Furthermore, at no receptor point under the controlled scenario, would the proposed Project cause excess lifetime cancer risk to exceed 100 per one million, or $PM_{2.5}$ concentrations to exceed 10 $\mu g/m^3$.

Based on the results of this modeling, the proposed Project would not create a new or expansion of an existing air pollutant exposure zone after control of construction emissions.

Excess lifetime cancer risks and $PM_{2.5}$ concentrations from these cumulative sources and Project sources used for the cumulative analysis at each receptor are summarize in Appendix H.

[15] Excess Lifetime cancer risk and $PM_{2.5}$ concentration contributed by the Caltrain operation was only included for year 2014, because Caltrain was assumed to be electrified before 2020.

[16] The CRRP-HRA analyzed background excess lifetime cancer risk and $PM_{2.5}$ concentration for years 2014 and 2020. Because the Phase I construction will be completed in 2019, which is between the two calendar years analyzed in the CRRP-HRA, the higher background excess lifetime cancer risk and $PM_{2.5}$ concentration between the two was chosen for this cumulative analysis.

7 Impact of Project Alternatives

As mentioned in Section 1.1, two Project Alternatives are also proposed, as described below:

Project Alternative 1 – "Reduced Density" alternative. This alternative shares approximately the same building footprint as the Project and would have the same construction phase durations as the Project. There would be roughly 29 percent less gross square feet and 19 percent fewer residential units constructed for this alternative compared to the Project.

Project Alternative 2 – "One-on-One Replacement" alternative. This alternative would also be divided into three construction phases, but each phase would last approximately two years for a total of six years. This alternative would demolish the same amount of existing residential units and therefore have the same emissions from the demolition phase as the Project. However, there would be 72 percent less gross square feet constructed under this alternative than under the Project and 54 percent fewer residential units. In addition, the surface street improvements proposed for the Project would not be implemented for this alternative.

The section below describes the approach used to quantify the CAP emissions, excess lifetime cancer risks and $PM_{2.5}$ concentrations associated with construction of the two Project Alternatives.

7.1 Emissions of Criteria Air Pollutants

7.1.1 Off-Road Construction Equipment

As previously mentioned, the Project construction would be implemented in three phases (labelled I, II, and III). In addition, each of the three phases consists of three sub-phases (labelled A, B, and C) which may overlap with each other.[17] Under each of these sub-phases, various activities such as demolition of structures, building excavation, final grade for streets, foundation construction would occur.[18] Some of these activities would be affected by the reduced gross square footage of the Project Alternatives such as "building framing, siding, roofing" and finishes, while the other activities would not be affected such as "demolition of structures". As a result, only the off-road equipment activities affected by the reduced square footage were scaled by the ratio of the Project Alternative gross square footage over the Project gross square footage. Appendix I shows which activities were scaled and the scaling factors (i.e., 0.71 for Alternative 1 and 0.28 for Alternative 2) derived from the Project and Alternative gross square footages. In addition, because the surface street improvements proposed for the Project would not be implemented for the Alternative 2, any off-road equipment activities

[17] See Appendix B-3 for emails between Larry Cochran of Construction Resources Management and Ramie Dare of Mercy Housing on descriptions of these three sub-phases under each phase. The geographic locations of the sub-phases may be different but all within the geographic location of the given phase. For this analysis, the emissions of the sub-phases were spread uniformly to the area of the phase.

[18] See Appendix B-1 for a list of these activities for sub-phase A under Phase I.

associated with "final grade of streets" were taken out from the Alternative 2 emissions calculations.[19]

In addition, because the duration of the three phases for Project Alternative 1 would be approximately the same as that for the Project, the off-road emission factors for corresponding phases (e.g., Phase I of Alternative 1 vs, Phase I of Project) were used for the emissions calculations for Alternative 1. Because the duration of the first two phases combined for Project Alternative 2 would be approximately the same as that for the Project Phase I, the two phases were both assessed using the emission factors for Project Phase I. The third phase of Project Alternative 2 was then assessed using emission factors for the Project Phase II. Appendix I shows the off-road emissions calculations for the two Project Alternatives.

7.1.2 Paving and Architectural Coating

It was assumed that the two Project Alternatives would have approximately the same amount of new pavement as the Project. The architectural coating emissions for each construction phase however were scaled by the ratio of Project Alternative over Project gross square footages. Appendix I shows the paving and architectural coating emissions calculations.

7.1.3 On-Road Vehicles

Because the CAP emissions from the construction on-road vehicles are relatively small compared to that from the off-road equipment, no additional emissions scaling methodology was developed for these emissions. Instead, the ratio of the off-road emissions between each Project Alternative and the Project were used to scale the on-road emissions.

Tables 17 and 18 present the uncontrolled CAP emissions for the two Project alternatives. As shown in Table 17, uncontrolled CAP emissions for Project Alternative 1 are lower than that for the Project for all criteria pollutants. Therefore it is expected that the controlled CAP emissions for Project Alternative 1 would also be lower than that for the Project. Consequently, the controlled CAP emissions for Project Alternative 1 were not explicitly evaluated.

As shown in **Table 18**, uncontrolled CAP emissions for Project Alternative 2 are larger than that for the Project for all criteria pollutants except for ROG. This is due to the shortened construction duration of this project alternative. To be more specific, even though the construction emissions per phase are reduced due to the lower density of the development, the construction duration for each phase is reduced even more. As a result, the average daily construction emissions increase. Therefore the controlled CAP emissions for Project Alternative 2 were evaluated assuming Tier 3 plus Level 3 VDECS, or Tier 4 engines directly.[20] Because of this alternative's shorter construction duration (i.e., two years for each phase), by the start year of Phase III, the default fleet mix would likely not be cleaner than the Tier 3 engines. Therefore

[19] There may be other activities that are associated with the surface streets improvement. However, as it was not obvious which activities were associated with these street improvements, they were conservatively included in the emissions calculations for Alternative 2. See Appendix I for the complete list of activities.

[20] See Appendix C for detailed calculation. For Phases I and II, Tier 3 plus level 3 VDECS was assumed. For Phase III, because some of the engines would likely be Tier 4 (interim or final) by then, the controlled emission of CO and NOx were assumed to be the same of the uncontrolled emissions.

a restriction to Tier 3 engines for this phase was applied. The controlled CAP emissions for Project Alternative 2 are also presented in Table 18.

7.2 Risk Results

The section below describes the approach used to quantify the excess lifetime cancer risks and $PM_{2.5}$ concentrations associated with construction of the two Project Alternatives.

7.2.1 Excess Lifetime Cancer Risk

Excess lifetime cancer risk exposed by a given population type was determined by the combined effect of air concentration of the TAC(s), the toxicity value(s) of the TAC(s), the intake factor for the population, and the CRAFs for the population, all of which are discussed in detail in Section 4 of this report. Between Alternative 1 and the Project, the only different impacting factor is the air concentration of the DPM, as a result of lower emissions. Between the Alternative 2 and the Project[21], however, both the air concentrations and the CRAFs are different, as a result of the changes in emissions and the difference in construction duration. As a result, excess lifetime cancer risks for the Project Alternatives were calculated by scaling the Project cancer risks by phase using the product of emissions ratio times CRAF ratio by phase between the Alternative and the Project.

$$Risk_{alt} = \Sigma Risk_{alt,i} = \Sigma(Risk_{prj,i} \times (Emissions_{alt,i} / Emissions_{prj,i}) \times (CRAF_{alt,i} / Emissions_{prj,i}))$$

Where:

$Risk_{alt}$ = Cancer Risk, as a result of inhalation exposure to Project Alternative emissions (unitless)

$Risk_{alt,i}$ = Cancer Risk for Phase i for Project Alternative

$Risk_{alt,i}$ = Cancer Risk for Phase i for Project

$CRAF_{alt,i}$ = Cancer Risk Adjustment Factor for Phase i for Project Alternative

$CRAF_{prj,i}$ = Cancer Risk Adjustment Factor for Phase i for Project

Appendix I presents the detailed calculation. **Tables 19** and **20** show the estimated excess lifetime cancer risks for the two Project Alternatives for both onsite and offsite MEISRs. Note that for onsite MEISR, the mean excess lifetime cancer risk was scaled while the standard deviation was conservatively not scaled.

As shown in **Tables 19** and **20**, the excess lifetime cancer risks resulting from the uncontrolled construction of the two Project Alternatives are slightly lower than that from the Project. Consequently, it is expected that the excess lifetime cancer risks resulted from the controlled

[21] The construction duration used to calculate the annual average concentration and the construction duration in the intake factor calculation cancel out with each other. Therefore, the construction duration only affects the CRAFs.

construction of the two Project Alternatives would also be slightly lower than that from the Project.

Tables 21 and **23** shows the cumulative uncontrolled excess lifetime cancer risks for the two Project Alternatives for the offsite MEISR and onsite MEISR, respectively. Because the excess lifetime cancer risks resulting from the uncontrolled construction of the two Project Alternatives are lower than that from the Project, the cumulative uncontrolled excel lifetime cancer risks for the two Project Alternatives are also lower than that from the Project. While it is expected that the Project incremental mobile emissions and risks under Project Alternative 1 would be lower than those under Project scenario, the cancer risk from mobile under Project scenario was conservatively used here for the cumulative analysis for Project Alternative 1. For Project Alternative 2 there would be no incremental increase in mobile emissions as the traffic volume would be the same for this "One-on-One Replacement" alternative as the baseline condition.

As shown in **Table 21**, the predicted excess lifetime cancer risk at the offsite MEISR from permitted stationary sources, roadways, Caltrain, and Project impact (for the uncontrolled scenario) is cumulatively 153 in a million under Project Alternative 1 and 147 in a million under Project Alternative 2. As shown in **Table 23**, the predicted excess lifetime cancer risk at the onsite MEISR is cumulatively 92 in a million under Project Alternative 1 and 89 in a million under Project Alternative 2, both for the uncontrolled scenario. Because the estimated excess lifetime cancer risks for the Project Alternatives are lower than that for the Project under the uncontrolled scenario, the estimated excess lifetime cancer risks for the Project Alternatives are expected to be lower than that for the Project under the controlled scenario. Consequently the excess lifetime cancer risks for the Project Alternatives were not explicitly evaluated.

7.2.2 $PM_{2.5}$ Concentration

The $PM_{2.5}$ concentration was determined by the level of maximum annual $PM_{2.5}$ emissions for the three constructions phases. Between the Project Alternative 1 and the Project, the maximum annual $PM_{2.5}$ emissions occur during Phase I. However for the Project Alternative 2, the maximum annual $PM_{2.5}$ emissions occur during Phase II. As a result, $PM_{2.5}$ concentration for the Project Alternatives was calculated by scaling the Project $PM_{2.5}$ concentration by the ratio[22] of the Alternative's maximum annual $PM_{2.5}$ emissions to the Project maximum annual $PM_{2.5}$ emissions, regardless of phase.

Appendix I presents the detailed calculation. **Tables 19** and **20** show the estimated $PM_{2.5}$ concentration for the two Project Alternatives for both onsite and offsite MEISRs. Note that for onsite MEISR, the mean $PM_{2.5}$ concentration was scaled while the standard deviation was not scaled.

As shown in **Tables 19** and **20**, the uncontrolled $PM_{2.5}$ concentration from the Alternative 1 construction is slightly lower than that from the Project while the $PM_{2.5}$ concentration from the Alternative 2 construction is slightly higher than that from the Project. Based on Table 18, the control measure of restricting all off-road construction equipment to Tier 3 plus level 3 VDECS

[22] This annual emissions ratio is equivalent to the maximum daily emission ratio.

or Tier 4 engines would effectively reduce the $PM_{2.5}$ emissions, thus reducing the $PM_{2.5}$ concentrations.

Tables 22 and **24** shows the cumulative uncontrolled $PM_{2.5}$ concentrations for the two Project Alternatives, for the offsite MEISR and onsite MEISR, respectively. While it is expected that the Project incremental mobile emissions and $PM_{2.5}$ concentrations under Project Alternative 1 would be lower than that under Project scenario, the $PM_{2.5}$ concentration from mobile sources under the Project scenario was conservatively used here for the cumulative analysis for Project Alternative 1. For Project Alternative 2, there would be no incremental mobile emissions and $PM_{2.5}$ concentrations because the traffic volume would be the same for this "One-on-One Replacement" alternative as the baseline condition.

As shown in **Table 22**, the predicted $PM_{2.5}$ concentration at the offsite MEISR from permitted stationary sources, roadways, Caltrain, and Project impact (for the uncontrolled scenario) is cumulatively 8.8 $\mu g/m^3$ under Project Alternative 1 and 9.0 $\mu g/m^3$ under Project Alternative 2. As shown in **Table 24**, the predicted $PM_{2.5}$ concentration at the onsite MEISR is cumulatively 8.8 $\mu g/m^3$ under Project Alternative 1 and 8.8 $\mu g/m^3$ under Project Alternative 2, both for the uncontrolled scenario. For the uncontrolled scenario, the estimated $PM_{2.5}$ concentration for Project Alternative 1 is lower than that for the Project, while the estimated $PM_{2.5}$ concentration for Project Alternative 2 is slightly larger than that for the Project. Based on **Table 18**, the control measure of restricting all off-road construction equipment to Tier 3 plus level 3 VDECS or Tier 4 engines would effectively reduce the $PM_{2.5}$ emissions from construction, thus reducing the cumulative $PM_{2.5}$ concentrations.

Furthermore, at no receptor point under the controlled scenario, would the proposed Project Alternatives cause excess lifetime cancer risk to exceed 100 per one million, or $PM_{2.5}$ concentrations to exceed 10 $\mu g/m^3$.

8 Uncertainties

In accordance with risk assessment guidance, ENVIRON has evaluated the uncertainties associated with this HRA, including emissions estimation, air dispersion modeling, and risk estimation.

Estimation of Emissions: The quantity of engine exhaust emissions will depend on several factors, including the level of source activity (e.g. construction equipment usage, on-road truck travel and idling, and emergency generator size and usage), and on the source characteristics such as type, model, and age. The parameter values and assumptions used to estimate emissions for this HRA were based on the most complete and accurate information available at the time of the analysis. To the extent that the emission source parameters are revised in the future, the emission estimates in this study could either underestimate or overestimate actual Project emissions.

The Project-generated traffic and background traffic was extracted from the Project Traffic Impact Study (CHS 2012) and were evaluated based on an assumed occupancy year of the Project. The emission associated with the actual Project-generated traffic and background traffic will likely be lower than the estimated values due to the conservative approach undertaken in the study. As a result, the risks and $PM_{2.5}$ concentrations presented in the study could overestimate the actual emissions.

Estimation of Exposure Concentrations: In addition to uncertainty associated with emission estimates, there is also uncertainty associated with the estimated exposure concentrations. The limitations of the air dispersion model provide a source of uncertainty in the estimation of exposure concentrations. According to USEPA, errors due to the limitation of the algorithms implemented in the air dispersion model in the highest estimated concentrations of +/- 10 percent to 40 percent are typical (USEPA 2005).

Source Representation: The source parameters used to model emission sources add uncertainty. For all emission sources, ENVIRON used source parameters which were either recommended as defaults or expected to produce conservative results. As there might be discrepancies in actual emissions characteristics of a source and its representation in the model, exposure concentrations used in this assessment represent approximate exposure concentrations.

Exposure Assumptions: Numerous assumptions must be made in order to estimate human exposure to chemicals. These assumptions include parameters such as breathing rates, exposure time and frequency, exposure duration, and human activity patterns. While a mean value derived from scientifically defensible studies is the best estimate of central tendency, most of the exposure variables used in this study are high-end estimates. For example, it is assumed that residential receptor exposure to Project emissions occurs during the entire construction duration and that exposure to the cumulative emissions sources occur 24 hours per day for 350 days per year, a highly conservative assumption because most residents do not remain in their homes for this period. The combination of several high-end estimates used as exposure parameters may substantially overestimate chemical intake.

In addition, because that this analysis evaluated onsite receptors that may potentially move around during the construction of the Project, a representative situation was chosen to evaluate the likely exposure level to construction emissions of an onsite resident. That is, a particular resident can be exposed to cancer risks similar to the level evaluated in this analysis but it is very unlikely that a given resident would be exposed to a cancer risk much higher than the level presented here in reality due to the conservative assumptions in the other aspects of this analysis.

Toxicity Assessment: The Cal/EPA CPF for DPM was used to estimate cancer risks associated with exposure to DPM from the Project and offsite emissions. However, the CPF derived by Cal/EPA for DPM is highly uncertain in both the estimation of response and dose. Public health and regulatory organizations such as the International Agency for Research on Cancer (IARC), World Health Organization (WHO), and USEPA agree that diesel exhaust may cause cancer in humans. However, after thorough evaluation of the animal test data and epidemiology data on diesel exhaust, and in contrast to the approach used in California, the USEPA concluded that the existing data did not provide an adequate basis for quantitative risk assessment (USEPA 2002).

Risk Calculations: The USEPA notes that the conservative assumptions used in a risk assessment are intended to assure that the estimated risks do not underestimate the actual risks posed by a site and that the estimated risks do not necessarily represent actual risks experienced by populations at or near a site (USEPA 1989).

The estimated risks in this HRA are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. The use of conservative assumptions tends to produce upper-bound estimates of risk. Although it is difficult to quantify the uncertainties associated with all the assumptions made in this risk assessment, the use of conservative assumptions is likely to result in substantial overestimates of exposure, and hence, risk. BAAQMD acknowledges this uncertainty by stating that “the methods used [to estimate risk] are conservative, meaning that the real risks from the source may be lower than the calculations, but it is unlikely that they will be higher” (BAAQMD 2013).

9 References

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Tables

Table 1
Methodology for Emissions Calculations Associated with Construction and Operational Activities
Sunnydale-Valesco HOPE Project
San Francisco, California

Activity	Source	Emission Category	Methodology and Formula	Reference
Construction	Off-Road Equipment[1]	Exhaust	$Ec = \Sigma(EFc_i * HP_i * LF_i * Hr_i * MM_i * C)$	ARB/USEPA Engine Standards , and ARB In-use Off-road Equipment Inventory Model
	On-Road Mobile Sources[2]	Exhaust - Running	$E_R = \Sigma_i(EF_{Ri} * VMT_i * C)$, where VMT_i = Trip Length$_i$ * Trip Number$_i$	EMFAC2011
		Brakewear and Tirewear - Running	$Ew = \Sigma_i(EF_{Wi} * VMT_i * C)$, where VMT_i = Trip Length$_i$ * Trip Number$_i$	EMFAC2011
		Exhaust - Idling	$E_I = \Sigma(EF_{Ii} *$ Trip Number$_i)$	EMFAC2011
Operation	Emergency Generator[3]	Exhaust	$Ec = \Sigma(EFc_i * HP_i * LF_i * Hr_i * MM_i * C)$	ARB/USEPA Engine Standards
	On-Road Mobile Sources[4]	Exhaust - Running	$E_R = \Sigma_i(EF_{Ri} * VMT_i * C)$, where VMT_i = Trip Length$_i$ * Trip Number$_i$	EMFAC2011
		Brakewear and Tirewear - Running	$Ew = \Sigma_i(EF_{Wi} * VMT_i * C)$, where VMT_i = Trip Length$_i$ * Trip Number$_i$	EMFAC2011

Notes:

1. Ec: off-road equipment exhaust emissions (lb).
EFc_i : emission factor (g/hp-hr) for equipment i.
a. Uncontrolled Scenario: ARB In-use Off-road Equipment Inventory Model default EF
b. Controlled Scenario: Tier 3 plus Level 3 diesel particulate filters (DPF), or Tier 4 enigne. For Phases I and II, Tier 3 plus level 3 VDECS was assumed. For Phase III, because some of the engines would be Tier 4 (interim or final) by then, the controlled emission of CO and NOx were assumed to be the same of the uncontrolled emissions.
HP_i: equipment horsepower for equipment i (hp). provided by Mercy Housing/Construction Resources Management, Inc.
LF_i: equipment load factor for equipment i (unitless). ARB In-use Off-road Equipment Inventory Model default equipment load factor.
Hr_i: equipment hours for equipment i (hr). default hours from CalEEMod™ and confirmed by Mercy Housing.
MM_i: control measure reduction factor for equipment i (unitless).
a. Uncontrolled Scenario: 100%
b. Controlled scenario: Level 3 diesel particulate filters (DPF) are applied to all construction equipment. DPF remove 85% of PM_{10} and 90% of total organic gases (TOG) based on industrial data (http://www.epa.gov/cleandiesel/technologies/retrofits.htm).
C: unit conversion factor (lb/g).

2. On-road mobile sources include all construction-related onsite and offsite trips. Emissions associated with mobile sources were calculated using the following formulas:

E_R: running exhaust emissions (lb).

EF_{Ri}: running emission factor (g/mile) for vehicle i. From EMFAC2011 online "Emission Rates Database" for Bay Area in 2016, 2019, and 2023.
Assumed "AllSpeeds"
VMT_i: vehicle miles traveled for vehicle i

The calculation involves the following data and assumptions:
(1) Haul trucks, vendor trucks, and concrete trucks are a mix of heavy-heavy duty and medium-heavy duty trucks (EMFAC Category T6 (50%) and T7 (50%)).
(2) Worker vehicles are a mix of LDA (50%), LDT1 (25%), and LDT2 (25%). The split is based on CalEEMod™ default assumptions.
(3) Trip Length$_i$: The one-way trip length depends on which construction phase the trip serves. For the offsite portion of the trip, a one-way length used for local risk impact analysis is assumed to be the length of the roadway to the end of the modeled receptor grid, approximately 1.6 kilometers (or 1 mile), and the one-way length used for criteria pollutant impact analysis is assumed to be 20 miles for haul trucks, 7.3 miles for vendor trucks, and 12.4 miles for worker trips, the CalEEMod™ default.

Trip Number$_i$: provided vehicle trip data.

E_W: running brakewear and tirewear emissions (lb).

EF_{Wi}: brakewear and tirewear emission factor (g/mile) for vehicle i. From EMFAC2011 online "Emission Rates Databasefor Bay Area in 2016, 2019, and 2023.
Assumed "AllSpeeds"
VMT_i: vehicle miles traveled for vehicle i
The calculation involves the same data and assumptions as used in E_R calculations.

E_I: vehicle idling emissions (lb).

EF_I: vehicle idling emission factor (g/trip) for vehicle i. From EMFAC2011, which reports emission factors in g/hr-vehicle. The emission factor is calculated to assume an average idling time per trip. It was assumed that for haul trucks and vendor trucks, two 5-minute idling happens for a one-way trip, one at the site, one at the other trip end. It was assumed that for concrete trucks, two 30-minute idling happens for a one-way trip.

C: unit conversion factor (lb/g).

3. Ec: emergency generator exhaust emissions (lb).
EFc_i : emission factor (g/hp-hr) for equipment i. ARB/USEPA Tier 3 Emission Standard.
HP_i: equipment horsepower for equipment i (hp). provided by Environmental Science Associates, Inc. 75-750 horsepower.
LF_i: equipment load factor for equipment i (unitless). assumed 100% load.
Hr_i: equipment hours for equipment i (hr). 50 hours a year.
MM_i: control measure reduction factor for equipment i (unitless). 100%
C: unit conversion factor (lb/g).

4. On-road mobile emissions for operational activities were calculated the same way as those for construction activities except that:
(1). Default vehicle fleet mix from EMFAC2011, adjusted to the BAAQMD-recommended 2.85% truck percentage.
(2). Idling emissions were assumed to be minimal and not calculated.
(3). Only toxic air contaminants emissions were calculated for local risk impact analysis, and criteria air pollutants emissions were not calculated. The trip rate and trip distribution among surface streets was from the Project Traffic Study while the one-way trip length was assumed to be the length of the roadway to the end of the modeled receptor grid.

Abbreviations:
ARB: California Air Resources Board
BAAQMD: Bay Area Air Quality Management District
CalEEMod™: California Emissions Estimator Model
DPF: Diesel Particulate Filter
EF: Emission Factor
EMFAC: EMission FACtor Model
g: gram
HP: Horsepower
lb: pound
LF: Load Factor
mi: mile
min: minute
USEPA: United States Environmental Protection Agency
VMT: vehicle miles traveled

References:
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Table 2
Construction Criteria Pollutant Emissions by Phase
Sunnydale-Valesco HOPE Project
San Francisco, California

Phase	Construction Duration	Construction Emissions[1,2,3] [lbs]										
		ROG			PM_{10}		$PM_{2.5}$[4]		CO		NO_x	
	[Days]	Offroad	Onroad	Paving and Architectural Coating[3]	Offroad	Onroad	Offroad	Onroad	Offroad	Onroad	Offroad	Onroad
Uncontrolled[5]												
I	968	5,227	861	23,020	3,161	64	3,161	59	33,193	8,725	63,003	4,223
Average Daily Emissions for Phase I [lbs/day]		30			3.3		3.3		43		69	
II	924	3,927	666	25,150	2,207	44	2,207	40	28,431	6,558	45,976	2,789
Average Daily Emissions for Phase II [lbs/day]		32			2.4		2.4		38		53	
III	1056	2,247	623	22,292	1,081	71	1,081	65	20,059	5,033	24,188	2,797
Average Daily Emissions for Phase III [lbs/day]		24			1.1		1.1		24		26	
Total Emissions for All Phases [lbs]	2948	84,014			6,627		6,613		102,000		142,976	
Average Daily Emissions for All Phases [lbs/day]		28			2.2		2.2		35		48	
Controlled[6]												
I	968	483	861	23,020	275	64	275	59	30,552	8,725	29,568	4,223
Average Daily Emissions for Phase I [lbs/day]		25			0.4		0.3		41		35	
II	924	500	666	25,150	284	44	284	40	31,615	6,558	30,596	2,789
Average Daily Emissions for Phase II [lbs/day]		28			0.4		0.4		41		36	
III	1056	416	623	22,292	237	71	237	65	20,059	5,033	24,188	2,797
Average Daily Emissions for Phase III [lbs/day]		22			0.3		0.3		24		26	
Total Emissions for All Phases [lbs]	2948	74,011			975		961		102,543		94,160	
Average Daily Emissions [lbs/day]		25			0.3		0.3		35		32	

Notes:
1. The emissions due to off-road construction equipment and on-road sources were calculated using the methodology described in Table 1. See Appendices A through D for detailed calculations.
2. Emissions for off-road construction equipment were calculated using the provided-construction schedule, equipment list, and California Air Resources Board (ARB) In-use Offroad 2011 Inventory Model. Emissions for on-road mobile sources were calculated using the provided trip information for haul trucks, worker trips, vendor trucks, and concrete trucks and ARB EMFAC2011 model.
3. The CalEEMod default emission factor for paving is 2.62 lb/acre of ROG. The CalEEMod default emission factor for painting/coating is EF (lb/gal)=Cvoc (g/L) / 454 (g/lb) x 3.785 (L/gal). The default VOC content of 250 g/L was used. The CalEEMod default surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage.
4. As $PM_{2.5}$ is a subset of PM_{10}, all PM_{10} from diesel off-road equipment was conservatively assumed to be $PM_{2.5}$.
5. The uncontrolled emissions scenario incorporates default emission factors from ARB In-use Offroad 2011 Inventory Model.
6. The controlled emissions scenario incorporates the control measures that results in Tier 3 plus Level 3 Verified Diesel Emissions Control Strategies (VDECS), or Tier 4 engines. For Phase III, because the start year will result in the default fleet mix to be cleaner than Tier 3 engines, no additional restriction for this phase is applied. It was assumed that level 3 VDECS will achieve an 85% PM reduction and 90% ROG reduction as discussed in Table 1.

Abbreviation:
ARB: California Air Resource Board
lb/lbs: pound/pounds
NOx: Nitrogen Oxides
PM: Particulate Matter
ROG: Reactive Organic Gases
TOG: Total Organic Gases
VDECS: Verified Diesel Emissions Control Strategies

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Table 3
Construction Emissions by Phase for HRA Modeling[1,2,3]
Sunnydale-Valesco HOPE Project
San Francisco, California

Phase	Construction Duration	Annual DPM Emissions[4,5]				Annual $PM_{2.5}$ Emissions[6,7]				Annual Exhaust TOG Emissions[8,9]				Annual Evaporative TOG Emissions[8,9]			
		Offroad		Onroad		Offroad		Onroad		Offroad		Onroad		Offroad		Onroad	
	(days)	(lb)	(g/s)[4]	(lb)	(g/s)	(lb)	(g/s)[4]	(lb)	(g/s)	(lb)	(g/s)	(lb)	(g/s)	(lb)	(g/s)	(lb)	(g/s)
Uncontrolled[10]																	
I	968	3,161	1.71E-02	5.6	3.1E-05	3,161	1.71E-02	16	8.7E-05			27	1.5E-04			43	2.3E-04
II	924	2,207	1.25E-02	3.8	2.2E-05	2,207	1.25E-02	15	8.4E-05			18	1.0E-04			38	2.2E-04
III	1056	1,081	5.37E-03	4.6	2.3E-05	1,081	5.37E-03	14	6.9E-05			9.5	4.7E-05			23	1.1E-04
Controlled[11]																	
I	968	275	1.49E-03	5.6	3.1E-05	275	1.49E-03	16	8.7E-05			27	1.5E-04			43	2.3E-04
II	924	284	1.62E-03	3.8	2.2E-05	284	1.62E-03	15	8.4E-05			18	1.0E-04			38	2.2E-04
III	1056	237	1.18E-03	4.6	2.3E-05	237	1.18E-03	14	6.9E-05			9.5	4.7E-05			23	1.1E-04

Notes:
1. The emissions due to off-road construction equipment and on-road sources were calculated using the methodology described in Table 1. See Appendices A through D for detailed calculations.
2. Emissions for off-road construction equipment were calculated using the provided construction schedule, equipment list and California Air Resources Board (ARB) In-use Offroad 2011 Inventory Model.
3. Emissions for on-road mobile sources were calculated using the provided trip information for haul trucks, worker trips, vendor trucks, and concrete trucks and ARB EMFAC2011 model.
4. Because alternative fuel equipment was not considered in this analysis, DPM emissions of off-road equipment is equal to the PM_{10} emissions in Table 2.
5. DPM emissions from on-road mobile sources were calculated for the diesel-fueled haul trucks, worker trips, vendor trucks, and concrete trucks.
6. As $PM_{2.5}$ is a subset of PM_{10}, all PM_{10} from diesel off-road equipment in Table 2 was conservatively assumed to be $PM_{2.5}$.
7. $PM_{2.5}$ emissions from on-road mobile sources were assumed to include exhaust emissions, brakewear, and tirewear emissions.
8. Because DPM is a surrogate of all diesel exhaust emissions, no diesel TOG emissions were considered in this analysis.
9. Exhaust and evaporative TOG emissions were calculated for gasoline vehicles only.
10. The uncontrolled emissions scenario incorporates default emission factors from ARB In-use Offroad 2011 Inventory Model.
11. The controlled emissions scenario incorporates the Tier 3 plus Level 3 Verified Diesel Emissions Control Strategies (VDECS). It was assumed that level 3 VDECS will achieve an 85% PM reduction.

Abbreviation:
ARB: California Air Resources Board
DPM: Diesel Particulate Matter
g: gram
HRA: Health Risk Assessment
lb/lbs: pound/pounds
s: second
TOG: Total Organic Gases
VDECS: Verified Diesel Emissions Control Strategies

References:
ARB. 2011. In-use Offroad 2011 Inventory Model. Available online at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles
ARB. 2011. EMFAC2011. Available online at: http://www.arb.ca.gov/msei/modeling.htm

Table 4
Operational Criteria Pollutant Emissions - Emergency Generator
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	Horsepower	Pollutant	Emission Factor	Operational Emissions[1]	
			[g/hp-hr]	[lbs/year]	[lbs/day]
Emergency Generator[1]	750	ROG[2]	0.4	35	0.10
		PM_{10}	0.15	12	0.03
		$PM_{2.5}$[3]	0.15	12	0.03
		NOx	2.6	215	0.59

Notes:
1. The emissions due to the diesel emergency generator were calculated using the methodology described in Table 1. This generator was assumed to be a Tier 3 engine, and operate 50 hours a year. The engine size was conservatively assumed to be 750 horsepower.
2. ROG emissions were conservatively assumed to equal 1.053/1.070*TOG emissions based on USEPA conversion factors.
3. As $PM_{2.5}$ is a subset of PM_{10}, all PM_{10} from the diesel generator was conservatively assumed to be $PM_{2.5}$.

Abbreviation:
lb: pound
NOx: Nitrogen Oxides
PM: Particulate Matter
ROG: Reactive Organic Gases
TOG: Total Organic Gases
USEPA: United States Environmental Protection Agency

Reference:
USEPA. 2010. Conversion Factors for Hydrocarbon Emission Components. Available online at: http://www.epa.gov/oms/models/nonrdmdl/nonrdmdl2010/420r10015.pdf

Table 5a
Operational Emissions for HRA Modeling - Emergency Generator
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	Operational Emissions1 [lbs/year]	
	DPM[2]	$PM_{2.5}$[3]
Emergency Generator[1]	12	12

Notes:
1. The emissions due to the diesel emergency generator were calculated using the methodology described in Table 1. This generator was assumed to be a Tier 3 engine, and operate 50 hours a year. The engine size was conservatively assumed to be 750 horsepower.
2. DPM emissions from the generator were assumed to be equal to its PM_{10} emissions in Table 4.
3. As $PM_{2.5}$ is a subset of PM_{10}, all PM_{10} from the diesel generator was conservatively assumed to be $PM_{2.5}$.

Abbreviation:
lb/lbs: pound/pounds
PM: Particulate Matter

Table 5b
Operational Emissions for HRA Modeling - Traffic[1,2,3,4]
Sunnydale-Valesco HOPE Project
San Francisco, California

Road Segment	Peak-hour DPM Emissions (g/s)	Peak-hour $PM_{2.5}$ Emissions (g/s)	Peak-hour Exhaust TOG Emissions (g/s)	Peak-hour Evaporative TOG Emissions (g/s)
Geneva West	6.6E-06	6.1E-05	2.0E-04	1.9E-04
Geneva Mid	2.2E-04	2.0E-03	6.7E-03	6.3E-03
Brookdale	1.2E-05	1.1E-04	3.6E-04	3.4E-04
New Santos	2.7E-05	2.5E-04	8.2E-04	7.7E-04
Sunnydale West	6.8E-05	6.2E-04	2.0E-03	1.9E-03
Sunnydale East	1.8E-04	1.7E-03	5.5E-03	5.2E-03

Notes:
1. The emissions due to Project on-road traffic were calculated using the methodology described in Table 1. See Appendix E for detailed calculations.
2. Emissions of on-road mobile sources were calculated using the ARB EMFAC2011 model assuming default fleet mix, adjusted to the BAAQMD-recommended 2.85% truck percentage for San Francisco County surface streets.
3. The trip rate and trip distribution among surface streets was from the Project Traffic Study while the one-way trip length was assumed to be the length of the roadway to the end of the modeled receptor grid. See Figure 4 for modeled surface streets.
4. Peak-hour emissions together with hour-of-day emission factors were used in the air dispersion modeling. The hour-of-day emission factors are:

Hour	Hour-of-Day DPM Emissions	Hour-of-Day $PM_{2.5}$ Emissions	Hour-of-Day Exhaust TOG Emission	Hour-of-Day EvaporativeTOG Emissions
1	0.327	0.167	0.127	0.124
2	0.243	0.085	0.046	0.041
3	0.159	0.067	0.050	0.055
4	0.111	0.041	0.024	0.020
5	0.135	0.076	0.059	0.056
6	0.251	0.135	0.109	0.106
7	0.575	0.478	0.441	0.437
8	0.669	0.905	0.922	0.925
9	0.850	0.861	0.858	0.870
10	0.895	0.599	0.529	0.528
11	0.812	0.623	0.565	0.562
12	0.955	0.769	0.711	0.707
13	0.962	0.805	0.740	0.732
14	0.948	0.793	0.732	0.725
15	0.961	0.897	0.849	0.841
16	0.815	0.885	0.870	0.868
17	1.000	0.941	0.904	0.911
18	0.799	0.988	1.000	1.000
19	0.593	0.704	0.698	0.689
20	0.402	0.522	0.527	0.521
21	0.438	0.413	0.389	0.384
22	0.582	0.438	0.388	0.384
23	0.434	0.333	0.296	0.290
24	0.224	0.241	0.232	0.227

Abbreviations:
ARB: California Air Resources Board
BAAQMD: Bay Area Air Quality Management District
DPM: Diesel Particulate Matter
EMFAC: EMission FACtor Model
g: gram
HRA: Health Risk Assessment
s: second
TOG: Total Organic Gases

References:
ARB. 2011. EMFAC2011. September. Available at: http://www.arb.ca.gov/msei/modeling.htm
BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. Available at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx
CHS Consulting Group. 2012. Sunnydale-Velasco Housing Development Traffic Study. June.

Table 6
Modeling Parameters for Construction Equipment and Vehicles
Sunnydale-Valesco HOPE Project
San Francisco, California

Phase	Type	Description	Source	Source Type[2]	Source Dimension[3] [m]	Number of Sources[4]	Release Height[5] [m]		Initial Vertical Dimension[6] [m]		Initial Lateral Dimension[7] [m]
I	Offroad Construction Sources[1]	Area defined by John Mclaren Park to the north, Velasco Avenue to the south, Hahn Street to the east, and Santos Street to the west.	Construction Offroad Equipment	Volume	20	169	5		1.4		4.65
II		Area defined by John Mclaren Park to the north and west, Brookdale Avenue to the south, and Santos Street to the east.		Volume	20	144	5		1.4		4.65
III		Area defined by John Mclaren Park to the west, Brookdale Avenue to the north, and Santos Street to the east, and Velasco Avenue/Parque Drive to the south.		Volume	20	153	5		1.4		4.65
I, II, III	Onroad Mobile Sources	Geneva Avenue - Moscow Street to Bayshore Boulevard	On-road Trucks and Worker Trips	Volume	27	86	4.57 (Trucks)	0.6 (Workers)	1.06 (Trucks)	0.14 (Workers)	12.56
I		Old Santos Street - Geneva Avenue to Sunnydale Avenue - existing configuration		Volume	12	42	4.57 (Trucks)	0.6 (Workers)	1.06 (Trucks)	0.14 (Workers)	5.58
II		New Santos Street - Geneva Avenue to Sunnydale Avenue - proposed configuration		Volume	14	41	4.57 (Trucks)	0.6 (Workers)	1.06 (Trucks)	0.14 (Workers)	6.51
III		Brookdale Avenue - Geneva Avenue to Blythedale Avenue		Volume	12	22	4.57 (Trucks)	0.6 (Workers)	1.06 (Trucks)	0.14 (Workers)	5.58

Notes:
1. Due to a lack of specific instructions on modeling of construction emissions from BAAQMD, ENVIRON used SCAQMD LST methodology when setting up the model.
2. According to the LST methodology, construction sources were modeled as volume sources.
3. Source dimensions for offroad construction sources were determined by the area of the construction zone for each phase. Source dimensions for truck routes and worker trips were determined by the width of the roads that will accommodate construction traffic for mobile sources.
4. Number of sources for offroad construction sources were determined by the dimensions of each phase. Number of sources for truck routes and worker trips were determined by the length of the roads that will accommodate construction traffic for mobile sources.
5. According to the LST methodology, release height of the modeled volume sources representing construction equipment was set to 5 meters. Release heights of the modeled volume sources representing truck routes and worker trips were set to 4.57 meters and 0.6 meters respectively as recommended by ARB and BAAQMD.
6. According to the LST methodology, initial vertical dimension of the modeled volume sources representing construction equipment was set to 1.4 meters. Ininital vertical dimensions of the modeled volume sources representing truck routes and worker trips were set to 1.06 meters and 0.14 meters, respectively.
7. According to USEPA AERMOD User's Guide, initial lateral dimension of single volume sources is length of side divided by 4.3. For a line source modeled as adjacent volume sources, the initial lateral dimension is the length of the side divided by 2.15.

Abbreviations:
ARB: California Air Resource Board
BAAQMD: Bay Area Air Quality Management District
LST: Local Significance Threshold
m: meter
SCAQMD: South Coast Air Quality Management District
USEPA: United States Environmental Protection Agency

References:
ARB. 2006. Personal discussion beween Gavin Hoch of ENVIRON and Yuan Jing of ARB on release height for onroad passenger vehicles.
BAAQMD. 2010. Health Risk Assessments & Land Use. Available online at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/CEQA%20HRA%20Guidelines%20-%20Statewide%20Workshops%204-28-10.ashx?la=en
SCAQMD. 2008. Final Localized Significance Threshold (LST) Methodology. Available at http://www.aqmd.gov/ceqa/handbook/lst/Method_final.pdf
USEPA. 2004. User's Guide for the AMS/EPA Regulatory Model –AERMOD. Available at http://www.epa.gov/scram001/7thconf/aermod/aermodugb.pdf

Table 7a
Modeling Parameters for Emergency Generator
Sunnydale-Valesco HOPE Project
San Francisco, California

Type	Description	Source	Source Type[1]	Stack Height[2]	Stack Temperature[2]	Stack Velocity[2]	Stack Diameter[2]
				[m]	[K]	[m/s]	[m]
Operational	Located in a building hosting senior housing and retail, at the northeast corner of the Project site.	Emergency Generator	Point	3.048	730	32.7	0.203

Notes:
1. Since the emergency generator location is currently undecided, a point grid with 19 representative souce locations was modeled and the highest concentration at each receptor was chosen for the health risk analysis.
2. The emergency generator was assumed to meet federal Tier 3 diesel engine standards for particulate matter, for diesel engines with a rating of 750 horsepower. Common stack parameters for emergency generators were applied.

Abbreviations:
K: Kelvin
m: meter
s: second
USEPA: United States Environmental Protection Agency

References:
United States Environmental Protection Agency (USEPA). September 2013. NonRoad Diesel Engines. Available at http://www.epa.gov/otaq/nonroad-diesel.htm

Table 7b
Modeling Parameters for Operational Traffic
Sunnydale-Valesco HOPE Project
San Francisco, California

Type	Description	Source	Source Type[1]	Source Dimension[2] [m]	Number of Sources[2]	Release Height[2] [m]	Initial Vertical Dimension[2] [m]	Initial Lateral Dimension[2] [m]
Operational	Geneva Avenue (West)	On-Road Fleet (Traffic)	Volume	27	32	0.6	0.14	12.56
	Geneva Avenue (Mid)		Volume	27	54	0.6	0.14	12.56
	New Santos Street		Volume	14	14	0.6	0.14	6.51
	Brookdale Avenue		Volume	12	18	0.6	0.14	5.58
	Sunnydale Avenue (East)		Volume	16	63	0.6	0.14	7.44
	Sunnydale Avenue (West)		Volume	19	62	0.6	0.14	8.84

Notes:
1. Traffic was modeled using adjacent volume sources. Source dimensions for the traffic were determined by the width of the roads that will accommodate the mobile sources.
2. Source parameters were set according to ARB recommendations for vehicles.

Abbreviations:
ARB: Air Resources Board
m: meter

References:
ARB. 2006. Personal discussion beween Gavin Hoch of ENVIRON and Yuan Jing of ARB on release height for onroad passenger vehicles

Table 8
Exposure Parameters for Construction
Sunnydale-Valesco HOPE Project
San Francisco, California

Exposure Parameter	Units	Resident Child[5]		
		Phase I	Phase II	Phase III
Daily Breathing Rate (DBR) [1]	[L/kg-day]	581	581	581
Exposure Time (ET) [2]	[hours/24 hours]	24	24	24
Exposure Frequency (EF) [3]	[days/year]	350	350	350
Exposure Duration (ED) [4]	[years]	3.7	3.5	4.0
Averaging Time (AT)	[days]	25550	25550	25550
Intake Factor, Inhalation (IF_{inh})	[m^3/kg-day]	0.029	0.028	0.032

Equation used:

IF_{inh} = DBR * ET * EF * ED * CF / AT

CF = 0.001 (m^3/L)

Abbreviations:

BAAQMD: Bay Area Air Quality Management District
kg: kilogram
L: Liter
m^3: cubic meters

Notes:

1. Daily breathing rates reflect default breathing rates for a child resident from BAAQMD 2010.
2. Exposure times reflect default exposure times for residents from BAAQMD 2010.
3. Exposure frequencies reflect default exposure frequencies for residents from BAAQMD 2010.
4. Exposure durations reflect the actual construction schedule of 134 months (11.2 years): 44 months in Phase I, 42 months in Phase II, and 48 months in Phase III.
5. The exposure parameters presented were applied to offsite child residents and onsite child residents in the case that is presented in the main report. ENVIRON also evaluated other cases for onsite residents and daycare children (see Appendix F).

Source:

Bay Area Air Quality Management District (BAAQMD). 2010. *BAAQMD Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines.* January.

Table 9
Exposure Parameters for Operation
Sunnydale-Valesco HOPE Project
San Francisco, California

Exposure Parameter	Units	Lifetime Resident
Daily Breathing Rate (DBR) [1]	[L/kg-day]	302
Exposure Time (ET) [2]	[hours/24 hours]	24
Exposure Frequency (EF) [3]	[days/year]	350
Exposure Duration (ED) [4]	[years]	70
Averaging Time (AT)	[days]	25550
Intake Factor, Inhalation (IF_{inh})	[m^3/kg-day]	0.29

Equation used:

IF_{inh} = DBR * ET * EF * ED * CF / AT

CF = 0.001 (m^3/L)

Abbreviations:

BAAQMD: Bay Area Air Quality Management District
kg: kilogram
L: Liter
m^3: cubic meters

Notes:

1. Daily breathing rate reflects default breathing rate for residents from BAAQMD 2010.
2. Exposure time reflects default exposure time for residents from BAAQMD 2010.
3. Exposure frequency reflects default exposure frequency for resident from BAAQMD 2010.
4. Exposure duration reflects default exposure duration for residents from BAAQMD 2010.

Source:

Bay Area Air Quality Management District (BAAQMD). 2010. *BAAQMD Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines.* January.

Table 10
Carcinogenic Toxicity Values
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	Analysis	Chemical		Cancer Potency Factor
				[mg/kg-day]$^{-1}$
Construction and Operation	Cancer Risk	Diesel PM		1.1E+00
		TACs from Speciated Gasoline TOG	Acetaldehyde	1.0E-02
			1,3-Butadiene	6.0E-01
			Benzene	1.0E-01
			Ethylbenzene	8.7E-03
			Formaldehyde	2.1E-02
			Naphthalene	1.2E-01

Abbreviations:
[mg/kg-day]$^{-1}$: per milligram per kilogram-day
ARB: Air Resources Board
OEHHA: Office of Environmental Health Hazard Assessment
PM: Particulate Matter
TAC: Toxic Air Contaminant
TOG: Total Organic Gas

Reference:
California Environmental Protection Agency (Cal/EPA). 2013. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. August. http://www.arb.ca.gov/toxics/healthval/contable.pdf

Table 11
Cancer Risk Adjustment Factors for Construction and Operation
Sunnydale-Valesco HOPE Project
San Francisco, California

Receptor	Time Period	Cancer Risk Adjustment Factor (CRAF)	Notes
Resident Child[1,2]	Construction Phase I[3]	7.3	2,3
	Construction Phase II[4]	3.0	2,4
	Construction Phase III[5]	3.0	2,5
Lifetime Resident[2,6]	Operation[7]	1.7	2,6

Notes:

1. The Cancer Risk Adjustment Factors (CRAFs) presented were applied to offsite child residents and onsite child residents in the case that is presented in the main report. ENVIRON also evaluated other cases for onsite residents and daycare children (see Appendix G).
2. Based on BAAQMD 2010.
3. A resident child is assumed to be exposed during Phase I from the third trimester of pregnancy to age 3.4 years (a period of 44 months, the duration of construction during that phase).
4. A resident child is assumed to be exposed during Phase II from age 3.4 years to age 6.9 years (a period of 42 months, the duration of construction during that phase).
5. A resident child is assumed to be exposed during Phase III from age 6.9 years to age 10.9 years (a period of 48 months, the duration of construction during that phase).
6. A resident is assumed to be exposed throughout their lifetime.
7. For Project-generated traffic, the year-by-year Age Sensitivity Factor was used to weigh the yearly traffic emissions which decrease over the years.

Abbreviation:

BAAQMD: Bay Area Air Quality Management District

Source:

Bay Area Air Quality Management District (BAAQMD). 2010. *BAAQMD Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines.* January.

Table 12
Modeled Excess Lifetime Cancer Risk and $PM_{2.5}$ Concentration - Offsite MEISR[1]
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx	UTMy	Lifetime Excess Cancer Risk[2]	$PM_{2.5}$ Concentration
	[m]		[in a million]	[µg/m^3]
Construction - Uncontrolled	551,380	4,173,900	163	0.67
Construction - Controlled	551,380	4,173,900	15	0.059
Operation - Emergency Generator	551,500	4,173,960	8.0	0.015
Operation - Traffic	551,860	4,173,860	5.7	0.11

Notes:
1. MEISR was identified at different locations for different sources.
2. Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risks attributed to the emissions associated with the Project were calculated based on the modeled annual average air concentrations, the intake factors for residents presented in Tables 8 and 9, the CPFs presented in Table 10, the CRAFs for residents presented in Table 11, and a MAF of one.

Calculation:

$Risk_{inh} = \Sigma Risk_{inh,i} = \Sigma C_i \times MAF \times CF \times IF_{inh} \times CPF_i \times CRAF$

Where:

$Risk_{inh}$: Cancer Risk, as a result of inhalation exposure to Project emissions (unitless)

$Risk_{inh,i}$: Cancer Risk for Chemical i

C_i: Modeled Annual Average Concentration in air for Chemical i (µg/m^3)

MAF : Modeling Adjustment Factor

CF: Conversion Factor (mg/µg)

IF_{inh}: Intake Factor for Inhalation (m^3/kg-day)

CPF_i: Cancer Potency Factor for Chemical i (mg chemical/kg body weight-day)

CRAF: Cancer Risk Adjustment Factor

Abbreviations:

kg: kilogram
m: meter
µg: microgram
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: particulate matter 2.5 microns or less
UTM: Universal Transverse Mercator

Table 13
Modeled Excess Lifetime Cancer Risk and $PM_{2.5}$ Concentration - Onsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx	UTMy	Lifetime Excess Cancer Risk[3]		$PM_{2.5}$ Concentration	
	[m]		[in a million]		[$\mu g/m^3$]	
			Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation
Construction - Uncontrolled[1]	--	--	32	52	0.087	0.17
Construction - Controlled[1]	--	--	3.6	5.5	0.012	0.020
Operation - Emergency Generator[2]	551,350	4,173,980	7.9		0.015	
Operation - Traffic[2]	551,200	4,173,790	2.5		0.047	

Notes:

1. As requested by San Francisco Environmental Planning (EP), a location combination case was evaluated assuming child residents would be present in Phase III existing buildings during Phases I and II construction and in Phase II new buildings during Phase III construction. This was determined to be a conservative estimate and construction emissions are presented as a range. ENVIRON also evaluated other cases for onsite residents and daycare children (see Appendix G).

2. As a conservative approach, the MEISR across all the onsite receptors was selected.

3. Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risks attributed to the emissions associated with the Project were calculated based on the modeled annual average air concentrations, the intake factors for resident presented in Table 8 and 9, the CPFs presented in Table 10, the CRAFs for residents presented in Table 11, and a MAF of one.

Calculation:

$Risk_{inh} = \Sigma Risk_{inh,i} = \Sigma C_i \times MAF \times CF \times IF_{inh} \times CPF_i \times CRAF$

Where:

$Risk_{inh}$: Cancer Risk, as a result of inhalation exposure to Project emissions (unitless)

$Risk_{inh,i}$: Cancer Risk for Chemical i

C_i: Modeled Annual Average Concentration in air for Chemical i ($\mu g/m^3$)

MAF : Modeling Adjustment Factor

CF: Conversion Factor (mg/µg)

IF_{inh}: Intake Factor for Inhalation (m^3/kg-day)

CPF_i: Cancer Potency Factor for Chemical i (mg chemical/kg body weight-day)

CRAF: Cancer Risk Adjustment Factor

Abbreviations:

--: Not Applicable
kg: kilogram
m: meter
µg: microgram
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: particulate matter 2.5 microns or less
UTM: Universal Transverse Mercator

Table 14a
Cumulative Uncontrolled Cancer Risk – Offsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

UTMx (m)	UTMy (m)	Receptor Description[1]	Background Cancer Risk (# in a million)	Project Operations - Mobile (# in a million)	Project Operations - Generator (# in a million)	Project Construction - Uncontrolled (# in a million)	Total Cumulative Risk - Uncontrolled (# in a million)
551,380	4,173,900	Offsite MEISR	6.9	0.81	1.6	163	173

Notes:
1. The cumulative uncontrolled cancer risk MEISR was determined by adding background cancer risk (extracted from the CRRP-HRA database, including risks from stationary sources, roadways, and Caltrain), and risks from project mobile, emergency generator, and uncontrolled risk from project construction. The location that has the maximum Project-generated risk was chosen to be the MEISR.

2. The CRRP-HRA analyzed background cancer risk for years 2014 and 2020. Because the Phase I construction will be completed in 2019, which is between the two calendar years analyzed in the CRRP-HRA, the higher background cancer risk between the two was chosen for this cumulative analysis.

Abbreviations:
CRRP: Community Risk Reduction Plan
HRA: Health Risk Assessment
m: meter
MEISR: Maximally Exposed Individual Sensitive Receptor
UTM: Universal Transverse Mercator

Table 14b
Cumulative Controlled Cancer Risk – Offsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

UTMx (m)	UTMy (m)	Receptor Description[1]	Background Cancer Risk (# in a million)[2]	Project Operations - Mobile (# in a million)	Project Operations - Generator (# in a million)	Project Construction - Controlled (# in a million)	Total Cumulative Risk - Controlled (# in a million)
551,460	4,174,000	Offsite MEISR	19.4	2.1	7.4	9.2	38

Notes:
1. The cumulative controlled cancer risk MEISR was determined by adding background cancer risk (extracted from the CRRP-HRA database, including risks from stationary sources, roadways, and Caltrain), and risks from project mobile, emergency generator, and controlled risk from project construction. The location that has the maximum Project-generated risk was chosen to be the MEISR.

2. The CRRP-HRA analyzed background cancer risk for years 2014 and 2020. Because the Phase I construction will be completed in 2019, which is between the two calendar years analyzed in the CRRP-HRA, the higher background cancer risk between the two was chosen for this cumulative analysis.

Abbreviations:
CRRP: Community Risk Reduction Plan
HRA: Health Risk Assessment
m: meter
MEISR: Maximally Exposed Individual Sensitive Receptor
UTM: Universal Transverse Mercator

Table 15a
Cumulative Uncontrolled $PM_{2.5}$ Concentration – Offsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

UTMx (m)	UTMy (m)	Receptor Description[1]	Background $PM_{2.5}$ Concentration (µg/m3)	Project Operations - Mobile (µg/m3)	Project Operations - Generator (µg/m3)	Project Construction - Uncontrolled (µg/m3)	Total Cumulative $PM_{2.5}$ Concentration - Uncontrolled (µg/m3)
551,380	4,173,900	Offsite MEISR	8.2	0.02	0.003	0.67	8.9

Notes:
1. The cumulative uncontrolled $PM_{2.5}$ concentration MEISR was determined by adding background concentration (extracted from the CRRP-HRA database, including concentrations from stationary sources, roadways, and Caltrain), and concentrations from project mobile, emergency generator, and uncontrolled concentration from project construction. The location that has the maximum Project-generated $PM_{2.5}$ concentration was chosen to be the MEISR.

2. The CRRP-HRA analyzed background $PM_{2.5}$ concentration for years 2014 and 2020. Because the Phase I construction will be completed in 2019, which is between the two calendar years analyzed in the CRRP-HRA, the higher background $PM_{2.5}$ concentration between the two was chosen for this cumulative analysis.

Abbreviations:
µg: microgram
CRRP: Community Risk Reduction Plan
HRA: Health Risk Assessment
m: meter
MEISR: Maximally Exposed Individual Sensitive Receptor
UTM: Universal Transverse Mercator

Table 15b
Cumulative Controlled $PM_{2.5}$ Concentration – Offsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

UTMx (m)	UTMy (m)	Receptor Description[1]	Background $PM_{2.5}$ Concentration (µg/m3)	Project Operations - Mobile (µg/m3)	Project Operations - Generator (µg/m3)	Project Construction - Controlled (µg/m3)	Total Cumulative $PM_{2.5}$ Concentration - Ccontrolled (µg/m3)
551,560	4,174,000	Offsite MEISR	8.5	0.10	0.01	0.011	8.6

Notes:
1. The cumulative controlled $PM_{2.5}$ concentration MEISR was determined by adding background concentration (extracted from the CRRP-HRA database, including concentrations from stationary sources, roadways, and Caltrain), and concentrations from project mobile, emergency generator, and controlled concentration from project construction. The location that has the maximum Project-generated PM2.5 concentration was chosen to be the MEISR.

2. The CRRP-HRA analyzed background $PM_{2.5}$ concentration for years 2014 and 2020. Because the Phase I construction will be completed in 2019, which is between the two calendar years analyzed in the CRRP-HRA, the higher background $PM_{2.5}$ concentration between the two was chosen for this cumulative analysis.

Abbreviations:
µg: microgram
CRRP: Community Risk Reduction Plan
HRA: Health Risk Assessment
m: meter
MEISR: Maximally Exposed Individual Sensitive Receptor
UTM: Universal Transverse Mercator

Table 16a
Cumulative Uncontrolled and Controlled Cancer Risks - Onsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

UTMx	UTMy	Receptor Description[1]	Background Cancer Risk	Project Operations - Mobile	Project Operations - Generator	Construction[2]				Cumulative Total[3]			
						Uncontrolled		Controlled		Uncontrolled		Controlled	
[m]	[m]		[# in a million]	[# in a million]	[# in a million]	[in a million]		[in a million]		[in a million]		[in a million]	
						Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation
551,460	4,174,020	Onsite MEISR	35.7	1.8	6.3	32	52	3.6	5.5	75	96	47	49

Notes:
1. The methodology for identifying the construction and operational onsite MEISR is discussed in Table 13. However Table 13 shows the MEISR for each source type while this table shows the cumulative MEISR location. For construction, because of the rotating of the onsite receptors, the MEISR is not associated with a specific location.
2. The calculation methodology for construction and operational risks associated with the Project at the onsite MEISR are presented in Table 13.
3. The direct sum of Project construction risks for a residential child and operational risks for a 70-year resident is a conservative approach. In reality, the emergency generator will start operating after Phase I construction is completed, when the residential child assumed to be exposed to the entire construction emissions is approximately 3 years old. As a result, under the 70-year resident assumption, the residential child will be exposed to the generator emissions for approximately 67 years and will also bear a smaller CRAFs. The same conservative approach was also applied to the Project-generated traffic.

Abbreviations:
CRAF: Cancer Risk Adjustment Factor
m: meter
MEISR: maximally exposed individual sensitive receptor
UTM: Universal Transverse Mercator

Table 16b
Cumulative Uncontrolled and Controlled $PM_{2.5}$ Concentrations - Onsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

UTMx	UTMy	Receptor Description[1]	Background $PM_{2.5}$ Concentration	Project Operations - Mobile	Project Operations - Generator	Construction[2]				Cumulative Total			
						Uncontrolled		Controlled		Uncontrolled		Controlled	
[m]	[m]		[µg/m3]	[µg/m3]	[µg/m3]	[µg/m3]		[µg/m3]		[µg/m3]		[µg/m3]	
						Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation
551,460	4,174,020	Onsite MEISR	8.6	0.03	0.01	0.087	0.17	0.012	0.020	8.7	8.8	8.6	8.6

Notes:
1. The methodology for identifying the construction and operational onsite MEISR is discussed in Table 13. However Table 13 shows the MEISR for each source type while this table shows the cumulative MEISR location. For construction, because of the rotating of the onsite receptors, the MEISR is not associated with a specific location.
2. The calculation methodology for construction and operational $PM_{2.5}$ concentration associated with the Project at the onsite MEISR are presented in Table 13.

Abbreviations:
CRAF: Cancer Risk Adjustment Factor
m: meter
MEISR: maximally exposed individual sensitive receptor
UTM: Universal Transverse Mercator

Table 17
Construction Criteria Pollutant Emissions by Phase - Project Alternative 1
Sunnydale-Valesco HOPE Project
San Francisco, California

Phase	Construction Duration	Construction Emissions[1,2,3] [lbs]										
		ROG			PM_{10}		$PM_{2.5}$[4]		CO		NO_x	
	[Days]	Offroad	Onroad	Paving and Architectural Coating	Offroad	Onroad	Offroad	Onroad	Offroad	Onroad	Offroad	Onroad
Uncontrolled[5]												
I	968	4,598	758	16,835	2,782	57	2,782	52	29,314	7,705	56,082	3,759
Average Daily Emissions for Phase I [lbs/day]		23			2.9		2.9		38		62	
II	924	3,445	584	17,491	1,934	38	1,934	35	25,094	5,788	40,725	2,470
Average Daily Emissions for Phase II [lbs/day]		23			2.1		2.1		33		47	
III	1056	1,984	550	15,488	954	63	954	58	17,814	4,470	21,527	2,489
Average Daily Emissions for Phase III [lbs/day]		17			1.0		1.0		21		23	
Total Emissions for All Phases [lbs]	2948	61,734			5,828		5,816		90,184		127,052	
Average Daily Emissions for All Phases [lbs/day]		21			2.0		2.0		31		43	

Notes:
1. The emissions from the off-road construction equipment are calculated in Appendix I. In summary, the activities that will be affected by the reduced gross square footage of the Alternative was scaled down by the ratio of the Project Alternative sqft to the Project sqft.
2. Because the CAP emissions from the construction on-road vehicles are relatively small compared to that from the off-road equipment, no additional emissions scaling methodology was developed for these emissions. Instead, the ratio of the off-road emissions between the Project Alternative and the Project were used to scale the on-road emissions.
3. It was assumed that the Project Alternative will have approximately the same amount of new pavement. The architectural coating emissions for each construction phase however were scaled by the ratio of Project Alternative gross square footage over Project gross square footage. See Appendix I for detailed calculation.
4. As $PM_{2.5}$ is a subset of PM_{10}, all PM_{10} from diesel off-road equipment was conservatively assumed to be $PM_{2.5}$.
5. The uncontrolled emissions scenario incorporates default emission factors from ARB In-use Offroad 2011 Inventory Model.

Abbreviation:
lb/lbs: pound/pounds
NOx: Nitrogen Oxides
PM: Particulate Matter
ROG: Reactive Organic Gases
TOG: Total Organic Gases

References:
ARB. 2011. In-use Offroad 2011 Inventory Model. Available online at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Table 18
Construction Criteria Pollutant Emissions by Phase - Project Alternative 2
Sunnydale-Valesco HOPE Project
San Francisco, California

Phase	Construction Duration	Construction Emissions[1,2,3] [lbs]										
		ROG			PM_{10}		$PM_{2.5}$[4]		CO		NO_x	
	[Days]	Offroad	Onroad	Paving and Architectural Coating	Offroad	Onroad	Offroad	Onroad	Offroad	Onroad	Offroad	Onroad
Uncontrolled[5]												
I	520	3,189	526	6,611	1,940	40	1,940	36	20,989	5,517	40,637	2,724
Average Daily Emissions for Phase I [lbs/day]		20			3.8		3.8		51		83	
II	520	3,300	560	7,704	2,007	40	2,007	37	21,719	5,010	42,051	2,550
Average Daily Emissions for Phase II [lbs/day]		22			3.9		3.9		51		86	
III	520	1,965	544	6,053	1,108	73	1,108	67	14,757	3,703	24,098	2,787
Average Daily Emissions for Phase III [lbs/day]		16			2.3		2.3		35		52	
Total Emissions for All Phases [lbs]	1560	30,452			5,207		5,195		71,694		114,846	
Average Daily Emissions for All Phases [lbs/day]		20			3.3		3.3		46		74	
Controlled[6]												
I	520	307	526	6,611	1,155	40	1,155	36	19,503	5,517	18,772	2,724
Average Daily Emissions for Phase I [lbs/day]		14			2.3		2.3		48		41	
II	520	318	560	7,704	1,196	40	1,196	37	20,182	5,010	19,425	2,550
Average Daily Emissions for Phase II [lbs/day]		17			2.4		2.4		48		42	
III	520	265	544	6,053	994	73	994	67	16,785	3,703	16,155	2,787
Average Daily Emissions for Phase III [lbs/day]		13			2.1		2.0		39		36	
Total Emissions for All Phases [lbs]	1560	22,888			3,498		3,485		70,699		62,413	
Average Daily Emissions [lbs/day]		15			2.2		2.2		45		40	

Notes:
1. The emissions from the off-road construction equipment are calculated in Appendix I. In summary, the activities that will be affected by the reduced gross square footage of the Alternative was scaled down by the ratio of the Project Alternative sqft to the Project sqft.
2. Because the CAP emissions from the construction on-road vehicles are relatively small compared to that from the off-road equipment, no additional emissions scaling methodology was developed for these emissions. Instead, the ratio of the off-road emissions between the Project Alternative and the Project were used to scale the on-road emissions.
3. It was assumed that the Project Alternative will have approximately the same amount of new pavement. The architectural coating emissions for each construction phase however were scaled by the ratio of Project Alternative gross square footage over Project gross square footage. See Appendix I for detailed calculation.
4. As $PM_{2.5}$ is a subset of PM_{10}, all PM_{10} from diesel off-road equipment was conservatively assumed to be $PM_{2.5}$.
5. The uncontrolled emissions scenario incorporates default emission factors from ARB In-use Offroad 2011 Inventory Model.
6. The controlled emissions scenario incorporates the control measures that results in Tier 4 equivalent fleet mix by assuming Tier 3 plus Level 3 Verified Diesel Emissions Control Strategies (VDECS), or Tier 4 engines. Because this alternative has shorter duration, by the start year of Phase III, the default fleet mix will not be cleaner than Tier 3 engines. Therefore restriction for this phase is applied. It was assumed that level 3 VDECS will achieve an 85% PM reduction and 90% ROG reduction.

Abbreviation:
lb/lbs: pound/pounds
NOx: Nitrogen Oxides
PM: Particulate Matter
ROG: Reactive Organic Gases
TOG: Total Organic Gases

References:
ARB. 2011. In-use Offroad 2011 Inventory Model. Available online at: http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

Table 19
Modeled Excess Lifetime Cancer Risk and $PM_{2.5}$ Concentration for Project Alternatives Construction - Offsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx	UTMy	Lifetime Excess Cancer Risk[1]	$PM_{2.5}$ Concentration[2]
	[m]		[in a million]	[$\mu g/m^3$]
Alternative 1 - Uncontrolled	551,380	4,173,900	144	0.59
Alternative 2 - Uncontrolled	551,380	4,173,900	139	0.80

Notes:

1. Excess lifetime cancer risks for the Project Alternatives were calculated by scaling the Project cancer risks by phase using the product of emissions ratio x CRAF ratio by phase between the Alternative and the Project. See Appendix I for detailed calculation.

2. The annual $PM_{2.5}$ concentrations for the Project Alternatives were scaled using the average daily emissions ratio for the phase.

Calculation:

$Risk_{alt} = \Sigma Risk_{alt,i} = \Sigma(risk_{prj,i} \times (Emissions_{alt,i} / Emissions_{prj,i}) \times (CRAF_{alt,i} / Emissions_{prj,i}))$

Where:

$Risk_{alt}$: Cancer Risk, as a result of inhalation exposure to Project Alternative emissions (unitless)

$Risk_{alt,i}$: Cancer Risk for Phase i for Project Alternative

$Risk_{alt,i}$: Cancer Risk for Phase i for Project

$CRAF_{alt,i}$: Cancer Risk Adjustment Factor for Phase i for Project Alternative

$CRAF_{prj,i}$: Cancer Risk Adjustment Factor for Phase i for Project

Abbreviations:

m: meter
µg: microgram
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: particulate matter 2.5 microns or less
UTM: Universal Transverse Mercator

Table 20
Modeled Excess Lifetime Cancer Risk and $PM_{2.5}$ Concentration for Project Alternatives Construction - Onsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx	UTMy	Lifetime Excess Cancer Risk[2]		$PM_{2.5}$ Concentration[3]	
	[m]		[in a million]		[µg/m^3]	
			Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation
Alternative 1 - Uncontrolled[1]	--	--	28	48	0.077	0.16
Alternative 2 - Uncontrolled[1]	--	--	26	47	0.103	0.18

Notes:
1. As requested by San Francisco Environmental Planning (EP), a location combination case was evaluated for the Project assuming child residents would be present in Phase III existing buildings during Phases I and II construction and in Phase II new buildings during Phase III construction. This was determined to be a conservative estimate and construction emissions are presented as a range. this same case was evaluated for the Project Alternatives.
2. Excess lifetime cancer risks for the Project Alternatives were calculated by scaling the Project cancer risks by phase using the product of emissions ratio x CRAF ratio by phase between the Alternative and the Project. See Appendix I for detailed calculation.
3. The annual $PM_{2.5}$ concentrations for the Project Alternatives were scaled using the average daily emissions ratio for the phase.

Calculation:
$Risk_{alt} = \Sigma Risk_{alt,i} = \Sigma(risk_{prj,i} \times (Emissions_{alt,i} / Emissions_{prj,i}) \times (CRAF_{alt,i} / Emissions_{prj,i}))$

Where:

$Risk_{alt}$: Cancer Risk, as a result of inhalation exposure to Project Alternative emissions (unitless)

$Risk_{alt,i}$: Cancer Risk for Phase i for Project Alternative

$Risk_{alt,i}$: Cancer Risk for Phase i for Project

$CRAF_{alt,i}$: Cancer Risk Adjustment Factor for Phase i for Project Alternative

$CRAF_{prj,i}$: Cancer Risk Adjustment Factor for Phase i for Project

Abbreviations:
--: Not Applicable
m: meter
µg: microgram
MEISR: Maximally Exposed Individual Sensitive Receptor
$PM_{2.5}$: particulate matter 2.5 microns or less
UTM: Universal Transverse Mercator

Table 21
Cumulative Uncontrolled Cancer Risk for Project Alternatives – Offsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx (m)	UTMy (m)	Receptor Description[1]	Background Cancer Risk (# in a million)	Project Operations - Mobile (# in a million)	Project Operations - Generator (# in a million)	Project Construction - Uncontrolled (# in a million)	Total Cumulative Risk - Uncontrolled (# in a million)
Alternative 1 - Uncontrolled[1]	551,380	4,173,900	Offsite MEISR	6.9	0.81	1.6	144	153
Alternative 2 - Uncontrolled[1]	551,380	4,173,900	Offsite MEISR	6.9	0.00	1.6	139	147

Notes:
1. The cumulative uncontrolled cancer risk MEISR was determined by adding background cancer risk (extracted from the CRRP-HRA database, including risks from stationary sources, roadways, and Caltrain), and risks from project mobile, emergency generator, and uncontrolled from project construction. The location that has the maximum Project-generated risk was chosen to be the MEISR. While it is expected that the Project incremental mobile emissions and risks under Project Alternative 1 would be lower than those under Project scenario, the cancer risk from mobile under Project scenario was conservatively used here for the cumulative analysis for Project Alternative 1. For Project Alternative 2 there would be no incremental increase in mobile emissions as the traffic volume would be the same for this "One-on-One Replacement" alternative as the baseline condition.

2. The CRRP-HRA analyzed background cancer risk for years 2014 and 2020. Because the Phase I construction will be completed in 2019 for Project Alternative 1 and 2017 for Project Alternative 2, which is between the two calendar years analyzed in the CRRP-HRA, the higher background cancer risk between the two was chosen for this cumulative analysis.

Abbreviations:
CRRP: Community Risk Reduction Plan
HRA: Health Risk Assessment
m: meter
MEISR: Maximally Exposed Individual Sensitive Receptor
UTM: Universal Transverse Mercator

Table 22
Cumulative Uncontrolled $PM_{2.5}$ Concentration for Project Alternatives – Offsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx (m)	UTMy (m)	Receptor Description[1]	Background $PM_{2.5}$ Concentration (µg/m3)	Project Operations - Mobile (µg/m3)	Project Operations - Generator (µg/m3)	Project Construction - Uncontrolled (µg/m3)	Total Cumulative $PM_{2.5}$ Concentration - Uncontrolled (µg/m3)
Alternative 1 - Uncontrolled[1]	551,380	4,173,900	Offsite MEISR	8.2	0.02	0.003	0.59	8.8
Alternative 2 - Uncontrolled[1]	551,380	4,173,900	Offsite MEISR	8.2	0	0.003	0.80	9.0

Notes:
1. The cumulative uncontrolled $PM_{2.5}$ concentration MEISR was determined by adding background concentration (extracted from the CRRP-HRA database, including concentrations from stationary sources, roadways, and Caltrain), and concentrations from project mobile, emergency generator, and uncontrolled concentration from project construction. The location that has the maximum Project-generated $PM_{2.5}$ concentration was chosen to be the MEISR. While it is expected that the Project incremental mobile emissions and $PM_{2.5}$ concentrations under Project Alternative 1 would be lower than that under Project scenario, the $PM_{2.5}$ concentration from mobile sources under the Project scenario was conservatively used here for the cumulative analysis for Project Alternative 1. For Project Alternative 2, there would be no incremental mobile emissions and $PM_{2.5}$ concentrations because the traffic volume would be the same for this "One-on-One Replacement" alternative as the baseline condition.

2. The CRRP-HRA analyzed background $PM_{2.5}$ concentration for years 2014 and 2020. Because the Phase I construction will be completed in 2019 for Project Alternative 1 and 2017 for Project Alternative 2, which is between the two calendar years analyzed in the CRRP-HRA, the higher background $PM_{2.5}$ concentration between the two was chosen for this cumulative analysis.

Abbreviations:
µg: microgram
CRRP: Community Risk Reduction Plan
HRA: Health Risk Assessment
m: meter
MEISR: Maximally Exposed Individual Sensitive Receptor
UTM: Universal Transverse Mercator

Table 23
Cumulative Uncontrolled Cancer Risk for Project Alternatives - Onsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx	UTMy	Receptor Description[1]	Background Cancer Risk	Project Operations - Mobile	Project Operations - Generator	Construction[2]		Cumulative Total[3]	
							Uncontrolled		Uncontrolled	
	[m]	[m]		[# in a million]	[# in a million]	[# in a million]	[in a million]		[in a million]	
							Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation
Alternative 1 - Uncontrolled[1]	551,460	4,174,020	Onsite MEISR	35.7	1.8	6.3	28	48	72	92
Alternative 2 - Uncontrolled[1]	551,460	4,174,020	Onsite MEISR	35.7	0.0	6.3	26	47	68	89

Notes:
1. The methodology for identifying the construction and operational onsite MEISR is discussed in Tables 20 and 13. However Table 13 shows the MEISR for each source type while this table shows the cumulative MEISR location. For construction, because of the rotating of the onsite receptors, the MEISR is not associated with a specific location.
2. The calculation methodology for construction risks associated with the Project Alternatives at the onsite MEISR are presented in Table 20.
3. The direct sum of construction risks of Project Alternatives for a residential child and operational risks for a 70-year resident is a conservative approach. In reality, the emergency generator will start operating after Phase I construction is completed, when the residential child assumed to be exposed to the entire construction emissions is approximately 3 years old. As a result, under the 70-year resident assumption, the residential child will be exposed to the generator emissions for approximately 67 years and will also bear a smaller CRAFs. The same conservative approach was also applied to the Project-generated traffic. In addition, while it is expected that the Project incremental mobile emissions and risks under Project Alternative 1 would be lower than those under Project scenario, the cancer risk from mobile under Project scenario was conservatively used here for the cumulative analysis for Project Alternative 1. For Project Alternative 2 there would be no incremental increase in mobile emissions as the traffic volume would be the same for this "One-on-One Replacement" alternative as the baseline condition.

Abbreviations:
CRAF: Cancer Risk Adjustment Factor
m: meter
MEISR: maximally exposed individual sensitive receptor
UTM: Universal Transverse Mercator

Table 24
Cumulative Uncontrolled $PM_{2.5}$ Concentrations for Project Alternatives - Onsite MEISR
Sunnydale-Valesco HOPE Project
San Francisco, California

Source	UTMx	UTMy	Receptor Description[1]	Background $PM_{2.5}$ Concentration	Project Operations - Mobile	Project Operations - Generator	Construction[2]		Cumulative Total[3]	
							Uncontrolled		Uncontrolled	
	[m]	[m]		[µg/m3]	[µg/m3]	[µg/m3]	[µg/m3]		[µg/m3]	
							Mean	Mean + One Standard Deviation	Mean	Mean + One Standard Deviation
Alternative 1 - Uncontrolled[1]	551,460	4,174,020	Onsite MEISR	8.6	0.03	0.01	0.077	0.16	8.7	8.8
Alternative 2 - Uncontrolled[1]	551,460	4,174,020	Onsite MEISR	8.6	0.00	0.01	0.103	0.18	8.7	8.8

Notes:
1. The methodology for identifying the construction and operational onsite MEISR is discussed in Tables 20 and 13. However Table 13 shows the MEISR for each source type while this table shows the cumulative MEISR location. For construction, because of the rotating of the onsite receptors, the MEISR is not associated with a specific location.
2. The calculation methodology for construction $PM_{2.5}$ concentration associated with the Project Alternatives at the onsite MEISR are presented in Table 20.
3. While it is expected that the Project incremental mobile emissions and $PM_{2.5}$ concentrations under Project Alternative 1 would be lower than that under Project scenario, the $PM_{2.5}$ concentration from mobile sources under the Project scenario was conservatively used here for the cumulative analysis for Project Alternative 1. For Project Alternative 2, there would be no incremental mobile emissions and $PM_{2.5}$ concentrations because the traffic volume would be the same for this "One-on-One Replacement" alternative as the baseline condition.
.

Abbreviations:
CRAF: Cancer Risk Adjustment Factor
m: meter
MEISR: maximally exposed individual sensitive receptor

Figures



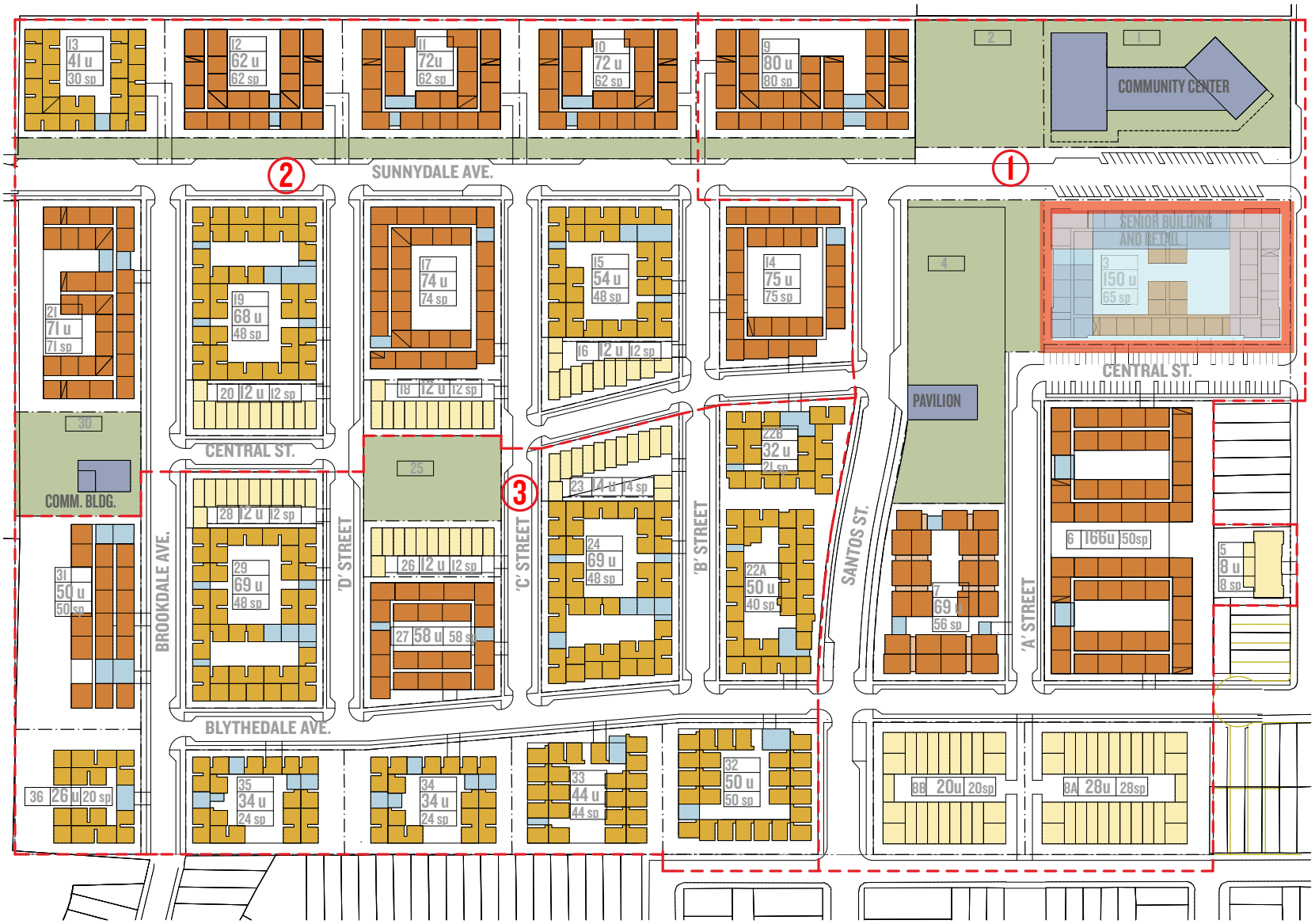
Figure 1
Project and Study Area Boundaries and Analyzed Intersection Locations



CHS Consulting Group

Sunnydale-Velasco Housing Development Traffic Study

Figure 2
Existing Site Plan



A NEW SUNNYDALE

SOURCE: Van Meter Williams Pollack

Figure 3
Proposed Project Site Plan



Volume Sources:

- Phase I
- Phase II
- Phase III

The squares within each phase represent the volume sources used in air dispersion modeling. Because the offsite receptors are next to the Phase I construction, and because dispersion factors will not be calculated within the exclusion zone of a volume source due to the limitation of AERMOD, additional volume sources (now shown here) were also created to cover the offsite receptors to capture the construction impact.

N

0 50 100

SCALE IN METERS

ENVIRON

Modeled Construction Phases
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
4

Drafter:	Date:	Contract Number:	Approved:	Revised:



Legend:

Phasing

Road Segments

- Existing Santos St (Phase I)
- New Santos St (Phase II)
- Brookdale Ave (Phase III)
- Geneva Ave (All Phases)

Volume Sources

- Existing Santos St
- New Santos St
- Brookdale Ave
- Geneva Ave

N

0 50 100

SCALE IN METERS

ENVIRON

Modeled Construction Truck Routes
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
5

Drafter:	Date:	Contract Number:	Approved:	Revised:



Legend:

- Phasing
- Modeled Future Emergency Generator Locations
- Modeled Future Buildings for Downwash Effect

N

0 50 100

SCALE IN METERS

ENVIRON

Modeled Future Emergency Generator Locations
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure 6

Drafter:	Date:	Contract Number:	Approved:	Revised:



ENVIRON

Modeled Operational Traffic Routes
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
7

Drafter:	Date:	Contract Number:	Approved:	Revised:



Legend:

- Onsite receptors (Ground Level and Second Story)
- Onsite Receptors (Ground Level)
- Phasing
- Existing Buildings
- Nearest Offsite Residents

N

0 50 100

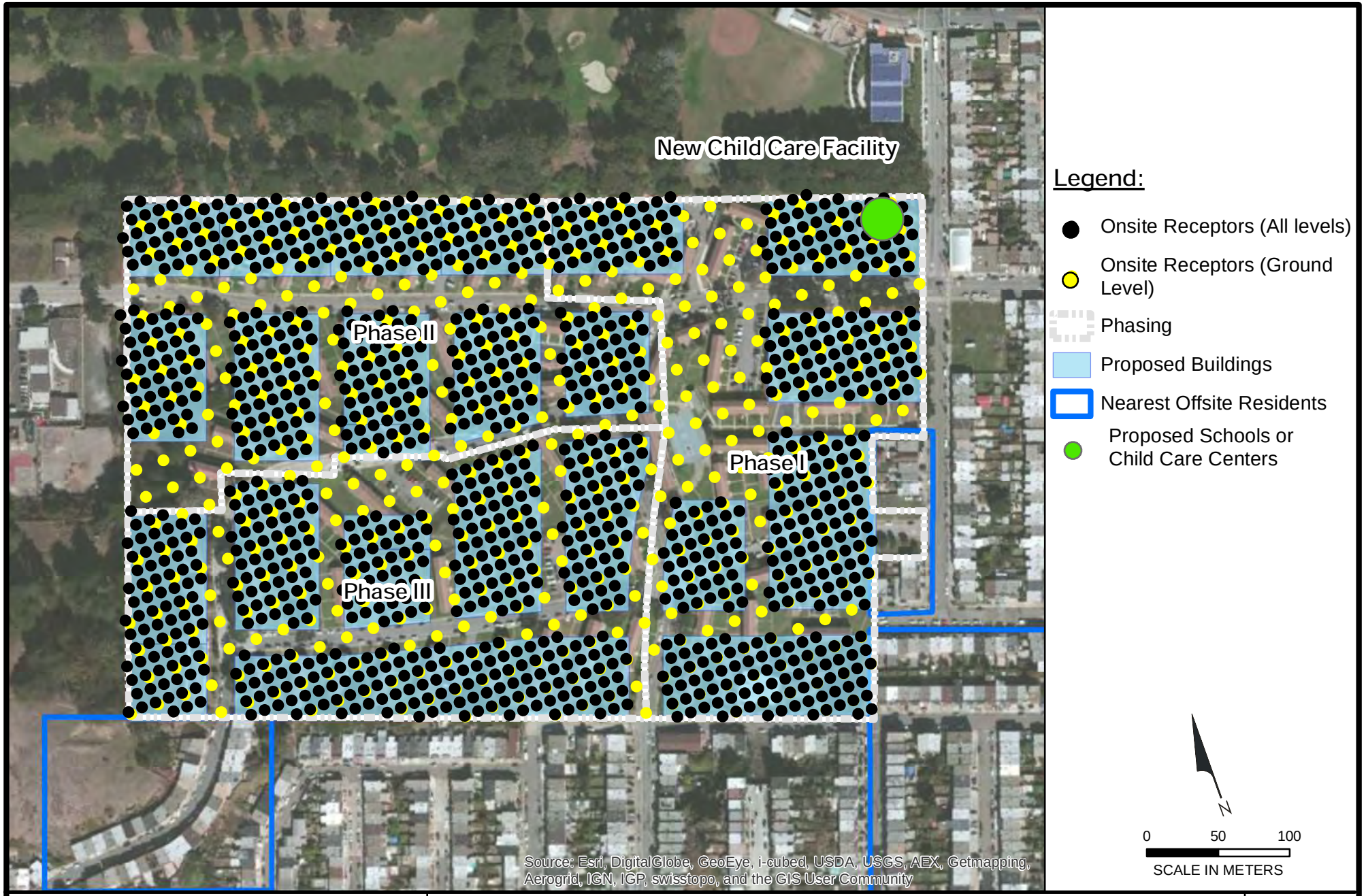
SCALE IN METERS

ENVIRON

Modeled Onsite Receptors - Existing Buildings
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
8a

Drafter:	Date:	Contract Number:	Approved:	Revised:

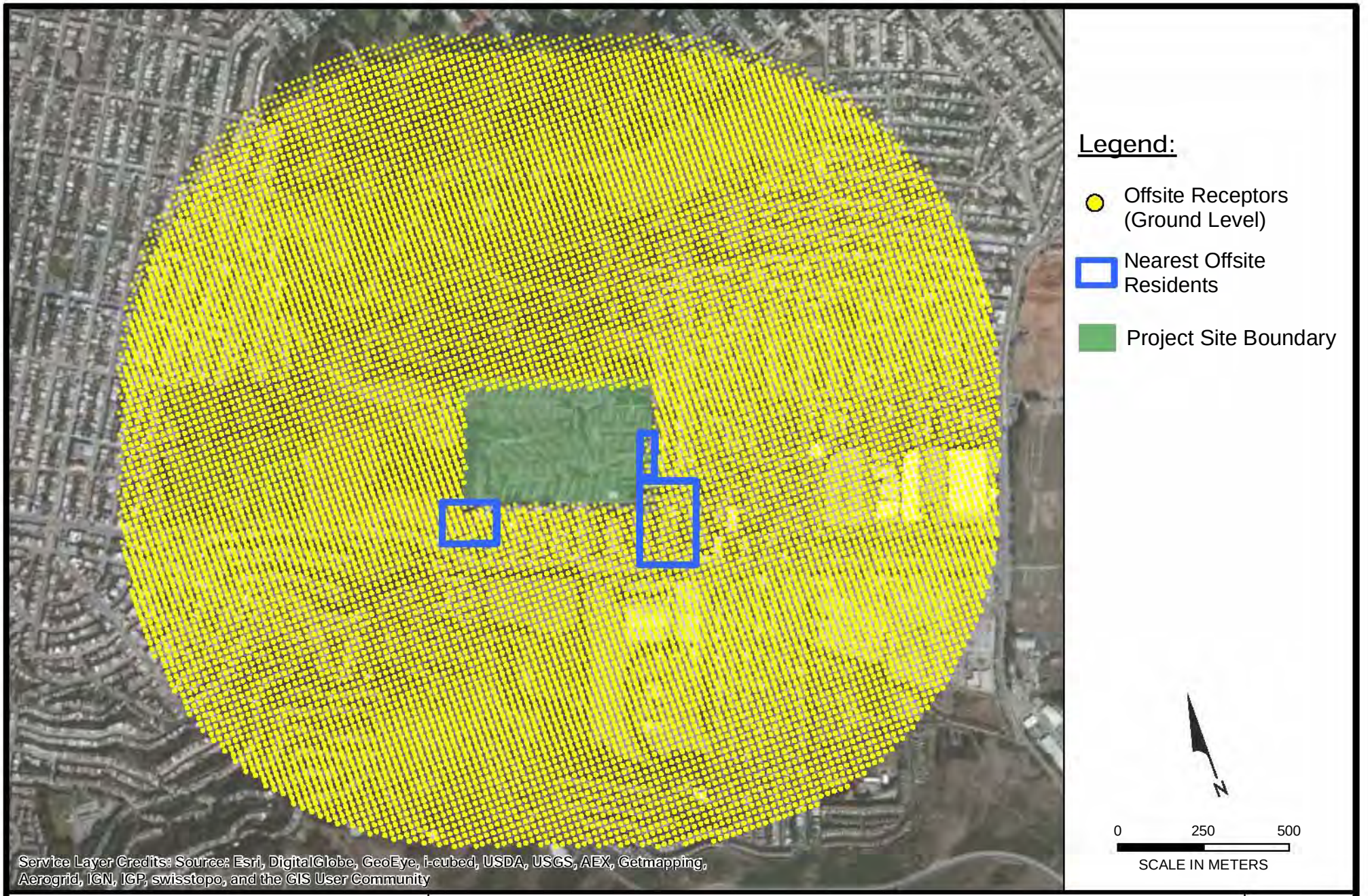


ENVIRON

Modeled Onsite Receptors - Proposed Buildings
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
8b

Drafter:	Date:	Contract Number:	Approved:	Revised:

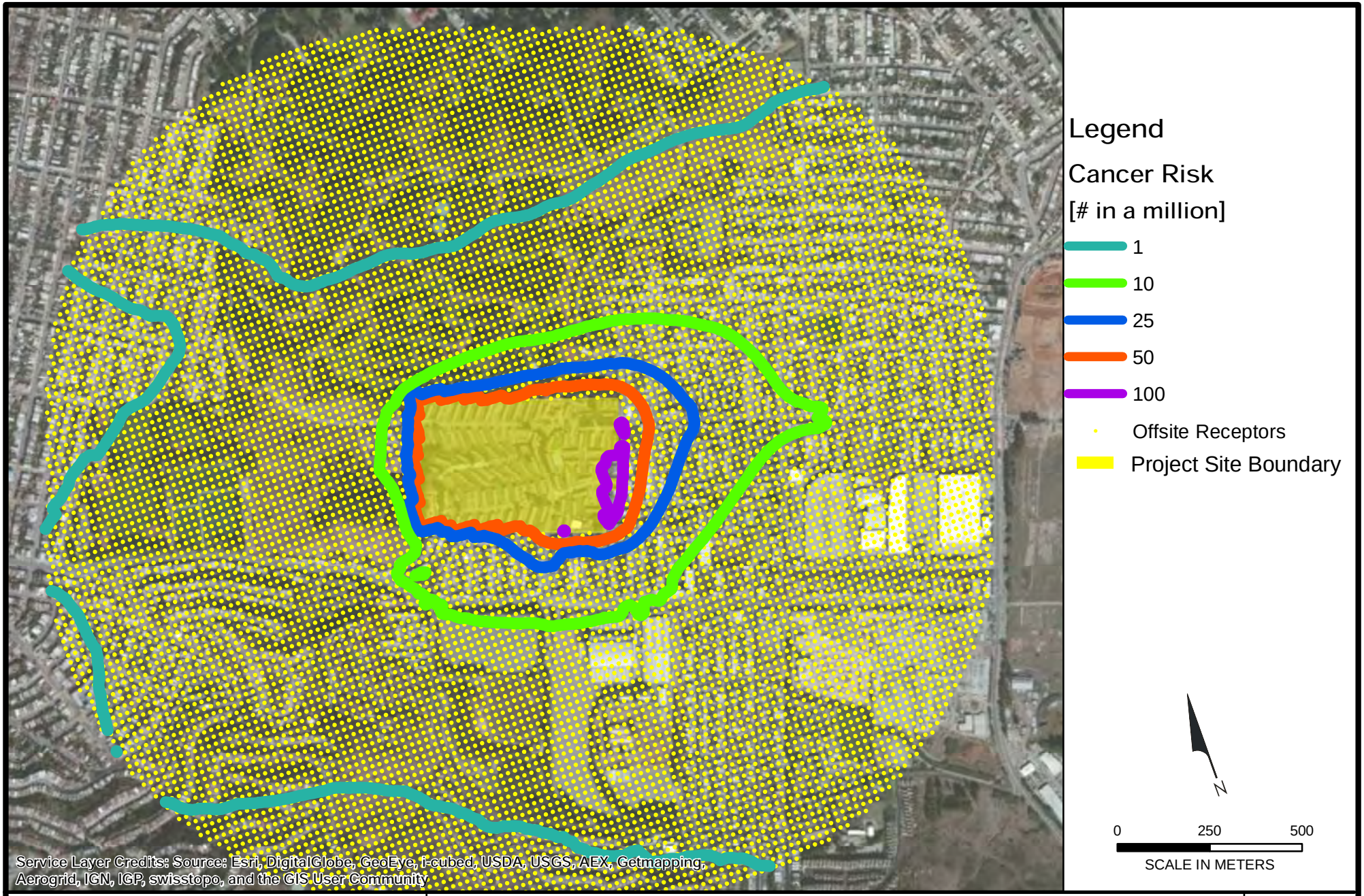


ENVIRON

Modeled Offsite Receptors
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
8c

Drafter:	Date:	Contract Number:	Approved:	Revised:

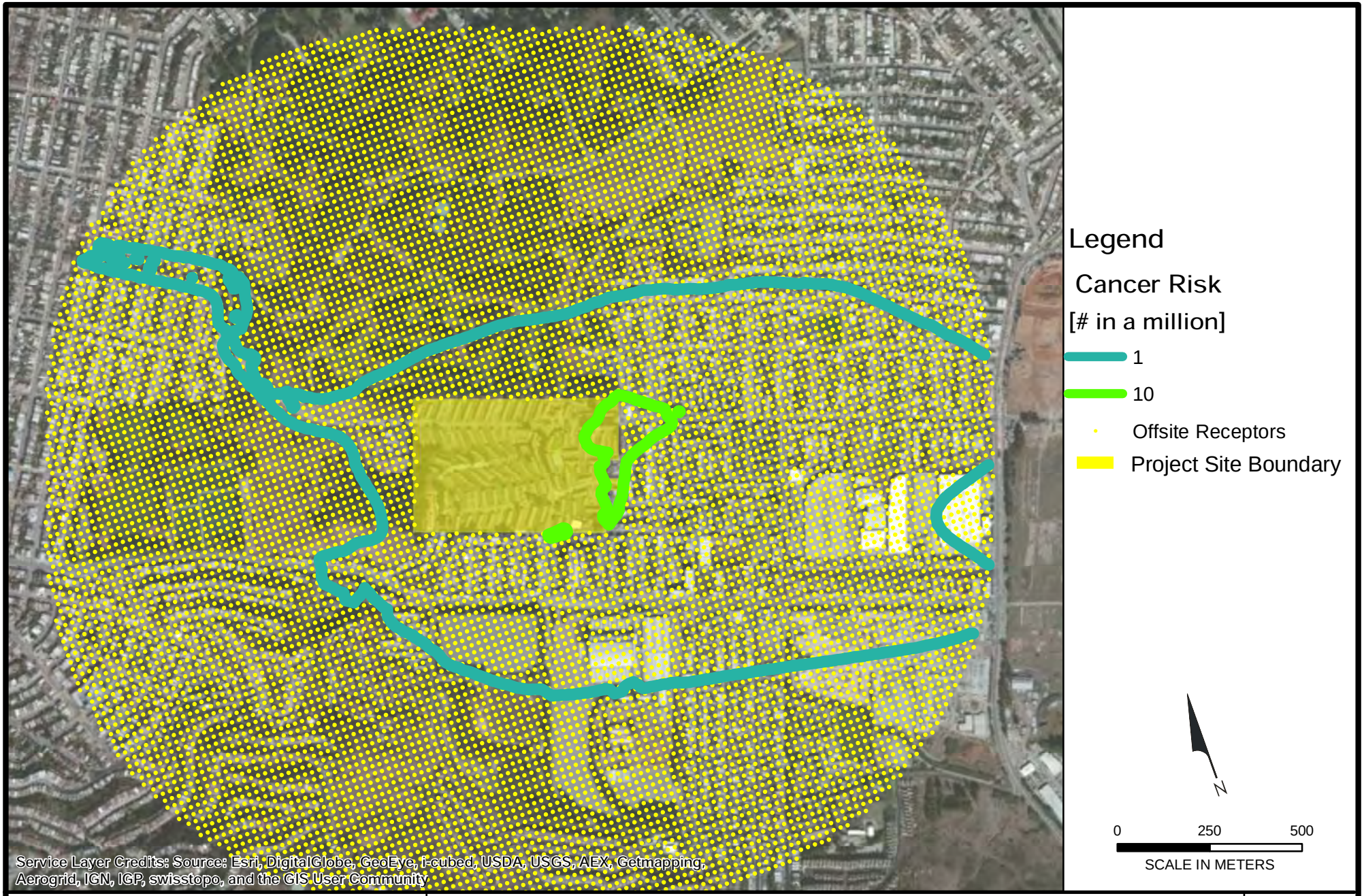


ENVIRON

Project Total Cancer Risk - Uncontrolled
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
9a

Drafter:	Date:	Contract Number:	Approved:	Revised:

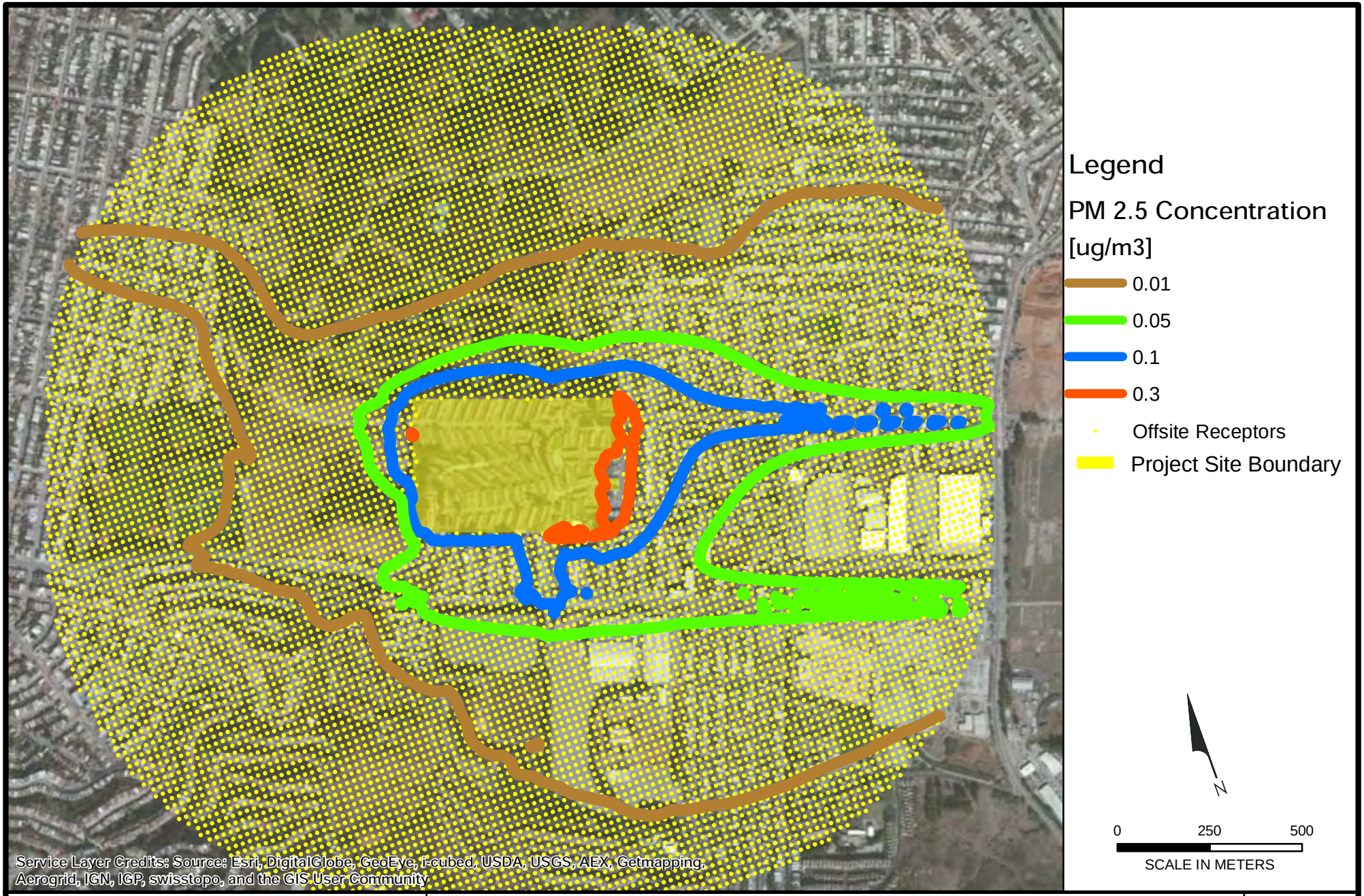


ENVIRON

Project Total Cancer Risk - Controlled
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
9b

Drafter:	Date:	Contract Number:	Approved:	Revised:

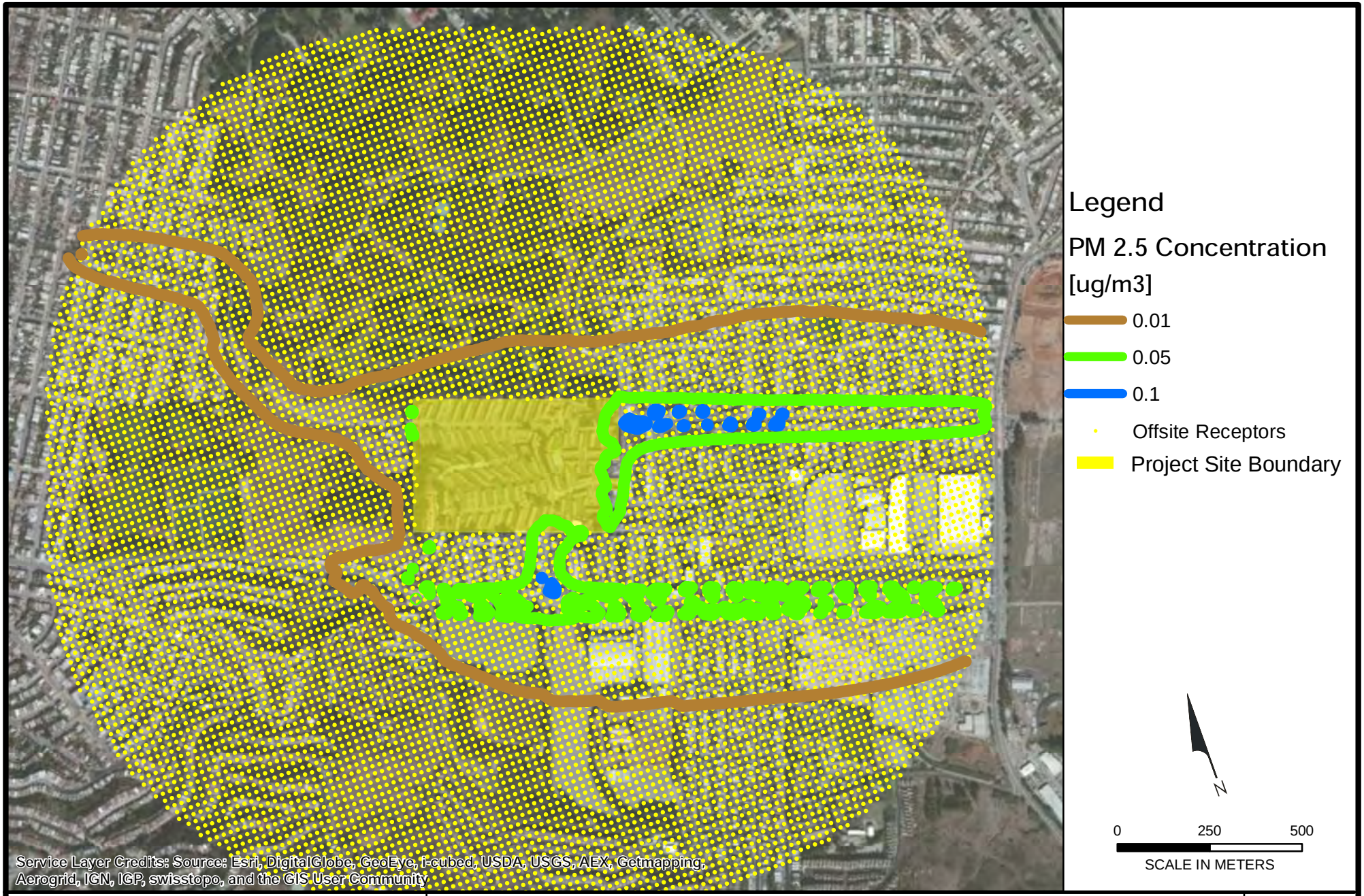


ENVIRON

Project Total PM2.5 - Uncontrolled
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
9c

Drafter:	Date:	Contract Number:	Approved:	Revised:



ENVIRON

Project Total PM2.5 - Controlled
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, California

Figure
9d

Drafter:	Date:	Contract Number:	Approved:	Revised:

Appendix A

San Francisco EP Approved Air Quality Scope of Work dated March 26, 2013

ESA Community Development

350 Frank H. Ogawa Plaza
Suite 300
Oakland, CA 94612
510.839.5066 phone
510.839.5825 fax

www.esassoc.com

memorandum

date June 30, 2014

to Jessica Range, City of San Francisco Environmental Planning (EP)

from Chris Sanchez, Senior Technical Associate – Air Quality

subject Air Quality Technical Report Scope of Work – Sunnydale-Velasco HOPE SF Master Plan Project

This memorandum is intended to outline ESA's Scope of Work to prepare an Air Quality Technical Report (AQTR) addressing potential Air Quality emissions and exposures resulting from implementation of the Draft EIR for the Master Plan now being prepared. The Master Plan would not only result in an increase in emissions of criteria pollutants but may also expose existing and future sensitive receptors to elevated concentrations of fine particulate matter ($PM_{2.5}$) and existing sources of toxic air contaminants (TACs), as well as TACs emitted during project construction. The proposed Scope of Work and methodology is presented below.

Air Quality Technical Report Contents

The analysis will include the following elements:

- **Project Description –** The project description will discuss the proposed land uses and include a figure with a site location map. Potential sources of air pollutant emissions will be identified. The figure will present the location of the project site with respect to surrounding land uses. The major project elements would include:

  - Demolition of existing buildings, including 785 family and senior dwelling units in 94 two-story residential buildings at the Sunnydale and Velasco public housing complexes in the Visitacion Valley neighborhood. Demolition would remove 765,000 square feet of residential uses and 29,000 square feet of daycare and other community-serving uses;
  - Construction of up to 1,700 units of housing, including public housing replacement units, affordable rental units and market rate and affordable for-sale units;
  - Construction of approximately 72,500 square feet of community service, recreational and educational facilities;
  - Construction of 11.5 acres of new parks and open spaces, including a community garden, a farmer's market pavilion and secure outdoor courtyards within residential buildings;
  - Construction of 12.2 acres of a new and reconfigured street network potentially including "green" features such as bioswales and landscaping; and
  - Construction of up to 16,200 square feet of neighborhood-serving retail.

  The project sponsor proposes to demolish and replace the existing 94 two-story residential buildings within the Sunnydale and Velasco public housing development with approximately 34 new two- to six-story

buildings. The existing site plan showing buildings to be demolished is presented in Figure 1. The proposed new site plan is presented in Figure 2. The completed project would occupy approximately 2.2 million square feet of floor area for a net increase of about 1.4 million square feet. The height of the new buildings would range from 40 to 60 feet above ground level—with 18 buildings at 40 feet or less in height, 15 buildings at 50 feet in height, and one building at 60 feet in height. Thirty-three of the buildings would contain family dwelling units; the single building at 60 feet in height would contain senior housing and would have some retail and community services on the ground floor. If the inclusion of fireplaces cannot be confirmed by the applicant, the analysis will assume CalEEMod default values for percentage of fireplace units. The buildings would be a mix of the following:

- Townhouse/Rowhouse—Attached, multistory, single-family homes (15 to 30 units per acre)
- Stacked Flats—One-story apartments arranged one over the other (25 to 40 units per acre)
- Podium Building—A building with a parking garage below and residences or other uses above (40 to 50 units per acre)
- Corridor Building—An apartment building with units accessed from a central corridor (40 to 60 units per acre)
- Mixed Use—Retail or public use on ground floor with senior housing above (50 to 80 units per acre). This is depicted in the northeast corner of the project site as Building 3 in Figure 2.

Also proposed is a separate two-story community center up to 72,500 square-feet in size, which would house recreational facilities for use by project residents and residents of the neighborhood, with youth and early childhood education programs. This is depicted in the northeast corner of the project site as Building 1 in Figure 2.

The project sponsor proposes realigning Sunnydale, Brookdale and Blythedale Avenues and Santos Street and adding new cross streets to create a street grid that would improve connectivity and access within the development and to Hahn Street. A new cross street would connect Brookdale Avenue to Sunnydale Avenue; new cross streets would connect Blythedale Avenue to Sunnydale Avenue at three different locations; Blythedale Avenue would be realigned to connect with Sunrise Way; and a pair of new streets would link Blythedale Avenue to Hahn Street one block to the north of Sunrise Way (see Figure 3: Existing and Proposed Street Networks).

The proposed project would increase the total net number of dwelling units on the site from 785 to approximately 1,700, an increase of some 915 units. The project site currently contains 430 off-street surface parking spaces and 452 on-street parking spaces. The proposed project would provide approximately 1,437 off-street parking spaces in underground and at-grade parking garages in mixed-use and residential buildings, as well as 525 on-street parking spaces.

The proposed project would include a stormwater management system that would meet the City's Stormwater Management Ordinance requirements. The project sponsor anticipates that the proposed project would be built to LEED® ND standards (conditional certification as LEED ND Gold was approved in December 2011) and would be designed to include energy saving and sustainability features.

With regard to emission sources, the Transportation Impact Study estimates that the project would generate approximately 4,425 net new vehicle trips per day. The project would also involve installation of one diesel-powered backup generator. Additionally, the proposed project would demolish approximately 785 existing residential dwellings and develop 1,700 new residential dwellings. The proposed project would intensify the density of residential use (considered a sensitive receptor) and install a backup diesel generator to be located in building 3 in Figure 2.

Sensitive receptors to be located on the project site would consist of residences in building 3 (senior housing), buildings 5 through 24, buildings 26 through 29 and buildings 31 through 36 in Figure 2.

Additionally, Building 1 in Figure 2 would be a community center that would offer recreational opportunities for the community, including small children, and would represent a recreational receptor. The project applicant proposes to replace existing child care facilities with an allocation of 5,000 square feet in the northeastern project site. There would be no dedicated schools as part of the proposed project. The project construction would occur in three primary phases. Each phase of construction would last between three to five years for a total of nine to fifteen years in duration for the entire project. Within each phase, individual buildings would be constructed incrementally, and the new dwellings would be occupied as each phase is completed. The current residents of buildings to be demolished would be moved to available vacant residences on the project site as each phase is constructed, or they would be given housing vouchers by the San Francisco Housing Authority for temporary relocation elsewhere during the construction period. When Phase I is under construction, existing buildings in Phase II and III areas would continue their current occupancy. There would be no more than one phase under demolition or construction at any given time.

The first phase of construction would demolish 316 existing dwelling units and construct 521 new units and the community support services in the eastern portion of the project site (i.e., Blocks 1 through 9 in Figure 2). Eastern portions of Sunnydale Avenue and Blythedale Avenue, and Santos Street would be reconfigured during this first phase. Phase II would continue the reconfiguration of Sunnydale Avenue west and introduce the new north-south streets, "B", "C", and "D" Streets. During this phase, 279 existing dwelling units would be demolished and 625 new units would be developed in the northwestern portion of the project site (i.e., Blocks 10 through 21). Phase III would connect the new north-south streets to Blythedale Avenue. During this phase, 191 existing dwelling units would be demolished and 554 new dwelling units would be constructed in the southwest portion of the project site (i.e., Blocks 22 through 36).

During each phase, the existing buildings, streets, and utilities would be demolished first, and rough grading of the streets, building pads and open space would occur. The construction of new underground utility infrastructure with appropriate tie-ins to existing utilities (e.g., neighborhood power transformers, and sanitary sewer boxes) would follow, and then buildings would be constructed as determined by the financing available as well as the best scenarios for facilitating equipment and material access to the building sites.

- **Project Setting –** The project would be performed in three discrete phases (see the attached Figure 4) that could expose existing and future residents to emissions of diesel particulate matter during demolition and construction activities.

  The closest off-site sensitive receptors to the project site are one residential unit on Brookdale Avenue that abuts the southwest project boundary and four residential units west of Hahn Street that abut the eastern project boundary. Additionally there are several residential units east of Hahn Street and south of Velasco Avenue, approximately 60 feet away. A review of the State Community Care Licensing Division database revealed that there are two existing child care facilities on the project site: The Willie Brown Youth Center at 1652 Sunnydale Avenue that would be demolished in Phase 1 construction and the Wu Yee Children's Service at 700 Velasco Avenue that would be demolished in Phase 3 of construction. There is one other existing facility within 1,000 feet of the project site: the John McLaren Child Development Center at 2055 Sunnydale Avenue, approximately 100 feet west of the northwest project boundary. The project applicant proposes to replace existing child care facilities with an allocation of 5,000 square feet in the northeastern project site.

  The proposed project would involve installation of a stationary source (a backup diesel generator) in an area surrounded by residential uses in Phase 1 of the development. This generator would be located in a building to be used for senior housing and retail mixed-use, at the northeast corner of the project site. The generator would be located 100 feet from the nearest residential structure and would be adjacent to a proposed park/open space of the project. The generator will conservatively be assumed to vent at the ground level.

  A second figure with accompanying text and tables will be prepared that identifies all air quality receptors within a 1,000-foot radius of the project site perimeter. A preliminary draft of this is presented in Figure 5.

A third figure will present approximated isopleths of the existing risks and hazards for sensitive receptors both on the project site and within 1,000 feet of the project boundary.

- **Criteria Pollutant Methodology –** A discussion of the methodology employed to assess potential construction-related and operational air quality impacts from emissions of criteria pollutants from the proposed project. All model inputs and assumptions will be clearly articulated and substantiated.

  Construction

  Project construction-related emissions will be estimated using an equipment mix provided by the project sponsor and emission factors calculated from the OFFROAD2007 model and the 2011 Inventory Model for the In-use Off-road Equipment Rule of the California Air Resources Board (CARB). The project sponsor has provided detailed information on construction phases and equipment types proposed, which would be the same for all phases (Construction Resource Management Inc., 2011)(see Appendix A). Construction worker and vendor truck emissions will be calculated using EMFAC2011 emission factors and estimated daily trips, based on the number of construction workers, provided by the project sponsor. If the project sponsor cannot provide an estimated number of construction workers, default assumptions for residential or other associated land use construction from the CalEEMod model will be assumed.

  The project sponsor anticipates construction to occur in three phases of three to five years; in each phase, existing residents would be moved elsewhere within the site (assuming units are available) so that some units could be demolished and replaced. Average daily construction emissions will be estimated for each year of construction.

  Operation

  Project operational criteria pollutant emissions will be estimated using the CalEEMod model. The model will be refined to reflect the project-specific trip generation determined in the Transportation Analysis, which will consider the availability of transit systems within the area. Vehicle trip lengths from CalEEMod, which were developed with input from the Bay Area Air Quality Management District (BAAQMD), will be used to determine the increase in vehicle miles travelled from the proposed project, as project-specific trip lengths are not estimated in the Transportation Analysis. Estimated emissions of reactive organic gases (ROG) from maintenance applications of architectural coatings will be adjusted to reflect volatile organic compounds (VOC) content limits of Regulation 8, Rule 3 of the BAAQMD. Project operational emissions of criteria pollutants from vehicle, stationary (backup generator) and area sources will be summed. Potential localized carbon monoxide concentrations impacts will be assessed using BAAQMD screening criteria. Potential emissions from the emergency diesel generator (a stationary source) will be estimated based on the AERMOD or ISCST3 model and emission factors from OFFROAD2007 and the 2011 Inventory Model for the In-use Off-road Equipment Rule. At this point in time, the project applicant has confirmed that specifications for the proposed generator are not available. In order to assess the potential risks and hazard impacts associated with the generator, ESA will assume that this proposed generator, which is required for the 4-story, 150-unit senior care facility building, would meet the federal interim Tier 3 diesel engine standards for particulate matter for diesel engines with a rating between 75 and 750 horsepower, consistent with U.S. EPA regulations for emergency stationary diesel generators manufactured after 2010. Common stack parameters for emergency generators will be applied as follows:

  - Stack diameter: 0.203 meters;
  - Stack height: 3.048 meters;
  - Exhaust temperature: 730 Kelvin
  - Exhaust rate:32.7 meters per second

- **Criteria Pollutant Results –** Results from the construction and operational analysis will be presented in a separate section using tables to compare emission estimates in terms of tons per year (and pounds per day

for construction) for reactive organic gases (ROG), oxides of nitrogen (NO_X), respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$), respectively.

- **Measures to Reduce Project Impacts** – Measures to reduce project impacts will be identified to reduce impacts identified from operational or construction-related criteria pollutant impacts. The criteria air pollutant results will be used to identify whether BAAQMD Basic and Additional Construction Mitigation Measures or any additional measures would be required. These measures will be developed with input from Environmental Planning (EP), and feasibility of mitigation measures will be coordinated with project sponsor. Resulting emissions with identified measures will be estimated and presented.

- **Summary** – A summation of the project's air quality impacts before and after measures to reduce project impacts will be included in both text and tabular form.

- **Methodology for Health Risk Analysis (Cancer Risks, Hazard Indices and $PM_{2.5}$ Exposure Analysis)**

  The proposed project is not located within an "air pollution hot spot" as determined by SFDPH citywide modeling. However, because of the large scale of this project and the extended duration and the phasing of construction and presence of adjacent sensitive receptors during construction and demolition it could have the potential to result in new or additional hot spots. Consequently, EP has determined that a detailed assessment of cancer risk and localized $PM_{2.5}$ concentrations is warranted.

  The project-level health risk and hazard impact assessment will use AERMOD and, utilize the same receptor grid used in San Francisco's citywide modeling. However, a more refined receptor grid will be used to assess construction health risks. This receptor grid will be based on the City's 20 meter receptor grid, but will include a more refined 10 meter by 10 meter receptor grid. Receptor points in the project-level health risks and hazards from construction and operation will be added as an additional category for each receptor point in the City's grid system that could be affected by the proposed project (i.e., receptor points within the project site and 1,000 feet surrounding the project site). Receptor points with the greatest excess cancer risk and $PM_{2.5}$ from the proposed project and in combination with existing sources will be presented.

  Construction

  The risk analysis for construction will examine potential diesel particulate matter (DPM), organic toxic compounds and $PM_{2.5}$ impacts on the nearest sensitive receptors to proposed construction areas, inclusive of occupied dwellings within the project site and 1,000 feet from the project boundary. The closest sensitive receptors to the project site is one residential unit on Brookdale Avenue that abuts the southwest project boundary and four residential units west of Hahn Street that abut the eastern project boundary. Additionally there are several residential units east of Hahn Street and south of Velasco Avenue, approximately 60 feet away. The project would be built in three discrete phases, each including roadwork and infrastructure. The current residents would be moved to available residences on the project site as each phase is constructed, or they would be relocated elsewhere during the construction period. The new dwellings would be populated as each phase is completed. Consequently, the potential exists for newly constructed dwellings to be occupied while later phases of construction are ongoing in adjacent areas. Therefore, a refined health risk assessment is proposed to be prepared. This assessment will estimate diesel exhaust DPM, $PM_{2.5}$ and speciated total organic gas concentrations based on data generated by the OFFROAD2007 and the 2011 Inventory Model for the In-use Off-road Equipment Rule and the construction criteria pollutant analysis discussed above. DPM, total organic gases (TOG) and $PM_{2.5}$ emissions rates will be used as input into the AERMOD air dispersion model to predict worst case DPM, TOG and $PM_{2.5}$ concentrations, respectively. DPM and speciated TOG concentrations will be used to determine increased cancer risk and $PM_{2.5}$ concentrations based on the health risk assessment methodology published by BAAQMD and the Office of Environmental Health Hazard Assessment and will include age sensitivity factors. Construction activities will be modeled as volume sources and haul trips as line sources.

  Using a more refined 10 meter receptor grid based on the City's 20 meter receptor grid, the DPM and $PM_{2.5}$ concentrations for each phase of construction will be modeled separately (ConP1, ConP2, and ConP3) and the excess cancer risk will be determined. The excess cancer risk and $PM_{2.5}$ concentrations from each phase

of construction and combined total will be provided in separate columns for each receptor point in the GIS shapefile. This would result in a GIS file that would report the total cancer risk and $PM_{2.5}$ concentrations from the sum of all sources (existing sources plus ambient [for $PM_{2.5}$ only] plus project sources) for each receptor point and allows one to report the on-site and off-site Maximum Exposed Individual (MEI) from project construction. The maximum impact to off-site and on-site receptors will be identified for each of the three phases.

Measures to reduce project impacts may be developed which could incorporate the use of construction equipment with Tier 3 or 4 engines and/or verified diesel emissions control strategies, if requested by EP.

Operation

The proposed project would involve the installation and operation of a diesel emergency generator. Therefore, the sources of concern with regard to health risk exposure would consist of permitted sources in the area, existing plus project traffic on major roadways in the area and the proposed standby generator. A review of aerial photography and site reconnaissance did not indicate the presence of non-permitted sources within 1,000 feet such as distribution warehouses or transit centers.

The report will identify the distribution of project traffic on local streets based on the project-specific Transportation Impact Study (TIS). To determine the project's health risk impact from vehicle traffic, the health risk analysis will model project generated traffic for the two roadway segments expected to experience the highest number of average daily vehicle trips resulting from the proposed project. The TIS indicates that Sunnydale Avenue between Bayshore Boulevard and Hahn Street represents the roadway with the greatest amount of project-generated traffic.. Geneva Avenue has an existing roadway volume of 21,199, which exceeds 10,000 vehicles per day and may be expected to have a relatively high truck percentage due to its role as a major east-west arterial street. Other east-west roadways in the project area dead end at McLaren Park and do not accommodate large traffic volumes. The nearest major north-south arterial roadway in the project area is Bayshore Boulevard, which is located over 3,000 feet from the project boundary.

Emission rates for project traffic, as generated by the EMFAC2011 model, will be input into either the AERMOD or CAL3QHC air dispersion models to determine localized concentrations of DPM, TOG and $PM_{2.5}$ at receptor points. The Transportation Impact Study indicates that 18 percent of project trips would be assigned to Geneva, which would represent a net increase of approximately 797 daily trips. This would increase the existing average daily trips on Geneva Boulevard from 21,199 to 21,996. Modeled receptor heights for proposed residences will assume ground level receptor heights. Meteorological data from the Mission Bay Station will be used in the dispersion modeling effort. DPM concentrations will be used to determine increased cancer risk and $PM_{2.5}$ concentrations. Emissions rate(s) of the proposed generator will be taken from the federal interim Tier 3 diesel engine standards for particulate matter for diesel engines with a rating between 75 and 750 horsepower, consistent with the current U.S. EPA regulations for backup diesel generators. Operations will be assumed to meet the BAAQMD 50 hours per year maximum period of operation limited by the Permit to Operate.

The HRA will be conducted following methodologies in BAAQMD's Health Risk Screening Analysis Guidelines[1] and in the California Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Guidance.[2] This will be accomplished by applying the highest estimated concentrations at the receptors analyzed to the established cancer risk estimates.

The toxicity values used in the analysis will be based on OEHHA guidance. These toxicity values are for carcinogenic effects. The primary pathway for exposures will be assumed to be inhalation. The incremental risks will be determined for each emission source of TAC and summed to obtain an estimated total incremental carcinogenic health risk.

[1] Bay Area Air Quality Management District (BAAQMD), 2005. *BAAQMD Health Risk Screening Analysis Guidelines (http://www.baaqmd.gov/pmt/air_toxics/risk_procedures_policies/hrsa_guidelines.pdf)*, June 2005.

[2] Office of Environmental Health Hazard Assessment (OEHHA), 2003. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, http://www.oehha.org/air/hot_spots/pdf/HRAguidefinal.pdf

The 80th percentile adult breathing rate of 302 L/kg-day will be used to determine cancer risks to adult residents from exposure to TAC. The residential exposure frequency and duration will be assumed to be 350 days per year and 70 years. For children, OEHHA recommends assuming a breathing rate of 581 L/kg-day to assess potential risk via the inhalation exposure pathway. This value represents the upper 95th percentile of daily breathing rates for children. The modeled TAC concentrations will be used to represent the exposure concentrations in the air. The inhalation absorption factor will be assumed to be 1.

Cancer risk estimates will also incorporate age sensitivity factors (ASFs). This approach provides updated calculation procedures that factor in the increased susceptibility of infants and children to carcinogens as compared to adults. OEHHA recommends that cancer risks be weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age, and by a factor of 3 for exposures from 2 years through 15 years of age. For estimating cancer risks for residential receptors over a 70 year lifetime, the incorporation of the ASFs results in a cancer risk adjustment factor of 1.7. For the three-phase construction period, each of the three phases will be considered as being independent such that you would have an ASF of about10 for each phase (actually a little less than 10 as the construction is >2.25 years). A second scenario would also be considered where you start Phase 2 which would have an ASF of about10 and then continue with Phase 3 which would have an ASF of 3. This should cover most likely scenarios which would yield the highest risks onsite from an extended construction period over three phases.

Based on OEHHA recommendations, the cancer risk to residential receptors will assume exposure occurs 24 hours per day for 350 days per year. For children at the day care facility, exposure will be assumed to occur 10 hours per day for 36 weeks per year. Cancer risk to residential receptors will be based on a 70-year lifetime exposure. Cancer risk estimates for children at the day care facility will be calculated based on 9 year exposure duration. While OEHHA is currently considering adjustments to breathing rate assumptions, it has not formally released an updated guidance for health risk assessment incorporating these considerations. Should OEHHA update their health risk guidance during preparation of this AQTR, ESA and ENVIRON will meet with Environmental Planning to consider the potential effects of any updated guidance with respect to the Sunnydale Hope SF AQTR.

A cumulative health risk analysis will combine existing risks and hazard estimates with project-generated emissions including that from traffic, and the proposed backup diesel generator.

- **Results of the Health Risk Analysis –**GIS shapefiles and figures will be provided that indicate isopleths of increased cancer risk and $PM_{2.5}$ concentration across the receptor grid from project-generated vehicle traffic, the proposed standby diesel generator and existing sources. These data will be summed and presented.

  A qualitative discussion of the future cancer risk in cumulative buildout years will be included to address the reduction in risks that will occur from implementation of regulations that will more than compensate for risk increases from continued growth in localized vehicle miles travelled.

- **Measures to Reduce Project Impacts** – Measures will be identified to reduce any impacts identified from health risk-related DPM and $PM_{2.5}$ impacts, if warranted by the results of the analysis and Environmental Planning.

- **Summary** – A summation of the projects impacts before and after measures to reduce project impacts will be included in text format.

- **Conclusion** – A concluding section will be provided summing up project impacts and the effect of measures to reduce project impacts.

- **Procedures-** Upon receipt of an approved scope of work, ESA, or its subconsultant, will undertake air quality modeling pursuant to this scope of work. It is assumed that Environmental Planning will be available to respond to any questions regarding inputs and assumptions required for this modeling effort. Following preliminary modeling results and prior to preparation of the AQTR, ESA, or its subconsultant,

will meet with Environmental Planning to: (1) present preliminary air quality modeling results and determine whether refinements are necessary, (2) determine whether measures to reduce project impacts are required and identify those measures, and (3) discuss the expected presentation of materials, including GIS files and the format/figures required for the AQTR. Subsequent meetings may be required if refinements to the assumptions are warranted and/or if measures to reduce project impacts are required.

Insert Figure 1 –Existing Site Plan

Insert Figure 2 –Proposed Site Plan

Insert Figure 3 –Existing and Proposed Street Alignments

Insert Figure 4 –Construction Phasing

Insert Figure 5 Receptor Grid

Appendix A: Construction Equipment List

Appendix B

Construction Schedule, Offroad Equipment, and Onroad Vehicles Data

Electronic Files

Appendix C

Construction Offroad Equipment Emission Calculation, and Architectural Coating Calculation

Electronic Files

Appendix D

Construction Onroad Vehicles Emission Calculation

Electronic Files

Appendix E

Operational Onroad Vehicles Emission Calculation

Electronic Files

Appendix F

Modeling Files

Electronic Files

Appendix G

Risk Calculation Databases and Results

Electronic Files

Appendix H

Risk Shapefiles

Electronic Files

Appendix I

Emissions and Cancer Risk Scaling Files for the Project Alternatives

Electronic Files

APPENDIX B
CalEEMod Output Files

Sunnydale Velasco SF HOPE Project Alternative 1

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	587.00	Dwelling Unit	15.45	587,000.00	1393
Strip Mall	16.20	1000sqft	0.37	16,200.00	0
Day-Care Center	43.50	1000sqft	1.00	43,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2025
Utility Company	City and County of San Francisco				
CO2 Intensity (lb/MWhr)	76.28	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - This model run is operational only. Construction emissions calculated separately. Project operational 2027. Model only offers 2025 or 2020. Assume 2025

Land Use - 915 net new residences. Population increase of ALt 1 = 1393 based on schools analysis methodology email to CLS from JRC on 12/27/13

Project would add 73500 sf of ancillary use but demolish 30ksf of ancillary use

Vehicle Trips - Adjust trip rates to match CHS transportation study for Alt 1

Woodstoves - No fireplaces in units per applicant

Energy Use -

Construction Phase -

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	322.85	0.00

tblFireplaces	NumberNoFireplace	181.97	587.00
tblFireplaces	NumberWood	82.18	0.00
tblLandUse	Population	1,679.00	1,393.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	7.16	3.88
tblVehicleTrips	ST_TR	6.21	0.44
tblVehicleTrips	ST_TR	42.04	49.13
tblVehicleTrips	SU_TR	6.07	3.29
tblVehicleTrips	SU_TR	5.83	0.42
tblVehicleTrips	SU_TR	20.43	23.87
tblVehicleTrips	WD_TR	6.59	3.57
tblVehicleTrips	WD_TR	79.26	5.66
tblVehicleTrips	WD_TR	44.32	51.79
tblWoodstoves	NumberCatalytic	2.94	0.00
tblWoodstoves	NumberNoncatalytic	2.94	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1008	0.0502	4.3550			0.0242	0.0242		0.0242	0.0242						
Energy	0.0325	0.2801	0.1360			0.0225	0.0225		0.0225	0.0225						
Mobile	1.1623	2.0431	9.6050		2.2984	0.0414	2.3398	0.6231	0.0382	0.6613						
Waste						0.0000	0.0000		0.0000	0.0000						

Water						0.0000	0.0000		0.0000	0.0000						
Total	**4.2956**	**2.3734**	**14.0959**		**2.2984**	**0.0880**	**2.3864**	**0.6231**	**0.0849**	**0.7079**						

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1008	0.0502	4.3550			0.0242	0.0242		0.0242	0.0242						
Energy	0.0325	0.2801	0.1360			0.0225	0.0225		0.0225	0.0225						
Mobile	1.1623	2.0431	9.6050		2.2984	0.0414	2.3398	0.6231	0.0382	0.6613						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**4.2956**	**2.3734**	**14.0959**		**2.2984**	**0.0880**	**2.3864**	**0.6231**	**0.0849**	**0.7079**						

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1623	2.0431	9.6050		2.2984	0.0414	2.3398	0.6231	0.0382	0.6613						
Unmitigated	1.1623	2.0431	9.6050		2.2984	0.0414	2.3398	0.6231	0.0382	0.6613						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	2,097.94	2,277.56	1931.23	4,687,484	4,687,484
Day-Care Center	245.99	19.14	18.27	213,214	213,214
Strip Mall	839.00	795.91	386.69	1,183,095	1,183,095
Total	3,182.93	3,092.61	2,336.19	6,083,793	6,083,793

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.630348	0.058305	0.148471	0.076665	0.026166	0.003250	0.027367	0.004239	0.003204	0.010671	0.010334	0.000497	0.000484

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						
NaturalGas Mitigated	0.0325	0.2801	0.1360			0.0225	0.0225		0.0225	0.0225						
NaturalGas Unmitigated	0.0325	0.2801	0.1360			0.0225	0.0225		0.0225	0.0225						

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	5.1971e+006	0.0280	0.2395	0.1019			0.0194	0.0194		0.0194	0.0194						
Day-Care Center	750375	4.0500e-003	0.0368	0.0309			2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003						
Strip Mall	77760	4.2000e-004	3.8100e-003	3.2000e-003			2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004						
Total		**0.0325**	**0.2801**	**0.1360**			**0.0225**	**0.0225**		**0.0225**	**0.0225**						

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Day-Care Center	750375	4.0500e-003	0.0368	0.0309			2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003						
Strip Mall	77760	4.2000e-004	3.8100e-003	3.2000e-003			2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004						
Apartments Mid Rise	5.1971e+006	0.0280	0.2395	0.1019			0.0194	0.0194		0.0194	0.0194						
Total		**0.0325**	**0.2801**	**0.1360**			**0.0225**	**0.0225**		**0.0225**	**0.0225**						

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.12221e+006				
Day-Care Center	216195				
Strip Mall	188082				
Total					

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.12221e+006				
Day-Care Center	216195				
Strip Mall	188082				
Total					

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.1008	0.0502	4.3550			0.0242	0.0242		0.0242	0.0242						
Unmitigated	3.1008	0.0502	4.3550			0.0242	0.0242		0.0242	0.0242						

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4443					0.0000	0.0000		0.0000	0.0000						

Consumer Products	2.5257					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000						
Landscaping	0.1308	0.0502	4.3550			0.0242	0.0242		0.0242	0.0242						
Total	**3.1008**	**0.0502**	**4.3550**			**0.0242**	**0.0242**		**0.0242**	**0.0242**						

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4443					0.0000	0.0000		0.0000	0.0000						
Consumer Products	2.5257					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000						
Landscaping	0.1308	0.0502	4.3550			0.0242	0.0242		0.0242	0.0242						
Total	**3.1008**	**0.0502**	**4.3550**			**0.0242**	**0.0242**		**0.0242**	**0.0242**						

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				

Unmitigated				

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	38.2454 / 24.1112				
Day-Care Center	1.8657 / 4.7975				
Strip Mall	1.19997 / 0.735468				
Total					

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	38.2454 / 24.1112				
Day-Care Center	1.8657 / 4.7975				
Strip Mall	1.19997 / 0.735468				
Total					

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				
Unmitigated				

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	270.02				
Day-Care Center	56.55				
Strip Mall	17.01				
Total					

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	270.02				
Day-Care Center	56.55				
Strip Mall	17.01				
Total					

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Sunnydale Velasco SF HOPE Project

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	915.00	Dwelling Unit	24.08	915,000.00	2213
Strip Mall	16.20	1000sqft	0.37	16,200.00	0
Day-Care Center	43.50	1000sqft	1.00	43,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2025
Utility Company	City and County of San Francisco				
CO2 Intensity (lb/MWhr)	76.28	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - This model run is operational only. Construction emissions calculated separately. Project operational 2027. Model only offers 2025 or 2020. Assume 2025

Land Use - 915 net new residences. Population increase of 2213 based on schools analysis email to CLS from JRC on 12/27/13

Project would add 73500 sf of ancillary use but demolish 30ksf of ancillary use

Vehicle Trips - Adjust trip rates to match CHS transportation study

Woodstoves - No fireplaces in units per applicant

Energy Use -

Construction Phase -

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	503.25	0.00

tblFireplaces	NumberNoFireplace	283.65	915.00
tblFireplaces	NumberWood	128.10	0.00
tblLandUse	Population	2,617.00	2,213.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	7.16	3.97
tblVehicleTrips	ST_TR	6.21	0.44
tblVehicleTrips	ST_TR	42.04	49.13
tblVehicleTrips	SU_TR	6.07	3.36
tblVehicleTrips	SU_TR	5.83	0.42
tblVehicleTrips	SU_TR	20.43	23.87
tblVehicleTrips	WD_TR	6.59	3.65
tblVehicleTrips	WD_TR	79.26	5.66
tblVehicleTrips	WD_TR	44.32	51.79
tblWoodstoves	NumberCatalytic	4.58	0.00
tblWoodstoves	NumberNoncatalytic	4.58	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.6858	0.0782				0.0377	0.0377		0.0377	0.0377						
Energy	0.0482	0.4139				0.0333	0.0333		0.0333	0.0333						
Mobile	1.6541	2.9575			3.3475	0.0600	3.4076	0.9075	0.0555	0.9630						

Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**6.3880**	**3.4496**			**3.3475**	**0.1310**	**3.4785**	**0.9075**	**0.1264**	**1.0339**						

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.6858	0.0782				0.0377	0.0377		0.0377	0.0377						
Energy	0.0482	0.4139				0.0333	0.0333		0.0333	0.0333						
Mobile	1.6541	2.9575			3.3475	0.0600	3.4076	0.9075	0.0555	0.9630						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**6.3880**	**3.4496**			**3.3475**	**0.1310**	**3.4785**	**0.9075**	**0.1264**	**1.0339**						

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6541	2.9575			3.3475	0.0600	3.4076	0.9075	0.0555	0.9630						
Unmitigated	1.6541	2.9575			3.3475	0.0600	3.4076	0.9075	0.0555	0.9630						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,339.75	3,632.55	3074.40	7,464,299	7,464,299
Day-Care Center	246.21	19.14	18.27	213,397	213,397
Strip Mall	839.00	795.91	386.69	1,183,095	1,183,095
Total	4,424.96	4,447.60	3,479.36	8,860,790	8,860,790

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.630348	0.058305	0.148471	0.076665	0.026166	0.003250	0.027367	0.004239	0.003204	0.010671	0.010334	0.000497	0.000484

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						
NaturalGas Mitigated	0.0482	0.4139				0.0333	0.0333		0.0333	0.0333						
NaturalGas Unmitigated	0.0482	0.4139				0.0333	0.0333		0.0333	0.0333						

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	77760	4.2000e-004	3.8100e-003				2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004						
Apartments Mid Rise	8.10111e+006	0.0437	0.3733				0.0302	0.0302		0.0302	0.0302						
Day-Care Center	750375	4.0500e-003	0.0368				2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003						
Total		**0.0482**	**0.4139**				**0.0333**	**0.0333**		**0.0333**	**0.0333**						

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	77760	4.2000e-004	3.8100e-003				2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004						
Apartments Mid Rise	8.10111e+006	0.0437	0.3733				0.0302	0.0302		0.0302	0.0302						
Day-Care Center	750375	4.0500e-003	0.0368				2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003						
Total		**0.0482**	**0.4139**				**0.0333**	**0.0333**		**0.0333**	**0.0333**						

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.30805e+006				
Day-Care Center	216195				
Strip Mall	188082				
Total					

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.30805e+006				
Day-Care Center	216195				
Strip Mall	188082				
Total					

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6858	0.0782				0.0377	0.0377		0.0377	0.0377						
Unmitigated	4.6858	0.0782				0.0377	0.0377		0.0377	0.0377						

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6752					0.0000	0.0000		0.0000	0.0000						

Consumer Products	3.8067					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000				0.0000	0.0000		0.0000	0.0000						
Landscaping	0.2038	0.0782				0.0377	0.0377		0.0377	0.0377						
Total	**4.6858**	**0.0782**				**0.0377**	**0.0377**		**0.0377**	**0.0377**						

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6752					0.0000	0.0000		0.0000	0.0000						
Consumer Products	3.8067					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000				0.0000	0.0000		0.0000	0.0000						
Landscaping	0.2038	0.0782				0.0377	0.0377		0.0377	0.0377						
Total	**4.6858**	**0.0782**				**0.0377**	**0.0377**		**0.0377**	**0.0377**						

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				

Unmitigated				

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	59.6159 / 37.584				
Day-Care Center	1.8657 / 4.7975				
Strip Mall	1.19997 / 0.735468				
Total					

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	59.6159 / 37.584				
Day-Care Center	1.8657 / 4.7975				
Strip Mall	1.19997 / 0.735468				
Total					

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				
Unmitigated				

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	420.9				
Day-Care Center	56.55				
Strip Mall	17.01				
Total					

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	420.9				
Day-Care Center	56.55				
Strip Mall	17.01				
Total					

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Sunnydale Velasco SF HOPE Project Alternative 1

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	587.00	Dwelling Unit	15.45	587,000.00	1393
Strip Mall	16.20	1000sqft	0.37	16,200.00	0
Day-Care Center	43.50	1000sqft	1.00	43,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2025
Utility Company	City and County of San Francisco				
CO2 Intensity (lb/MWhr)	76.28	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - This model run is operational only. Construction emissions calculated separately. Project operational 2027. Model only offers 2025 or 2020. Assume 2025

Land Use - 915 net new residences. Population increase of ALt 1 = 1393 based on schools analysis methodology email to CLS from JRC on 12/27/13

Project would add 73500 sf of ancillary use but demolish 30ksf of ancillary use

Vehicle Trips - Adjust trip rates to match CHS transportation study for Alt 1

Woodstoves - No fireplaces in units per applicant

Energy Use -

Construction Phase -

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	322.85	0.00

tblFireplaces	NumberNoFireplace	181.97	587.00
tblFireplaces	NumberWood	82.18	0.00
tblLandUse	Population	1,679.00	1,393.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	7.16	3.88
tblVehicleTrips	ST_TR	6.21	0.44
tblVehicleTrips	ST_TR	42.04	49.13
tblVehicleTrips	SU_TR	6.07	3.29
tblVehicleTrips	SU_TR	5.83	0.42
tblVehicleTrips	SU_TR	20.43	23.87
tblVehicleTrips	WD_TR	6.59	3.57
tblVehicleTrips	WD_TR	79.26	5.66
tblVehicleTrips	WD_TR	44.32	51.79
tblWoodstoves	NumberCatalytic	2.94	0.00
tblWoodstoves	NumberNoncatalytic	2.94	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.7274	0.5574	48.3884			0.2685	0.2685		0.2685	0.2685						
Energy	0.1780	1.5346	0.7452			0.1230	0.1230		0.1230	0.1230						
Mobile	7.4886	12.7488	61.9695		14.3680	0.2502	14.6182	3.8815	0.2311	4.1126						

Total	**25.3940**	**14.8408**	**111.1031**		**14.3680**	**0.6417**	**15.0097**	**3.8815**	**0.6226**	**4.5041**						

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.7274	0.5574	48.3884			0.2685	0.2685		0.2685	0.2685						
Energy	0.1780	1.5346	0.7452			0.1230	0.1230		0.1230	0.1230						
Mobile	7.4886	12.7488	61.9695		14.3680	0.2502	14.6182	3.8815	0.2311	4.1126						
Total	**25.3940**	**14.8408**	**111.1031**		**14.3680**	**0.6417**	**15.0097**	**3.8815**	**0.6226**	**4.5041**						

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Mitigated	7.4886	12.7488	61.9695		14.3680	0.2502	14.6182	3.8815	0.2311	4.1126						
Unmitigated	7.4886	12.7488	61.9695		14.3680	0.2502	14.6182	3.8815	0.2311	4.1126						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	2,097.94	2,277.56	1931.23	4,687,484	4,687,484
Day-Care Center	245.99	19.14	18.27	213,214	213,214
Strip Mall	839.00	795.91	386.69	1,183,095	1,183,095
Total	3,182.93	3,092.61	2,336.19	6,083,793	6,083,793

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.630348	0.058305	0.148471	0.076665	0.026166	0.003250	0.027367	0.004239	0.003204	0.010671	0.010334	0.000497	0.000484

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
NaturalGas Mitigated	0.1780	1.5346	0.7452			0.1230	0.1230		0.1230	0.1230						
NaturalGas Unmitigated	0.1780	1.5346	0.7452			0.1230	0.1230		0.1230	0.1230						

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	14238.6	0.1536	1.3122	0.5584			0.1061	0.1061		0.1061	0.1061						
Day-Care Center	2055.82	0.0222	0.2016	0.1693			0.0153	0.0153		0.0153	0.0153						
Strip Mall	213.041	2.3000e-003	0.0209	0.0175			1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003						
Total		**0.1780**	**1.5346**	**0.7452**			**0.1230**	**0.1230**		**0.1230**	**0.1230**						

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Day-Care Center	2.05582	0.0222	0.2016	0.1693			0.0153	0.0153		0.0153	0.0153						
Strip Mall	0.213041	2.3000e-003	0.0209	0.0175			1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003						
Apartments Mid Rise	14.2386	0.1536	1.3122	0.5584			0.1061	0.1061		0.1061	0.1061						

Total		**0.1780**	**1.5346**	**0.7452**			**0.1230**	**0.1230**		**0.1230**	**0.1230**						

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.7274	0.5574	48.3884			0.2685	0.2685		0.2685	0.2685						
Unmitigated	17.7274	0.5574	48.3884			0.2685	0.2685		0.2685	0.2685						

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.4348					0.0000	0.0000		0.0000	0.0000						
Consumer Products	13.8394					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000						
Landscaping	1.4532	0.5574	48.3884			0.2685	0.2685		0.2685	0.2685						
Total	**17.7274**	**0.5574**	**48.3884**			**0.2685**	**0.2685**		**0.2685**	**0.2685**						

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.4348					0.0000	0.0000		0.0000	0.0000						
Consumer Products	13.8394					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000						
Landscaping	1.4532	0.5574	48.3884			0.2685	0.2685		0.2685	0.2685						
Total	**17.7274**	**0.5574**	**48.3884**			**0.2685**	**0.2685**		**0.2685**	**0.2685**						

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Sunnydale Velasco SF HOPE Project

San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	915.00	Dwelling Unit	24.08	915,000.00	2213
Strip Mall	16.20	1000sqft	0.37	16,200.00	0
Day-Care Center	43.50	1000sqft	1.00	43,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2025
Utility Company	City and County of San Francisco				
CO2 Intensity (lb/MWhr)	76.28	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - This model run is operational only. Construction emissions calculated separately. Project operational 2027. Model only offers 2025 or 2020. Assume 2025

Land Use - 915 net new residences. Population increase of 2213 based on schools analysis email to CLS from JRC on 12/27/13

Project would add 73500 sf of ancillary use but demolish 30ksf of ancillary use

Vehicle Trips - Adjust trip rates to match CHS transportation study

Woodstoves - No fireplaces in units per applicant

Energy Use -

Construction Phase -

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	503.25	0.00

tblFireplaces	NumberNoFireplace	283.65	915.00
tblFireplaces	NumberWood	128.10	0.00
tblLandUse	Population	2,617.00	2,213.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblVehicleTrips	ST_TR	7.16	3.97
tblVehicleTrips	ST_TR	6.21	0.44
tblVehicleTrips	ST_TR	42.04	49.13
tblVehicleTrips	SU_TR	6.07	3.36
tblVehicleTrips	SU_TR	5.83	0.42
tblVehicleTrips	SU_TR	20.43	23.87
tblVehicleTrips	WD_TR	6.59	3.65
tblVehicleTrips	WD_TR	79.26	5.66
tblVehicleTrips	WD_TR	44.32	51.79
tblWoodstoves	NumberCatalytic	4.58	0.00
tblWoodstoves	NumberNoncatalytic	4.58	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	26.8234	0.8688				0.4185	0.4185		0.4185	0.4185						
Energy	0.2638	2.2678				0.1823	0.1823		0.1823	0.1823						
Mobile	10.6186	18.4168			20.8882	0.3621	21.2503	5.6429	0.3344	5.9773						

Total	**37.7058**	**21.5534**			**20.8882**	**0.9628**	**21.8511**	**5.6429**	**0.9352**	**6.5781**						

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	26.8234	0.8688				0.4185	0.4185		0.4185	0.4185						
Energy	0.2638	2.2678				0.1823	0.1823		0.1823	0.1823						
Mobile	10.6186	18.4168			20.8882	0.3621	21.2503	5.6429	0.3344	5.9773						
Total	**37.7058**	**21.5534**			**20.8882**	**0.9628**	**21.8511**	**5.6429**	**0.9352**	**6.5781**						

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.6186	18.4168			20.8882	0.3621	21.2503	5.6429	0.3344	5.9773						

Unmitigated	10.6186	18.4168			20.8882	0.3621	21.2503	5.6429	0.3344	5.9773						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,339.75	3,632.55	3074.40	7,464,299	7,464,299
Day-Care Center	246.21	19.14	18.27	213,397	213,397
Strip Mall	839.00	795.91	386.69	1,183,095	1,183,095
Total	4,424.96	4,447.60	3,479.36	8,860,790	8,860,790

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.630348	0.058305	0.148471	0.076665	0.026166	0.003250	0.027367	0.004239	0.003204	0.010671	0.010334	0.000497	0.000484

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
NaturalGas Mitigated	0.2638	2.2678				0.1823	0.1823		0.1823	0.1823						
NaturalGas Unmitigated	0.2638	2.2678				0.1823	0.1823		0.1823	0.1823						

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Strip Mall	213.041	2.3000e-003	0.0209				1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003						
Apartments Mid Rise	22194.8	0.2394	2.0454				0.1654	0.1654		0.1654	0.1654						
Day-Care Center	2055.82	0.0222	0.2016				0.0153	0.0153		0.0153	0.0153						
Total		**0.2638**	**2.2678**				**0.1823**	**0.1823**		**0.1823**	**0.1823**						

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Strip Mall	0.213041	2.3000e-003	0.0209				1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003						
Apartments Mid Rise	22.1948	0.2394	2.0454				0.1654	0.1654		0.1654	0.1654						
Day-Care Center	2.05582	0.0222	0.2016				0.0153	0.0153		0.0153	0.0153						

Total		**0.2638**	**2.2678**				**0.1823**	**0.1823**		**0.1823**	**0.1823**						

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	26.8234	0.8688				0.4185	0.4185		0.4185	0.4185						
Unmitigated	26.8234	0.8688				0.4185	0.4185		0.4185	0.4185						

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6999					0.0000	0.0000		0.0000	0.0000						
Consumer Products	20.8586					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000				0.0000	0.0000		0.0000	0.0000						
Landscaping	2.2649	0.8688				0.4185	0.4185		0.4185	0.4185						
Total	**26.8234**	**0.8688**				**0.4185**	**0.4185**		**0.4185**	**0.4185**						

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.6999					0.0000	0.0000		0.0000	0.0000						
Consumer Products	20.8586					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000				0.0000	0.0000		0.0000	0.0000						
Landscaping	2.2649	0.8688				0.4185	0.4185		0.4185	0.4185						
Total	**26.8234**	**0.8688**				**0.4185**	**0.4185**		**0.4185**	**0.4185**						

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Weekend Vehicle Trip Calculations - Sunnydale SF HOPE

Per CHS Trip Generation for weekday =

			Size		
Residential	3340	trips	915	units	3.650273 trip/unit
Retail	839	trips	16.2	ksf	51.79012 trip/ksf
Rec Cntr	246	trips	43.5	ksf	5.655172 trip/ksf
Total =	4425	trips			

CalEEMod Weekday and Weekend default rates from ITE =

	Weekday	Saturday	Sunday
Residential	6.59	7.16	6.07
Retail	44.32	42.04	20.43
Rec Cntr	79.26	6.21	5.83

Calculate weekend trip rates based on Project specific Trip demand from CHS

	Saturday			Sunday	
Residential	3.97	trips	trip/unit	3.36	trip/unit
Retail	49.13	trips	trip/ksf	23.87	trip/ksf
Rec Cntr	0.44	trips	trip/ksf	0.42	trip/ksf

Weekend Vehicle Trip Calculations - Sunnydale SF HOPE ALTERNATIVE 1 - Reduced Development/Density

Per CHS Trip Generation for weekday =

			Size		
Residential	2098	trips	587	units	3.574106 trip/unit
Retail	839	trips	16.2	ksf	51.79012 trip/ksf
Rec Cntr	246	trips	43.5	ksf	5.655172 trip/ksf
Total =	3183	trips			

CalEEMod Weekday and Weekend default rates from ITE =

	Weekday	Saturday	Sunday
Residential	6.59	7.16	6.07
Retail	44.32	42.04	20.43
Rec Cntr	79.26	6.21	5.83

Calculate weekend trip rates based on Project specific Trip demand from CHS

	Saturday			Sunday	
Residential	3.88	trips	trip/unit	3.29	trip/unit
Retail	49.13	trips	trip/ksf	23.87	trip/ksf
Rec Cntr	0.44	trips	trip/ksf	0.42	trip/ksf

APPENDIX BI

Section 7 Correspondence / Special Status Species List

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Adela oplerella Opler's longhorn moth	IILEE0G040	None	None	G2G3	S2S3	
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G2?	S2?	1B.2
Arctostaphylos franciscana Franciscan manzanita	PDERI040J3	None	None	G1	S1	1B.1
Arctostaphylos imbricata San Bruno Mountain manzanita	PDERI040L0	None	Endangered	G1	S1	1B.1
Arctostaphylos montana ssp. ravenii Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1
Arctostaphylos montaraensis Montara manzanita	PDERI042W0	None	None	G2	S2.2	1B.2
Arctostaphylos pacifica Pacific manzanita	PDERI040Z0	None	Endangered	G1	S1	1B.2
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Banksula incredula incredible harvestman	ILARA14100	None	None	G1	S1	
Caecidotea tomalensis Tomales isopod	ICMAL01220	None	None	G2	S2	
Callophrys mossii bayensis San Bruno elfin butterfly	IILEPE2202	Endangered	None	G4T1	S1	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2.1
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081	None	None	G2T2	S2.2	1B.2
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S1	
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G2	S2.2	1B.2
Cirsium occidentale var. compactum compact cobwebby thistle	PDAST2E1Z1	None	None	G3G4T2	S2.1	1B.2
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2.2	1B.2
Dufourea stagei Stage's dufourine bee	IIHYM22010	None	None	G1?	S1?	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S2S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T2	S2	SSC
Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3	None	None	G5T2	S2.1	1B.1
Grindelia hirsutula var. maritima San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hemizonia congesta ssp. congesta white seaside tarplant	PDAST4R065	None	None	G5T2T3	S2S3	1B.2
Hesperevax sparsiflora var. brevifolia short-leaved evax	PDASTE5011	None	None	G4T2T3	S2S3	1B.2
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T2	S2?	1B.1
Hydroporus leechi Leech's skyline diving beetle	IICOL55040	None	None	G1?	S1?	
Ischnura gemina San Francisco forktail damselfly	IIODO72010	None	None	G2	S2	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4?	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G4T1	S1	FP
Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
Lessingia germanorum San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1	1B.1
Lichnanthe ursina bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
Malacothamnus arcuatus arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2.2	1B.2
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2?	SSC
Mylopharodon conocephalus hardhead	AFCJB25010	None	None	G3	S3	SSC
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S3	WL
Plebejus icarioides missionensis Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	
Rallus longirostris obsoletus California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	FP
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G4T2T3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2S3	
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2.2	1B.1
Silene verecunda ssp. verecunda San Francisco campion	PDCAR0U213	None	None	G5T2	S2.2	1B.2
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Thamnophis sirtalis tetrataenia San Francisco garter snake	ARADB3613B	Endangered	Endangered	G5T2	S2	FP
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
Trifolium amoenum showy rancheria clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Triphysaria floribunda San Francisco owl's-clover	PDSCR2T010	None	None	G2	S2.2	1B.2
Triquetrella californica coastal triquetrella	NBMUS7S010	None	None	G1	S1	1B.2

Record Count: 55

CNPS Inventory of Rare and Endangered Plants

Status: Plant Press Manager window with 29 items - Thu, Apr. 4, 2013, 17:09 ET b

Reformat list as: Standard List - with Plant Press controls

ECOLOGICAL REPORT

scientific	family	life form	blooming	communities	elevation	CNPS
Amsinckia lunaris	Boraginaceae	annual herb	Mar-Jun	•Coastal bluff scrub (CBScr) •Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)	3 - 500 meters	List 1B.2
Arctostaphylos franciscana	Ericaceae	perennial evergreen shrub	Feb-Apr	•Coastal scrub (CoScr)(serpentinite)	60 - 300 meters	List 1B.1
Arctostaphylos imbricata	Ericaceae	perennial evergreen shrub	Feb-May	•Chaparral (Chprl) •Coastal scrub (CoScr)/rocky	275 - 370 meters	List 1B.1
Arctostaphylos montana ssp. ravenii	Ericaceae	perennial evergreen shrub	Feb-Mar	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/serpentinite outcrop	45 - 215 meters	List 1B.1
Arctostaphylos montaraensis	Ericaceae	perennial evergreen shrub	Jan-Mar	•Chaparral (Chprl)(maritime) •Coastal scrub (CoScr)	150 - 500 meters	List 1B.2
Arctostaphylos pacifica	Ericaceae	evergreen shrub	Feb-Apr	•Chaparral (Chprl) •Coastal scrub (CoScr)	330 - 330 meters	List 1B.2
Astragalus tener var. tener	Fabaceae	annual herb	Mar-Jun	•Playas (Plyas) •Valley and foothill grassland (VFGrs)(adobe clay) •Vernal pools (VnPls)/alkaline	1 - 60 meters	List 1B.2
Centromadia parryi ssp. parryi	Asteraceae	annual herb	May-Nov	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Meadows and seeps (Medws) •Marshes and swamps (MshSw)(coastal salt) •Valley and foothill grassland (VFGrs)(vernally	2 - 420 meters	List 1B.2

				mesic)/often alkaline		
Chorizanthe cuspidata var. cuspidata	Polygonaceae	annual herb	Apr-Jul(Aug), Months in parentheses are uncommon.	•Coastal bluff scrub (CBScr) •Coastal dunes (CoDns) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/sandy	3 - 215 meters	List 1B.2
Chorizanthe robusta var. robusta	Polygonaceae	annual herb	Apr-Sep	•Chaparral (Chprl)(maritime) •Cismontane woodland (CmWld)(openings) •Coastal dunes (CoDns) •Coastal scrub (CoScr)/sandy or gravelly	3 - 300 meters	List 1B.1
Cirsium andrewsii	Asteraceae	perennial herb	Mar-Jul	•Broadleafed upland forest (BUFrs) •Coastal bluff scrub (CBScr) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/mesic, sometimes serpentinite	0 - 150 meters	List 1B.2
Cirsium occidentale var. compactum	Asteraceae	perennial herb	Apr-Jun	•Chaparral (Chprl) •Coastal dunes (CoDns) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)	5 - 150 meters	List 1B.2
Collinsia multicolor	Plantaginaceae	annual herb	Mar-May	•Closed-cone coniferous forest (CCFrs) •Coastal scrub (CoScr)/sometimes serpentinite	30 - 250 meters	List 1B.2
Equisetum palustre	Equisetaceae	perennial rhizomatous herb	unk	•Marshes and swamps (MshSw)	45 - 1000 meters	List 3
Fritillaria liliacea	Liliaceae	perennial bulbiferous herb	Feb-Apr	•Cismontane woodland (CmWld) •Coastal prairie (CoPrr) •Coastal scrub	3 - 410 meters	List 1B.2

				(CoScr) •Valley and foothill grassland (VFGrs)/Often serpentinite		
Gilia capitata ssp. chamissonis	Polemoniaceae	annual herb	Apr-Jul	•Coastal dunes (CoDns) •Coastal scrub (CoScr)	2 - 200 meters	List 1B.1
Grindelia hirsutula var. maritima	Asteraceae	perennial herb	Jun-Sep	•Coastal bluff scrub (CBScr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/sandy or serpentinite	15 - 400 meters	List 3.2
Helianthella castanea	Asteraceae	perennial herb	Mar-Jun	•Broadleafed upland forest (BUFrs) •Chaparral (Chprl) •Cismontane woodland (CmWld) •Coastal scrub (CoScr) •Riparian woodland (RpWld) •Valley and foothill grassland (VFGrs)	60 - 1300 meters	List 1B.2
Hemizonia congesta ssp. congesta	Asteraceae	annual herb	Apr-Nov	•Valley and foothill grassland (VFGrs)/sometimes roadsides	20 - 560 meters	List 1B.2
Hesperevax sparsiflora var. brevifolia	Asteraceae	annual herb	Mar-Jun	•Coastal bluff scrub (CBScr)(sandy) •Coastal dunes (CoDns) •Coastal prairie (CoPrr)	0 - 215 meters	List 1B.2
Horkelia cuneata var. sericea	Rosaceae	perennial herb	Apr-Sep	•Closed-cone coniferous forest (CCFrs) •Chaparral (Chprl)(maritime) •Coastal dunes (CoDns) •Coastal scrub (CoScr)/sandy or gravelly, openings	10 - 200 meters	List 1B.1
Lessingia germanorum	Asteraceae	annual herb	(Jun),Jul-Nov Months in parentheses	•Coastal scrub (CoScr)(remnant dunes)	25 - 110 meters	List 1B.1

			are uncommon.			
Malacothamnus arcuatus	Malvaceae	perennial evergreen shrub	Apr-Sep	•Chaparral (Chprl) •Cismontane woodland (CmWld)	15 - 355 meters	List 1B.2
Pentachaeta bellidiflora	Asteraceae	annual herb	Mar-May	•Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)(often serpentinite)	35 - 620 meters	List 1B.1
Plagiobothrys chorisianus var. chorisianus	Boraginaceae	annual herb	Mar-Jun	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/mesic	15 - 160 meters	List 1B.2
Silene verecunda ssp. verecunda	Caryophyllaceae	perennial herb	Mar-Jun(Aug), Months in parentheses are uncommon.	•Coastal bluff scrub (CBScr) •Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/sandy	30 - 645 meters	List 1B.2
Trifolium amoenum	Fabaceae	annual herb	Apr-Jun	•Coastal bluff scrub (CBScr) •Valley and foothill grassland (VFGrs)(sometimes serpentinite)	5 - 415 meters	List 1B.1
Triphysaria floribunda	Orobanchaceae	annual herb	Apr-Jun	•Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/usually serpentinite	10 - 160 meters	List 1B.2
Triquetrella californica	Pottiaceae	moss	•Coastal bluff scrub (CBScr) •Coastal scrub (CoScr)/soil	10 - 100 meters	List 1B.2	

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

March 13, 2013

Document Number: 130313123314

Michelle Giolli
Environmental Science Associates
350 Frank H. Ogawa Plaza
Suite 300
Oakland, CA 94612

Subject: Species List for Sunnydale (San Francisco County)

Dear: Ms. Giolli

We are sending this official species list in response to your March 13, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 11, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130313123314

Database Last Updated: September 18, 2011

No quad species lists requested.

County Lists

San Francisco County

Listed Species

Invertebrates

Euphydryas editha bayensis
bay checkerspot butterfly (T)
Critical habitat, bay checkerspot butterfly (X)

Haliotes cracherodii
black abalone (E) (NMFS)

Haliotes sorenseni
white abalone (E) (NMFS)

Icaricia icarioides missionensis
mission blue butterfly (E)

Speyeria callippe callippe
callippe silverspot butterfly (E)

Speyeria zerene myrtleae
Myrtle's silverspot butterfly (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Eucyclogobius newberryi
critical habitat, tidewater goby (X)
tidewater goby (E)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)
Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
California coastal chinook salmon (T) (NMFS)
Central Valley spring-run chinook salmon (T) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta
loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. agassizi)
green turtle (T) (NMFS)

Dermochelys coriacea
leatherback turtle (E) (NMFS)

Lepidochelys olivacea
olive (=Pacific) ridley sea turtle (T) (NMFS)

Masticophis lateralis euryxanthus
Alameda whipsnake [=striped racer] (T)
Critical habitat, Alameda whipsnake (X)

Thamnophis sirtalis tetrataenia
San Francisco garter snake (E)

Birds

Brachyramphus marmoratus
Critical habitat, marbled murrelet (X)
marbled murrelet (T)

Charadrius alexandrinus nivosus
western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis
southern sea otter (T)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Critical Habitat, Steller (=northern) sea-lion (X) (NMFS)
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Arctostaphylos pallida
pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

Arenaria paludicola
marsh sandwort (E)

Calochortus tiburonensis
Tiburon mariposa lily (T)

Castilleja affinis ssp. neglecta
Tiburon paintbrush (E)

Chorizanthe robusta var. robusta
robust spineflower (E)

Clarkia franciscana
Presidio clarkia (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Holocarpha macradenia
Critical habitat, Santa Cruz tarplant (X)
Santa Cruz tarplant (T)

Layia carnosa
beach layia (E)

Lessingia germanorum
San Francisco lessingia (E)

Pentachaeta bellidiflora
white-rayed pentachaeta (E)

Streptanthus niger
Tiburon jewelflower (E)

Suaeda californica
California sea blite (E)

Trifolium amoenum

showy Indian clover (E)

Proposed Species

Plants

Arctostaphylos Franciscana

Critical Habitat, Franciscan Manzanita (X)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning

process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 11, 2013.

MAYOR'S OFFICE OF HOUSING
CITY AND COUNTY OF SAN FRANCISCO

EDWIN M. LEE
MAYOR

OLSON LEE
DIRECTOR

April 26, 2013

Ryan Olah
Coast Bay/Forest Foothill Division Chief
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way
Sacramento, CA 95825

Subject: Request for Concurrence under Section 7 of the Endangered Species Act
Sunnydale-Velasco HOPE SF Master Plan Project
San Francisco, CA

Dear Mr. Olah:

The San Francisco Mayor's Office of Housing (MOH), serving as the federal lead agency under the National Environmental Policy Act (NEPA) on behalf of the U.S. Department of Housing and Urban Development (HUD), is providing this letter for the proposed Sunnydale-Velasco HOPE SF Master Plan project (project) located in the city of San Francisco, San Francisco County, California. Under NEPA, the proposed action is the approval, by HUD, of funding and development agreements associated with redevelopment of the project site with affordable housing.

The redevelopment of the Sunnydale and Velasco housing developments is part of the HOPE SF program, a public-private partnering effort to revitalize the City of San Francisco's most distressed public housing sites. In March 2007, the HOPE SF Task Force recommended that the City and the San Francisco Housing Authority (SFHA) partner to rebuild distressed public housing sites in San Francisco as mixed-income communities. The project sponsor is the Sunnydale Development Co., LLC. Sunnydale Development Co., LLC comprises co-developers Mercy Housing California and The Related Companies of California.

Project Location and Description

The approximately 49-acre project site is located within the southern end of San Francisco in the Visitacion Valley neighborhood. The project site consists of barrack-style residences with open yards and community and recreational areas. John McLaren Park borders the site on the west, Gleneagles Golf Course (part of McLaren Park) borders the project site on the north, and single-family homes and apartments border the project site on the east and south (see **Figures 1** and **2**). The 312-acre McLaren Park contains the 165-acre McLaren Park Natural Area that comprises grassland, scrub, and tree-dominated vegetation communities. The next closest open space is San Bruno Mountain, which is located

approximately half a mile south of the project site, but apartment buildings and the Cow Palace separate the San Bruno Mountain open space from the project site.

Under the proposed project, the project sponsor would demolish the 94 two-story existing buildings, including all 785 family and senior dwelling units, at the Sunnydale and Velasco public housing complexes, and would build 34 new two- to six-story replacement housing buildings, new infrastructure, open space and community amenities. **Figures 3** through **5** illustrate the proposed project plan.

Highlights of the plan include:

- Up to 1,700 units of housing, including one-for-one public housing replacement units, affordable rental units and market rate and affordable for-sale units;
- Up to 72,500 square feet of community service, recreational and educational facilities;
- 11.5 acres of new parks and open spaces, including a community garden, a farmers' market pavilion and secure outdoor courtyards within residential buildings;
- 12.2 acres of a new and reconfigured street network potentially including "green" features including bioswales and landscaping; and
- Up to 16,200 square feet of neighborhood-serving retail.
- The project sponsor intends to construct the project to LEED® (Leadership in Energy Efficient Design) ND (Neighborhood Development) standards.

The completed project would occupy approximately 2,185,000 square feet of floor area for a net increase of 1,419,668 square feet. The height of the new buildings would range from 40 to 60 feet above ground level, with 18 buildings at 40 feet or less in height and 15 buildings at 50 feet in height, and one building at 60 feet in height. Thirty-three of the buildings would contain family dwelling units; the single building at 60 feet in height would contain senior housing and would have some retail and community services on the ground floor.

The project would be built in three major phases over a period of up to approximately 20 years. The current residents would be moved to available (vacant) residences on the project site as each phase is constructed, or they would be given housing vouchers by the Housing Authority for relocation elsewhere in the City during the construction period. The new dwellings would be populated as each phase is completed.

Project Site Conditions

The biological resources on the project site were identified during a site assessment conducted on April 12, 2010, by Environmental Science Associates (ESA).[1] The purpose of the site assessment was to verify existing biological conditions, assess vegetation and wildlife habitats, and identify potential for special-

[1] Environmental Science Associates (ESA), *Sunnydale Redevelopment Biological Assessment*, technical memorandum to file, May 27, 2010.

status species to occur within the project site. Additionally, a reconnaissance level survey was conducted on March 15, 2013, by ESA to document any changes to site conditions from 2010. The surveys and assessment were conducted in support of the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) that is under preparation for the proposed project.

Vegetation Communities and Wildlife Habitats

The majority of the project site is developed with open landscaped yards. Mixed exotic forest with non-native grassland understory occurs within the western edge of the project site between the residences and McLaren Park. The various biological communities found within the project site are described below.

Developed and Landscaped

The project site is mostly developed with residences, roads, and parking lots (see Figure 2). Undeveloped portions, such as lawns and landscaping, are highly disturbed from local foot and vehicular traffic. The site has been poorly maintained and trash and household items are present in the open yards. The *Sunnydale Tree Inventory & Assessment Plan 2010*[2] identified all trees within the project site. Twenty-five species of trees were identified, and Monterey pine (*Pinus radiata*), bluegum eucalyptus (*Eucalyptus globulus*), Callery pear (*Pyrus calleryana*), Brazilian pepper tree (*Schinus terebinthifolius*), and Italian stone pine (*Pinus pinea*) were the most common.

Birds identified on the project site and within the developed and landscaped areas were species typically accustomed to urban environments and associated disturbance from human activities, including gulls (*Larus* spp.), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), rock dove (*Columba livia*), European starling (*Sturnus vulgaris*), Brewer's blackbird (*Euphagus cyanocephalus*), and American robin (*Turdus migratorius*). Feral and/or domestic cats (*Felis catus*) are also abundant at the project site.

Mixed Exotic Forest

Mixed exotic forest occurs within the western edge and along the northern boundary of the project site. The forest along the western edge is contiguous with the mixed exotic forest occupying the adjacent McLaren Park. Within the project site, the exotic forest is covered by Monterey cypress (*Cupressus macrocarpa*) and eucalyptus (*Eucalyptus* spp.) trees with a generally non-native annual grassland and ruderal understory. The grassland within the project boundary differs from that located within adjacent McLaren Park, in that the McLaren Park grassland contains stands of native grasses and forbs, but the on-site grassland largely lacks native species. Common understory plants within the mixed exotic forest on the project site include wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), white ramping fumitory (*Fumaria capreolata*), white onion weed (*Allium triquetrum*), bedstraw (*Galium aparine*), miner's lettuce (*Claytonia perfoliata*), radish (*Raphanus sativus*), poison oak (*Toxicodendron diversilobum*), and dichondra (*Dichondra* sp.). Mixed exotic forest along the northern edge of the project site is contiguous with the Gleneagles Golf Course. Dominant trees in this area include Monterey cypress, eucalyptus, and Monterey pine. In addition to the non-native grasses mentioned above, this area also supports Himalayan blackberry (*Rubus discolor*), English ivy (*Hedera helix*), and French broom (*Genista monspessulana*).

[2] Bartlett Tree Experts, *Sunnydale Tree Inventory & Assessment Plan 2010.*

In 2010, one lupine (*Lupinus* sp.) was found within non-native grassland in the southwest corner of the project site. This plant did not contain reproductive parts at the time of the survey and therefore ESA was unable to determine the species. In general, three species of bush lupine (*Lupinus albifrons*, *L. formosus*, and *L. variicolor*) may serve as larval host plants for the federally endangered mission blue butterfly (*Plebejus icarioides missionensis*). During the 2013 survey, several sky lupines (*Lupinus nanus*), which are not host plants for the mission blue butterfly, were identified at the same location as the unknown lupine. No other lupines were observed during the 2013 survey in the project boundary. Therefore, it is not expected that the federally endangered mission blue butterfly would occur on the project site.

Several bird species were observed within the mixed exotic forest inside and adjacent to the project site, including American robin, common raven, mockingbird (*Mimus polyglottos*), Anna's hummingbird (*Calypte anna*), song sparrow (*Melospiza melodia*), chesnut-backed chickadees (*Poecile rufescens*), European starling, and Cooper's hawk (*Accipiter cooperii*). A white-tailed kite (*Elanus leucurus*) was also observed carrying nesting material to a tree located within the mixed exotic forest near McLaren Park. Ground squirrels were also observed at the golf course adjacent to the project site.

Federally Listed Species

The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB),[3] the California Native Plant Society (CNPS) Electronic Inventory,[4] and the United States Fish and Wildlife Service (USFWS) database[5] for the San Francisco South United States Geological Survey (USGS) 7.5 minute quadrangle were reviewed by ESA to determine all special-status species with potential to occur within the vicinity of the project site. The CNDDB, CNPS, and USFWS lists are provided as an attachment to this letter.

Figure 6 shows all CNDDB occurrence records for federally-listed species within 2 miles of the project boundary. Most of the federally-listed species known within the project vicinity were determined not to have potential to occur within the project site because (1) the project site does not and/or never has provided suitable habitat for the species, or (2) the known range for a particular species is outside of the project site. Details regarding the observations of and potential for federally-listed plants and animals at the site are provided below.

Federally Listed Plants

No federally-listed plant species were found within the project site during either the 2010 or 2013 surveys. The entire project site is heavily disturbed, and most of the site is developed. Although mixed exotic forest does occur within a small portion of the site, this community is dominated by non-native

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[3] California Department of Fish and Wildlife (CDFW), 2013, California Natural Diversity Database for 7.5 minute topographic quadrangles of San Francisco South, Commercial Version. Accessed March 13, 2013. Information Expires 9/5/2013.

[4] California Native Plant Society (CNPS), 2013. Inventory of Rare and Endangered Plants (online edition, v8-01a). California Native Plant Society. Sacramento, CA. Accessed on Thursday, April 04, 2013.

[5] United States Fish and Wildlife Service (USFWS), 2013. Official List of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in San Francisco County. Document Number: 130313123314. March 13, 2013.

grasses and forbs and is not expected to provide habitat for federally-listed plants. Therefore, federally-listed plants are not expected to occur at the site.

Federally Listed Animals

The project site is almost entirely developed and does not provide potential habitat for any federally-listed animal species.

There is one 1988 CNDDB record for mission blue butterfly from John McLaren Park in the vicinity of the project site. As recorded, eggs and larvae of this species were observed in grassland habitat on the southernmost slope of McLaren Park above Geneva Avenue outside of the project boundary.

Surveys for the mission blue butterfly host plants (*Lupinus albifrons*, *L. formosus*, and *L. variicolor*) were conducted by ESA during site surveys in 2010 and 2013. As noted above under *Vegetation Communities and Wildlife Habitats,* no host plants for the mission blue butterfly were observed during the surveys. *Lupinus albifrons* was observed during the 2013 survey in grasslands in McLaren Park approximately 350 feet west of, and outside of, the project boundary. No mission blue butterfly was observed within the park at the time of the survey. Additionally, mission blue butterfly have not been recently observed in McLaren Park.[6]

Impact Conclusion and Determination of Effects on Biological Resources

Project impacts would be limited to the existing developed footprint and a small segment of mixed exotic forest located along the western edge of the project site near McLaren Park. As discussed above, the project site does not provide potential habitat for any federally-listed species. Therefore, the project would have "no effect" on mission blue butterfly, which is protected by the Endangered Species Act and regulated by the USFWS, or upon any other species protected by the Endangered Species Act, or upon areas designated as critical habitat for any USFWS regulated species.

Request for Concurrence

We hereby request your concurrence with this "no effect" determination for mission blue butterfly. If we receive no response from your office within 30 days of submittal of this request, we shall assume USFWS concurrence with these findings associated with the proposed project.

We appreciate your review and look forward to your response. If you have any questions on this project please contact me at (415) 701-5598 or via e-mail at Eugene.Flannery@sfgov.org. If you have questions related to project impacts on biological resources, please contact Michelle Giolli at ESA at (415) 896-5900 or via e-mail at mgiolli@esassoc.com.

Sincerely,

Eugene T. Flannery

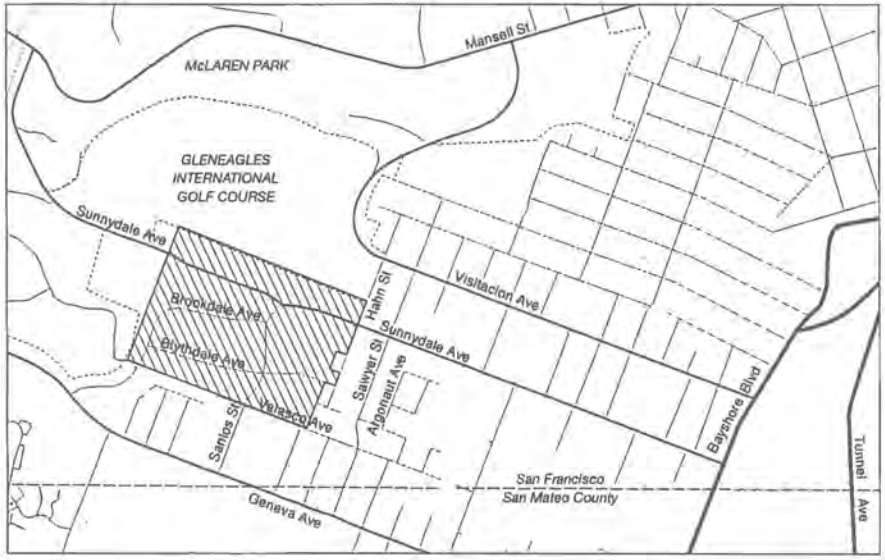
Eugene T. Flannery
Environmental Compliance Manager
San Francisco Mayor's Office of Housing

[6] Chris Rogers, Senior Ecologist, Environmental Science Associates, personal communication with Randy Zebell, Gardener, San Francisco Recreation and Parks Department on March 15, 2013, regarding the status of mission blue butterfly within John McLaren Park.

Attachments: Figure 1 – Project Location
Figure 2 – Project Area
Figure 3 – Proposed Project – Building Type Plan
Figure 4 – Proposed Project – Height Diagram
Figure 5 – Proposed Project – New and Reconfigured Streets and Preliminary Parcel Map
Figure 6 – CNDDB Occurrence Records of Federally Listed Species within Two Miles of the Project Boundary.

CNDDB, CNPS, and USFWS database searches for the San Francisco South USGS 7.5 minute quadrangle



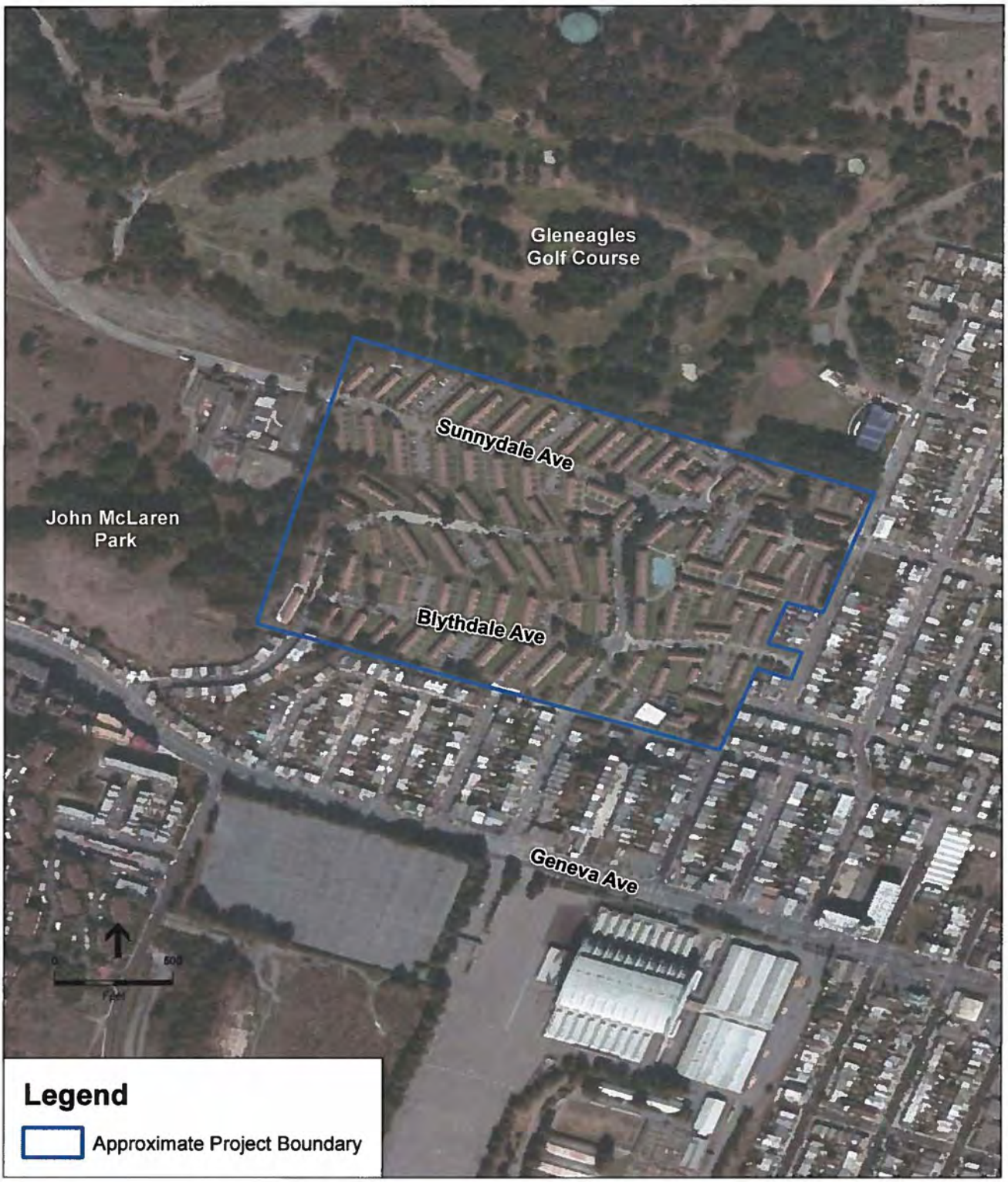




SOURCE: ESA

2010.0305E: Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 1
Project Location



SOURCE: ESRI, 2013

Sunnydale Redevelopment Project . 210039

Figure 2

Project Area



SOURCE: Van Meter Williams Pollack

2010.0305E: Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 3
Proposed Project - Building Type Plan



SOURCE: Van Meter Williams Pollack

2010.0305E: Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 4
Proposed Project -
Height Diagram

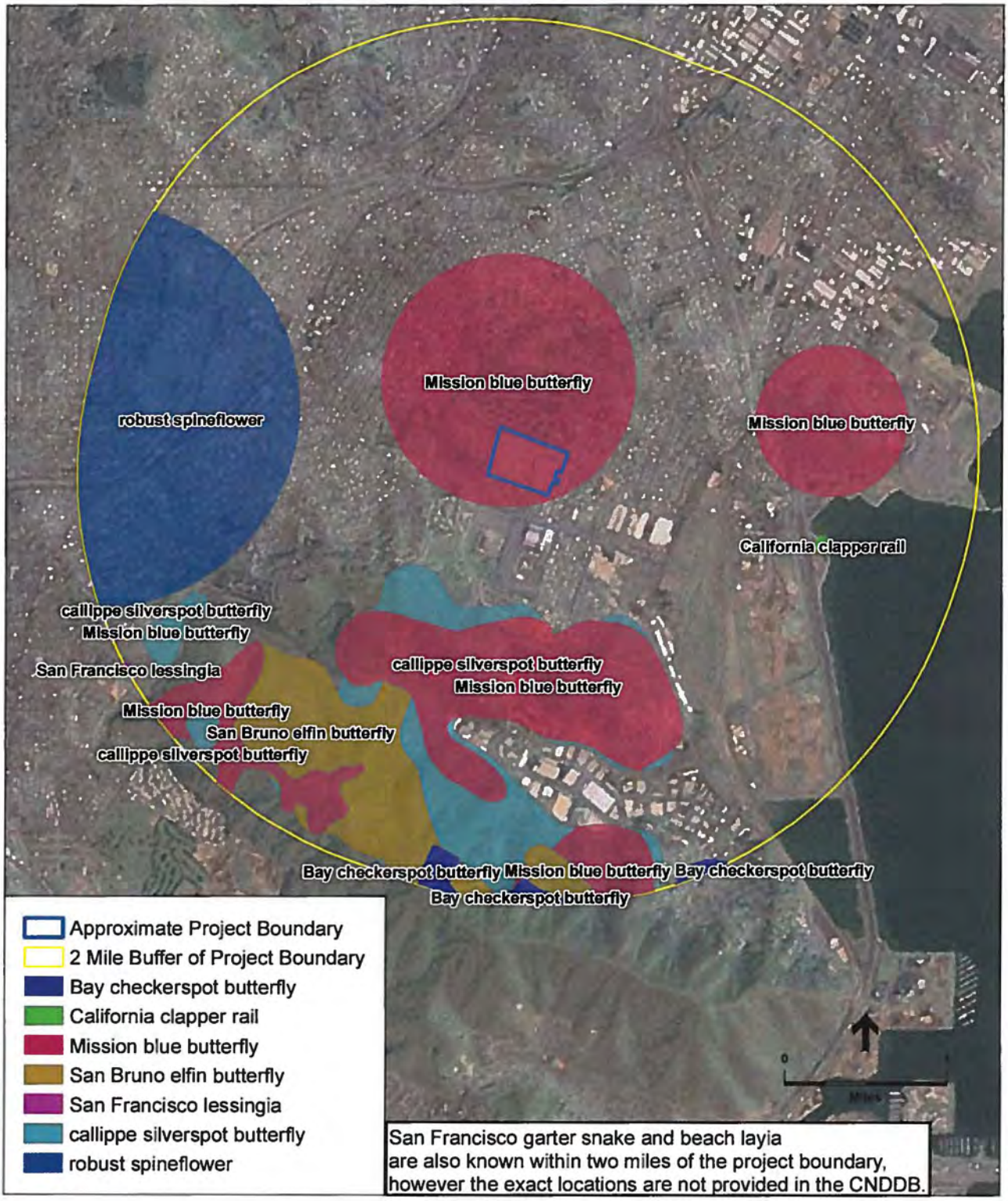


SOURCE: Van Meter Williams Pollack

2010.0305E: Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 5

Proposed Project -
New and Reconfigured Streets and Preliminary Parcel Map



SOURCE: CDFW, 2013; ESRI, 2013

Sunnydale-Velasco HOPE SF Redevelopment Project . 210039

Figure 6

CNDDB Occurrence Records of Federally Listed Species within Two Miles of the Project Boundary

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Adela oplerella Opler's longhorn moth	IILEE0G040	None	None	G2G3	S2S3	
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G2?	S2?	1B.2
Arctostaphylos franciscana Franciscan manzanita	PDERI040J3	None	None	G1	S1	1B.1
Arctostaphylos imbricata San Bruno Mountain manzanita	PDERI040L0	None	Endangered	G1	S1	1B.1
Arctostaphylos montana ssp. ravenii Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1
Arctostaphylos montaraensis Montara manzanita	PDERI042W0	None	None	G2	S2.2	1B.2
Arctostaphylos pacifica Pacific manzanita	PDERI040Z0	None	Endangered	G1	S1	1B.2
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Banksula incredula incredible harvestman	ILARA14100	None	None	G1	S1	
Caecidotea tomalensis Tomales isopod	ICMAL01220	None	None	G2	S2	
Callophrys mossii bayensis San Bruno elfin butterfly	IILEPE2202	Endangered	None	G4T1	S1	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2.1
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081	None	None	G2T2	S2.2	1B.2
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S1	
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G2	S2.2	1B.2
Cirsium occidentale var. compactum compact cobwebby thistle	PDAST2E1Z1	None	None	G3G4T2	S2.1	1B.2
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2.2	1B.2
Dufourea stagei Stage's dufourine bee	IIHYM22010	None	None	G1?	S1?	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S2S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T2	S2	SSC
Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3	None	None	G5T2	S2.1	1B.1
Grindelia hirsutula var. maritima San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hemizonia congesta ssp. congesta white seaside tarplant	PDAST4R065	None	None	G5T2T3	S2S3	1B.2
Hesperevax sparsiflora var. brevifolia short-leaved evax	PDASTE5011	None	None	G4T2T3	S2S3	1B.2
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T2	S2?	1B.1
Hydroporus leechi Leech's skyline diving beetle	IICOL55040	None	None	G1?	S1?	
Ischnura gemina San Francisco forktail damselfly	IIODO72010	None	None	G2	S2	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4?	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G4T1	S1	FP
Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
Lessingia germanorum San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1	1B.1
Lichnanthe ursina bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
Malacothamnus arcuatus arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2.2	1B.2
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2?	SSC
Mylopharodon conocephalus hardhead	AFCJB25010	None	None	G3	S3	SSC
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S3	WL
Plebejus icarioides missionensis Mission blue butterfly	IILEPG801A	Endangered	None	G5T1	S1	
Rallus longirostris obsoletus California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	FP
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G4T2T3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2S3	
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2.2	1B.1
Silene verecunda ssp. verecunda San Francisco campion	PDCAR0U213	None	None	G5T2	S2.2	1B.2
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Thamnophis sirtalis tetrataenia San Francisco garter snake	ARADB3613B	Endangered	Endangered	G5T2	S2	FP
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010	None	None	G1	S1	
Trifolium amoenum showy rancheria clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Triphysaria floribunda San Francisco owl's-clover	PDSCR2T010	None	None	G2	S2.2	1B.2
Triquetrella californica coastal triquetrella	NBMUS7S010	None	None	G1	S1	1B.2

Record Count: 55

CNPS Inventory of Rare and Endangered Plants

Status: Plant Press Manager window with 29 items - Thu, Apr. 4, 2013, 17:09 ET b

Reformat list as: Standard List - with Plant Press controls

ECOLOGICAL REPORT

scientific	family	life form	blooming	communities	elevation	CNPS
Amsinckia lunaris	Boraginaceae	annual herb	Mar-Jun	•Coastal bluff scrub (CBScr) •Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)	3 - 500 meters	List 1B.2
Arctostaphylos franciscana	Ericaceae	perennial evergreen shrub	Feb-Apr	•Coastal scrub (CoScr)(serpentinite)	60 - 300 meters	List 1B.1
Arctostaphylos imbricata	Ericaceae	perennial evergreen shrub	Feb-May	•Chaparral (Chprl) •Coastal scrub (CoScr)/rocky	275 - 370 meters	List 1B.1
Arctostaphylos montana ssp. ravenii	Ericaceae	perennial evergreen shrub	Feb-Mar	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/serpentinite outcrop	45 - 215 meters	List 1B.1
Arctostaphylos montaraensis	Ericaceae	perennial evergreen shrub	Jan-Mar	•Chaparral (Chprl)(maritime) •Coastal scrub (CoScr)	150 - 500 meters	List 1B.2
Arctostaphylos pacifica	Ericaceae	evergreen shrub	Feb-Apr	•Chaparral (Chprl) •Coastal scrub (CoScr)	330 - 330 meters	List 1B.2
Astragalus tener var. tener	Fabaceae	annual herb	Mar-Jun	•Playas (Plyas) •Valley and foothill grassland (VFGrs)(adobe clay) •Vernal pools (VnPls)/alkaline	1 - 60 meters	List 1B.2
Centromadia parryi ssp. parryi	Asteraceae	annual herb	May-Nov	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Meadows and seeps (Medws) •Marshes and swamps (MshSw)(coastal salt) •Valley and foothill grassland (VFGrs)(vernally	2 - 420 meters	List 1B.2

				mesic)/often alkaline		
Chorizanthe cuspidata var. cuspidata	Polygonaceae	annual herb	Apr-Jul(Aug), Months in parentheses are uncommon.	•Coastal bluff scrub (CBScr) •Coastal dunes (CoDns) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/sandy	3 - 215 meters	List 1B. 2
Chorizanthe robusta var. robusta	Polygonaceae	annual herb	Apr-Sep	•Chaparral (Chprl)(maritime) •Cismontane woodland (CmWld)(openings) •Coastal dunes (CoDns) •Coastal scrub (CoScr)/sandy or gravelly	3 - 300 meters	List 1B. 1
Cirsium andrewsii	Asteraceae	perennial herb	Mar-Jul	•Broadleafed upland forest (BUFrs) •Coastal bluff scrub (CBScr) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/mesic, sometimes serpentinite	0 - 150 meters	List 1B. 2
Cirsium occidentale var. compactum	Asteraceae	perennial herb	Apr-Jun	•Chaparral (Chprl) •Coastal dunes (CoDns) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)	5 - 150 meters	List 1B. 2
Collinsia multicolor	Plantaginaceae	annual herb	Mar-May	•Closed-cone coniferous forest (CCFrs) •Coastal scrub (CoScr)/sometimes serpentinite	30 - 250 meters	List 1B. 2
Equisetum palustre	Equisetaceae	perennial rhizomatous herb	unk	•Marshes and swamps (MshSw)	45 - 1000 meters	List 3
Fritillaria liliacea	Liliaceae	perennial bulbiferous herb	Feb-Apr	•Cismontane woodland (CmWld) •Coastal prairie (CoPrr) •Coastal scrub	3 - 410 meters	List 1B. 2

				(CoScr) •Valley and foothill grassland (VFGrs)/Often serpentinite		
Gilia capitata ssp. chamissonis	Polemoniaceae	annual herb	Apr-Jul	•Coastal dunes (CoDns) •Coastal scrub (CoScr)	2 - 200 meters	List 1B.1
Grindelia hirsutula var. maritima	Asteraceae	perennial herb	Jun-Sep	•Coastal bluff scrub (CBScr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/sandy or serpentinite	15 - 400 meters	List 3.2
Helianthella castanea	Asteraceae	perennial herb	Mar-Jun	•Broadleafed upland forest (BUFrs) •Chaparral (Chprl) •Cismontane woodland (CmWld) •Coastal scrub (CoScr) •Riparian woodland (RpWld) •Valley and foothill grassland (VFGrs)	60 - 1300 meters	List 1B.2
Hemizonia congesta ssp. congesta	Asteraceae	annual herb	Apr-Nov	•Valley and foothill grassland (VFGrs)/sometimes roadsides	20 - 560 meters	List 1B.2
Hesperevax sparsiflora var. brevifolia	Asteraceae	annual herb	Mar-Jun	•Coastal bluff scrub (CBScr)(sandy) •Coastal dunes (CoDns) •Coastal prairie (CoPrr)	0 - 215 meters	List 1B.2
Horkelia cuneata var. sericea	Rosaceae	perennial herb	Apr-Sep	•Closed-cone coniferous forest (CCFrs) •Chaparral (Chprl)(maritime) •Coastal dunes (CoDns) •Coastal scrub (CoScr)/sandy or gravelly, openings	10 - 200 meters	List 1B.1
Lessingia germanorum	Asteraceae	annual herb	(Jun),Jul-Nov Months in parentheses	•Coastal scrub (CoScr)(remnant dunes)	25 - 110 meters	List 1B.1

			are uncommon.			
Malacothamnus arcuatus	Malvaceae	perennial evergreen shrub	Apr-Sep	•Chaparral (Chprl) •Cismontane woodland (CmWld)	15 - 355 meters	List 1B.2
Pentachaeta bellidiflora	Asteraceae	annual herb	Mar-May	•Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)(often serpentinite)	35 - 620 meters	List 1B.1
Plagiobothrys chorisianus var. chorisianus	Boraginaceae	annual herb	Mar-Jun	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/mesic	15 - 160 meters	List 1B.2
Silene verecunda ssp. verecunda	Caryophyllaceae	perennial herb	Mar-Jun(Aug), Months in parentheses are uncommon.	•Coastal bluff scrub (CBScr) •Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/sandy	30 - 645 meters	List 1B.2
Trifolium amoenum	Fabaceae	annual herb	Apr-Jun	•Coastal bluff scrub (CBScr) •Valley and foothill grassland (VFGrs)(sometimes serpentinite)	5 - 415 meters	List 1B.1
Triphysaria floribunda	Orobanchaceae	annual herb	Apr-Jun	•Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/usually serpentinite	10 - 160 meters	List 1B.2
Triquetrella californica	Pottiaceae	moss	•Coastal bluff scrub (CBScr) •Coastal scrub (CoScr)/soil	10 - 100 meters	List 1B.2	

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

March 13, 2013

Document Number: 130313123314

Michelle Giolli
Environmental Science Associates
350 Frank H. Ogawa Plaza
Suite 300
Oakland, CA 94612

Subject: Species List for Sunnydale (San Francisco County)

Dear: Ms. Giolli

We are sending this official species list in response to your March 13, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 11, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130313123314

Database Last Updated: September 18, 2011

No quad species lists requested.

County Lists

San Francisco County

Listed Species

Invertebrates

Euphydryas editha bayensis
bay checkerspot butterfly (T)
Critical habitat, bay checkerspot butterfly (X)

Haliotes cracherodii
black abalone (E) (NMFS)

Haliotes sorenseni
white abalone (E) (NMFS)

Icaricia icarioides missionensis
mission blue butterfly (E)

Speyeria callippe callippe
callippe silverspot butterfly (E)

Speyeria zerene myrtleae
Myrtle's silverspot butterfly (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Eucyclogobius newberryi
critical habitat, tidewater goby (X)
tidewater goby (E)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)
Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
California coastal chinook salmon (T) (NMFS)
Central Valley spring-run chinook salmon (T) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta
loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. agassizi)
green turtle (T) (NMFS)

Dermochelys coriacea
leatherback turtle (E) (NMFS)

Lepidochelys olivacea
olive (=Pacific) ridley sea turtle (T) (NMFS)

Masticophis lateralis euryxanthus
Alameda whipsnake [=striped racer] (T)
Critical habitat, Alameda whipsnake (X)

Thamnophis sirtalis tetrataenia
San Francisco garter snake (E)

Birds

Brachyramphus marmoratus
Critical habitat, marbled murrelet (X)
marbled murrelet (T)

Charadrius alexandrinus nivosus
western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis
southern sea otter (T)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Critical Habitat, Steller (=northern) sea-lion (X) (NMFS)
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Arctostaphylos pallida
pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

Arenaria paludicola
marsh sandwort (E)

Calochortus tiburonensis
Tiburon mariposa lily (T)

Castilleja affinis ssp. neglecta
Tiburon paintbrush (E)

Chorizanthe robusta var. robusta
robust spineflower (E)

Clarkia franciscana
Presidio clarkia (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Holocarpha macradenia
Critical habitat, Santa Cruz tarplant (X)
Santa Cruz tarplant (T)

Layia carnosa
beach layia (E)

Lessingia germanorum
San Francisco lessingia (E)

Pentachaeta bellidiflora
white-rayed pentachaeta (E)

Streptanthus niger
Tiburon jewelflower (E)

Suaeda californica
California sea blite (E)

Trifolium amoenum

showy Indian clover (E)

Proposed Species

Plants

Arctostaphylos Franciscana

Critical Habitat, Franciscan Manzanita (X)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning

process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 11, 2013.