

5.1 Introduction

Infrastructure improvements are vital to implementing the Mission Boulevard Corridor Specific Plan (Specific Plan). Specifically, this section evaluates the infrastructure requirements for achieving the Specific Plan goals of increased residential, mixed use, and commercial development densities within the corridor.

The key to understanding how to address the issue of infrastructure in the Specific Plan Area is to (1) Identify required street and utility impacts within the Specific Plan (Chapter 1); and (2) Determine specific streetscape and utility upgrades needed to support the Specific Plan buildout (Chapter 2).

This section addresses these issues, along with projected costs associated with the upgrades.

5.1.1 Infrastructure Demand, Capacity, and Impacts

Stormwater Runoff. Future development in the Plan Area is not anticipated to generate increased stormwater runoff since the area is already largely impervious and the City will require mitigating hydromodification on a project-by-project basis.

Wastewater Generation. Build-out within the Plan Area will generate increased sewer demand, but replacement of existing sewer laterals and select public mains will reduce the inflow and infiltration issues to offset this increased demand.

Water Demand. The Water Supply Assessment prepared for the Specific Plan indicates that there is sufficient capacity to meet the increased water demand anticipated by Plan Area development.

Streets. The Specific Plan anticipates that most existing roadways within the Specific Plan will be replaced or upgraded as part of the development projects, based on the roadway diet and transect designation.

5.1.2 Infrastructure Improvements and Costs

Costs associated with Specific Plan improvements are shown in Table B. These projected costs are based on the assumption that onsite development within the Plan Area will require adjacent public roadways and utility infrastructure to be installed, replaced or upgraded as indicated in Table B.

Stormwater Infrastructure. There are minimal backbone stormwater infrastructure improvements required to implement the Specific Plan. However, current stormwater regulations will require all future development in the plan area to meet current MRP regulations.

Wastewater Infrastructure. There are no sewer capacity issues or deficiencies identified within the plan area, but there are existing sewer mains that will need to be upsized to meet current City standards. Downstream deficiencies not corrected by future CIP projects will likely be corrected as a condition of approval for development in the Plan Area.

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Water Infrastructure. Existing backbone water infrastructure has been master planned to meet projected Plan Area development. However, all existing 6-inch water mains within roadways to be improved will need to be upgraded to 8-inch mains in order to meet the 8-inch water main pipe size minimum. Furthermore, upgrades or upsizing of portions of the distribution system may be required for developments that increase water demand from the current existing condition.

Streets and Roadway Infrastructure. Most specific plan development will require full street replacement or overlay of existing roadways adjacent to the development. Each development will be conditioned to construct “complete streets” for roadways serving the development.

5.2 Infrastructure Demand, Capacity and Impacts

5.2.1 Stormwater Infrastructure System, Capacity and Impacts

Stormwater Infrastructure System

Drainage System. Within the Specific Plan area, major backbone storm drainage facilities are owned and maintained by the Alameda County Flood Control District (ACFCD). Additionally, the City of Hayward owns and maintains smaller storm drainage pipes (less than 30-inches). In general, the storm drain system consists of gravity underground pipelines discharging to ACFCD underground storm drainage backbone pipelines or ACFCD manmade backbone open channels (Based on GIS information, utility system block maps, and Route 238 Corridor Improvement Plans provided by the City of Hayward. Additional Storm Drain information also provided by Alameda County Flood Control District.). These backbone facilities eventually drain into Ward Creek, San Lorenzo Creek and Old Alameda Creek en route to the San Francisco Bay.

Collected stormwater from the north portion of the Specific Plan area is routed to the west through a 24-inch to 30-inch main along Sunset Boulevard and a 21-inch increasing to 36-inch main along Grace Street, both of which drain into County “Line M.” South area stormwater flows to the west through mains varying in size (ranging from 15-inch to 72-inch) and discharges into ACFCD’s “Line E” and ACFCD’s “Line B.”

Flood Control. The Specific Plan area has two mapped FEMA flood zones. ACFCD’s Ward Creek “Line B,” is subject to inundation by the 1% annual chance flood. This floodway includes a channelized stream with adjacent floodplain areas. ACFCD’s “Line E” is subject to inundation by the 0.2% annual chance flood, and by the 1% annual chance flood with average depths of less than 1 foot.

Stormwater Infrastructure Capacity

Drainage System Age. The Specific Plan area’s drainage system is aging with the majority of pipelines installed over 50 years ago. However, most pipelines were constructed using reinforced concrete pipe which have longer anticipated design lives than other material.

Drainage System Capacity. Both the City and County utilize drainage design calculations to size storm drain pipelines. Based on information provided by the City and County, most of the drainage systems appear to

be designed to handle current runoff. Undersized minor pipelines will require replacement on a case by case basis.

Specific Plan Stormwater Impacts

FEMA Flood Plain. As indicated in the existing conditions analysis, the developable area of the specific plan is located outside the mapped FEMA flood zones. There are two areas within, or adjacent to, the specific plan boundary that are flood areas contained within Alameda County Flood Control District (ACFCD) channels. As required by ACFCD, improvements will not be allowed with the banks of these existing channels.

Stormwater Quality. New development and redevelopment areas must currently comply with Provision C.3 of the revised Municipal Regional Stormwater NPDES Permit (MRP) adopted by the San Francisco Regional Water Quality Control Board on November 28, 2011. The current Alameda County MRP requires post-construction stormwater runoff treatment at the source by implementing low-impact development (LID) practices for projects creating or replacing more than 5,000 SF of impervious surface. LID practices require infiltration, reuse, and/or landscape based treatment facilities. Adequate treatment will be required to be provided within each parcel, or regionally by agreement between the City and the developers involved.

Stormwater Hydromodification. The Alameda County MRP contains flow control requirements to mitigate the stormwater runoff erosion impacts onto existing drainage channels. Hydromodification requirements apply to projects creating or replacing an acre or more of impervious surface, and which are located in sensitive areas. Where required, engineered flow control measures would reduce the runoff to pre-project levels.

System Capacity. Based on the current impervious surfaces within the Specific Plan area and the hydromodification requirements affecting larger parcels, future development will not significantly increase the overall quantity of storm runoff. Minor storm drainage facilities within new and upgraded streets will be necessary to serve projects within the Specific Plan area.

5.2.2 Wastewater Infrastructure System, Capacity and Impacts

Wastewater Infrastructure System

Wastewater System. The City of Hayward operates the wastewater facilities within the Specific Plan area. Gravity pipe lines within the area are constructed of vitrified clay, cast iron, asbestos cement, and reinforced concrete. The Specific Plan southern area flows predominantly westerly through: a 10-inch VCP line in Torrano Avenue; an 8-inch VCP line in Berry Avenue; a 18-inch RCP line in O'Neil Avenue; an 8-inch VCP line in Orchard Avenue; an 8-inch VCP line in Sycamore Avenue; and 8-inch line in Mission Boulevard. The Specific Plan northern area flows predominantly westerly through an 8-inch VCP line in Sunset Boulevard. Flows are then conveyed through a series of gravity lines to the Hayward Water Pollution Control Facility (WPCF) at 3700 Enterprise Avenue in Hayward.

Wastewater Treatment. The Hayward Water Pollution Control Facility (WPCF) processes and treats all wastewater collected within the plan area.

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Wastewater Infrastructure Generation and Capacity

Area Flows. Based on the City of Hayward's 2002 Sanitary Sewer Master Plan Update, inflow and infiltration (I&I) are key contributing flows within the overall sewershed. Reducing I&I will result in increased capacity to the overall system and accommodated some increment of future development.

Specific Plan Wastewater Generation. Wastewater from the Specific Plan buildout is projected based on the areas water demand analyses. Assuming 90% of the water demand results in wastewater generation, Table A indicates the total flow anticipated.

Downstream Capacity. The 2002 study analyzed the existing wastewater system wet weather flows. The study revealed conveyance system capacity deficiencies downstream from the Specific Plan area. During peak conditions, sections of the downstream sewer line operated at 110% to 200% of the designed capacity. There were no projected treatment capacity issues indicated by the study.

Specific Plan Wastewater Impacts

Specific Plan Area. Wastewater pipelines within the Specific Plan area will require replacing based on their age, condition (contributing I&I flow), and/or increase in localized development within each tributary sewershed.

Downstream. While the 2002 study indicates downstream capacity issues, the City anticipates that these existing deficiencies will be corrected prior to full buildout of the Specific Plan area under a Capital Improvement Project (CIP). Future analyses will be necessary to ensure that the CIP addresses existing plus Specific Area plan wastewater flows.

5.2.3 Water Infrastructure System, Capacity, and Impacts

Water Infrastructure System

Supply and Storage. The Mission Boulevard Corridor Specific Plan water distribution is provided by City of Hayward's Water System for domestic and fire suppression uses. Since 1963, Hayward's sole water source is supplied from the City and County of San Francisco's regional system, operated by the San Francisco Public Utilities Commission (SFPUC). The Hetch Hetchy watershed, an area located in Yosemite National Park, provides the majority of water delivered by SFPUC to Hayward. SFPUC also provides a small amount of water from the Alameda watershed, which is located in the East Bay and stored in the Calaveras and San Antonio Reservoirs. The two local reservoirs hold direct rainfall, local runoff, and Hetch Hetchy supplies. This surface water source is supplemented by a small amount of ground water from the Sunol Filter Galleries.

In the event that SFPUC transmission lines are not able to meet Hayward's demands for a limited time, five emergency wells located within the City can provide a total of 13.6 million gallons per day. These wells do not run concurrently with the SFPUC source and have been certified by the California Department of Health Services for short duration emergency use only.

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Hayward has also established agreements with two neighboring agencies, East Bay Municipal Utility District (EBMUD) and Alameda County Water District (ACWD), to receive or deliver water in the event of an emergency. A total of three interties are capable of delivering up to about 14.5 million gallons per day. Delivery would depend upon each agency's ability to provide water without negatively impacting supplies or its own customers and emergency services.

SFPUC Turnouts and City Transmission Mains. Water is delivered to the system from the SFPUC at two turnouts, one at the Irvington Portal and one at the Newark valve lot. From these turnouts, the City transmission system consists of two main pipelines with booster pump stations: Mission Boulevard 24" transmission main with the Decoto pump station, and a 42" transmission main in Hesperian Boulevard augmented by the Hesperian pump station. SFPUC water is delivered at the 250 pressure zone. The Decoto and/or Hesperian pump stations boost pressure in the 250 zone when necessary. Multiple pressure reducing stations interface between the transmission and distribution systems.

Domestic and Fire Storage. The City's overall storage system consists of 15 water storage tanks and 7 pump stations delivering water to upper pressure zones. At least one storage tank is located within each pressure zone.

City Distribution System. Within the Specific Plan area, pipelines within Mission Boulevard serve as the distribution backbone system. The Specific Plan's northern area contains a 12-inch main in Mission Boulevard and 6-inch and 8-inch distribution lines in surrounding streets. Within the Specific Plan's southern area, Mission Boulevard contains three parallel water lines, a 24-inch transmission line that delivers water to nearby reservoirs and two main lines (12-inch and 6-inch/8-inch) that distribute water to surrounding properties on each side of Mission Boulevard. The interior network consists of 6-inch, 8-inch, and 12-inch main lines, and services. Distribution lines within the plan area are a combination of asbestos cement, steel, plastic (PVC), and cast iron pipe.

Recycled Water System. Currently, the City of Hayward does not have a recycled water system, but one is in the facility planning stage.

Water Infrastructure Capacity

Existing Capacity. In 2005, Hayward provided SFPUC with the amounts of water that Hayward expected to purchase for the next 25 years. The City estimated that demands would gradually increase from a projected 21.8 million gallons per day (24.4 thousand acre-feet per year) in 2010 to about 27.9 million gallons per day (31.3 thousand acre-feet per year) by 2030. In 2005, SFPUC validated the City's analyses with written water availability projections, verifying its ability to meet Hayward's projected demand under normal operating conditions.

Specific Plan Domestic Demand. A water demand analysis for the preferred regulating plan was prepared utilizing the projected land use data studied in the EIR (See Table A). This land use assumes 85% of the zoning capacity built out with averaged residential densities. According to city water map records, the specific plan area is located within the 250' Pressure Zone.

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Specific Plan Fire Demand. Fire flow requirements for the specific plan area, as documented in the Fire Prevention Code of Hayward, Ordinance No. 07-19, page 12, are to be 4,500 gpm for high-density residential and 5,000 gpm for commercial areas. These requirements can be reduced by up to 50% for 1- and 2-family dwellings, and up to 75% for other buildings when the building is provided with an approved automatic sprinkler system. According to the 2002 Master Plan Update, the 250' Pressure Zone is planned for providing 5,000 gpm of fire flow.

Water System Capacity. The WSA prepared by the City of Hayward for this Specific Plan found that the existing water supply is sufficient to satisfy the demands of the Mission Blvd. Corridor Specific Plan, in addition to existing and planned future uses (see "City of Hayward Water Supply Assessment for Mission Blvd Corridor Specific Plan", October 2012, p. 12.).

Water Infrastructure Impacts

Supply and Storage. A 2002 Water System Master Plan Update prepared by Carollo Engineers, anticipated development in the specific plan area to be high density residential, or a mix of commercial and high density residential, and therefore is assumed to be prepared to provide the projected domestic water demand.

Water Network. Small diameter pipelines within the Specific Plan area will require replacement based on the fire flow requirements. Sections of 6-inch cast iron water main built in the 1920's are found in the north and south areas of the Specific Plan and will require replacing prior to site redevelopment.

5.2.4 Roadway System, Condition, and Impacts

Roadway System. Mission Boulevards serves as the major north-south roadway within the Specific Plan. Major East and West roadways bisect Mission within the plan area at A Street, Jackson Street, Carlos Bee/ Orchard Avenue, and Harder Road.

Roadway Condition. The Specific Plan anticipates that most existing roadways within the Specific Plan will be replaced or upgraded based on the roadway diet and transect designation. A few local streets serving existing residential communities may be preserved as existing. Improvements to these roadways would be based on the City of Hayward's pavement management model, with rehabilitation occurring when triggered by pavement inspections and modeling.

Roadway Impacts. Kittleson & Associates conducted a separate traffic study to determine roadway impacts from the Specific Plan. See Chapter 19 of the *Draft Environmental Impact Report*.

5.2.5 Infrastructure Improvements and Cost

An infrastructure implementation plan, and associated construction costs, has been prepared based on the Form Based Codes indicated in the preferred plan. Table B reflects the necessary roadway and utility infrastructure modifications required to implement the plan. As these improvements are not currently included in the City capital improvement plans, they will be the responsibility of the specific development projects served by this infrastructure. In general, public utility infrastructure within the existing roadways has capacity to serve

the adjacent development proposed. A few select areas will require upsizing to meet future demand over the lifetime of the proposed development or are undersized based on current standards. All new roadways will be required to install public utilities to serve the adjacent proposed development. See Figures 5-1 to 5-4 for proposed infrastructure improvements within the plan area.

Stormwater Infrastructure Improvements

General. There are minimal backbone infrastructure improvements required to meet the projected demand of the specific plan (See Figure 5-1). However, current stormwater regulations will require all future development in the plan area to locally treat stormwater runoff using low impact development (LID) techniques, per the Municipal Regional Permit (MRP) regulations.

Mission Blvd, north of A Street. A streetscape project is currently planned for this portion of the plan area. Stormwater treatment areas should be considered and incorporated into this project prior to construction.

Specific Plan Improvements. Any development which involves either replacement or addition of impervious surface area will be required to treat the stormwater runoff either onsite or at a master planned location offsite. This includes improvements to public roadway and sidewalk where new travel lanes are added or new sidewalk is constructed that drains to the street. These treatment areas will be required to use LID techniques, which involves landscape methods rather than filter vaults or mechanical systems.

Development Improvements. Each new development area should be required to provide sufficient treatment onsite for that specific development, as well as share in any off-site treatment required by public roadway and streetscape improvements. New roadways will be required to install public storm drain infrastructure.

Wastewater Infrastructure Improvements

Downstream System Improvements. The City has identified several existing deficiencies in the sewer collection system downstream of the plan area. These deficiencies may be repaired in future CIP projects, or they may be included as improvements to be paid for by developers within the plan area. The 2002 Wastewater System Master Plan Update projected that the Hayward WPCF would have sufficient capacity to meet the wastewater demands of proposed specific plan development. Furthermore, replacement of existing sewer mains, many of which are VCP, will reduce the current I & I flows and help reduce the increased demand of the plan development.

Specific Plan Improvements. There are no capacity issues or deficiencies identified within the plan area, but there are existing sewer mains that will need to be upsized to meet current City standards (See Figure 5-2). The existing 6-inch sewer pipes at Mission Boulevard from Simon to Sunset, Pearce Street, Grace Street, Melvin Court, and Smalley Avenue need to be upsized to 8-inch sewer pipe per City's Standards. Construction of these improvements will be the responsibility of the development projects that these mains serve.

Development Improvements. Each new development project will be required to replace existing onsite sewer laterals and connections to the public main. New roadways will be required to install public sewer infrastructure.

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Water Infrastructure Improvements

Route 238 Corridor Improvements Project. This project includes the relocation of approximately 9,000 feet of water main from underneath the sidewalk to beneath the roadway, primarily in Mission Boulevard outside of the plan area.

Specific Plan Improvements. All existing 6-inch water mains within roadways to be improved will be upgraded to 8-inch mains in order to meet the 8-inch water main pipe size minimum. Within the Specific Plan area, approximately 740 feet of 6-inch cast iron pipe along the east side of Mission Boulevard between Carlos Bee Boulevard and Berry Avenue will be replaced with an 8-inch PVC main, and approximately 1040 feet of 6-inch cast iron pipe along the east side of Mission Boulevard between Pinedale Court and Palisade Street will be replaced with an 8-inch PVC main (See Figure 5-3).

Development Improvements. Each new development area should be studied separately to evaluate its effects on water conveyance and supply. Upgrades or upsizing of portions of the distribution system may be required for developments that increase water use from the existing condition. New roadways will be required to install public water infrastructure.

Roadway Infrastructure Improvements

Mission Boulevard. Mission Boulevard from A Street south within the plan area is currently under construction. Mission from A Street north within the plan area is scheduled for improvements in the near future. The design of this portion of Mission Blvd. shall include the streetscape elements of the specific plan. In particular, it shall include pedestrian enhancements, utility undergrounding, new joint trench with fiber optic, curb bulbouts, pedestrian lights, street lights, rain gardens, landscape elements and traffic signal modifications to include an adaptive management system.

Upgrades to Existing Streets and Streetscape Improvements. Most specific plan development will require full street replacement or overlay of existing roadways adjacent to the development given that overhead utilities will be undergrounded, sewer and water will be rehabilitated or upsized, sidewalks will be widened and curbs realigned to accommodate the plan. The cost of these public improvements would be covered by the development served. It is assumed that even the existing residential areas which may remain will receive these same streetscape improvements, but the City could opt for a minimal level of improvements that could result in a pavement overlay or seal coat rather than full replacement (See Figure 5-4).

New Streets. The Specific Plan identifies potential new streets which will be required to meet the plan's development goals and densities. These new streets are shown on Figure 4. With the construction of these new streets, public utilities will also be added in the roadway to include joint trench, sewer, water, and storm drainage systems.

New Development. The Specific Plan calls for all public roadways and pedestrian areas to be constructed with complete street design concepts. Each development will be conditioned to construct the portion of these public improvements that serve the development.

Table A: Water and Sewer Demand Analysis

Preferred Plan:

Land Use	Quantity ¹	Unit	Average Usage ²	Water Demand (gpd)		Wastewater Demand (gpd) ⁴
				Avg. Daily	Max. Daily ³	
T3 Residential	65	DU	400 gpd/DU	26,000	41,600	37,440
T4/T5 Residential	1,818	DU	210 gpd/DU	381,780	610,848	549,763
Commercial	330,000	sf	260 gpd/ksf	85,800	137,280	123,552
Civic Space	20.0	acre	1785 gpd/acre	35,736	57,177	51,459
Total				529,316	846,905	762,215

1. Quantity of proposed residential and commercial development based on preferred regulating plan as analyzed for the EIR.
2. Average Usage factors are based on assumptions used in the City of Hayward WSA for the Specific Plan (October 2012) and from estimates used in "City of Hayward Water System Master Plan Update" prepared in December 2002 by Carollo Engineers (pages 3-18 thru 3-20)
3. Assumes a maximum day peaking factor of 1.6 as recommended in the "City of Hayward Water System Master Plan Update" for 250' zones (page 3-9)
4. Wastewater generation rates are based on 90% of the estimated maximum daily domestic water demand.

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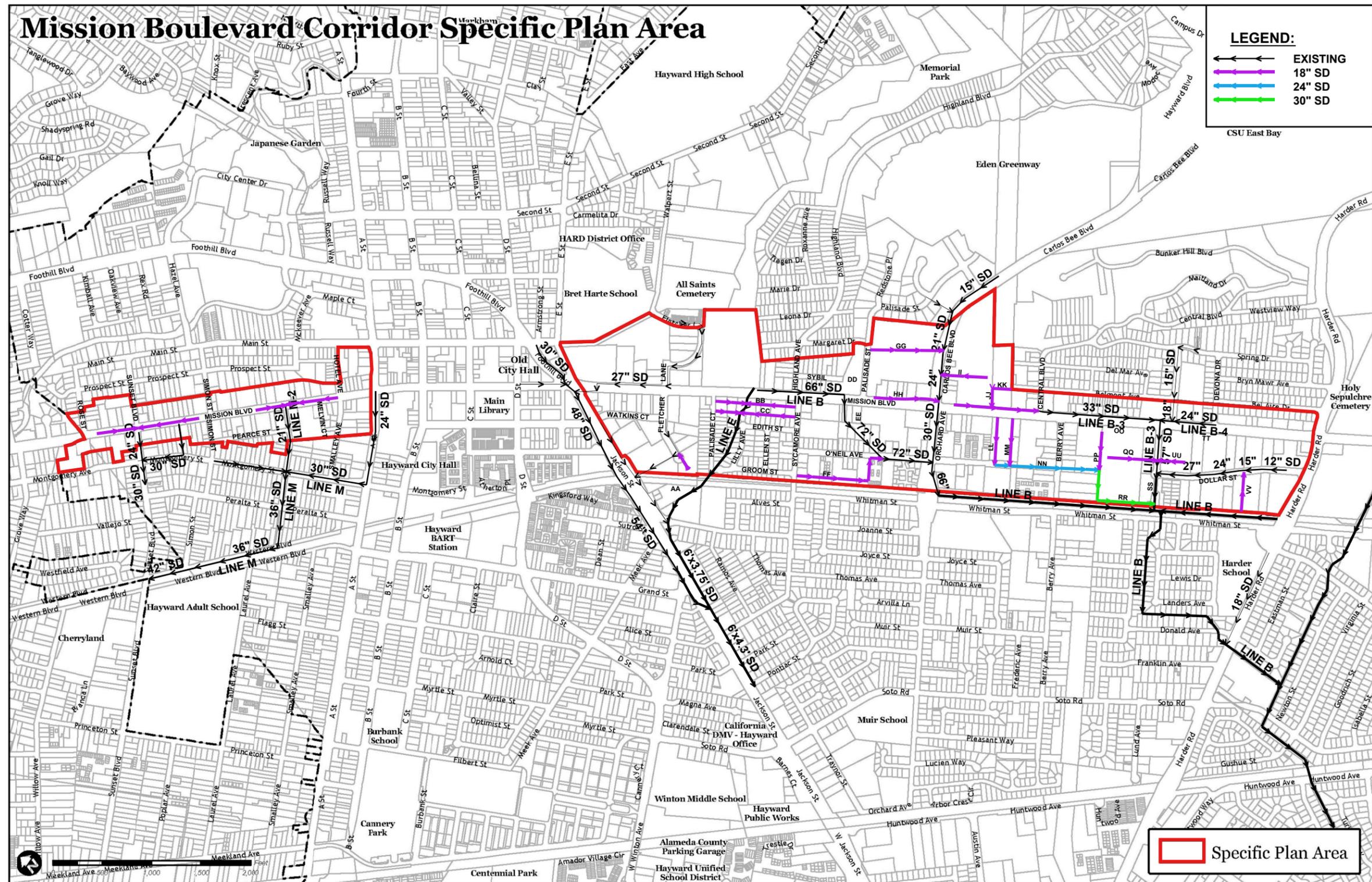


Figure 5-1: Proposed Storm Drain System

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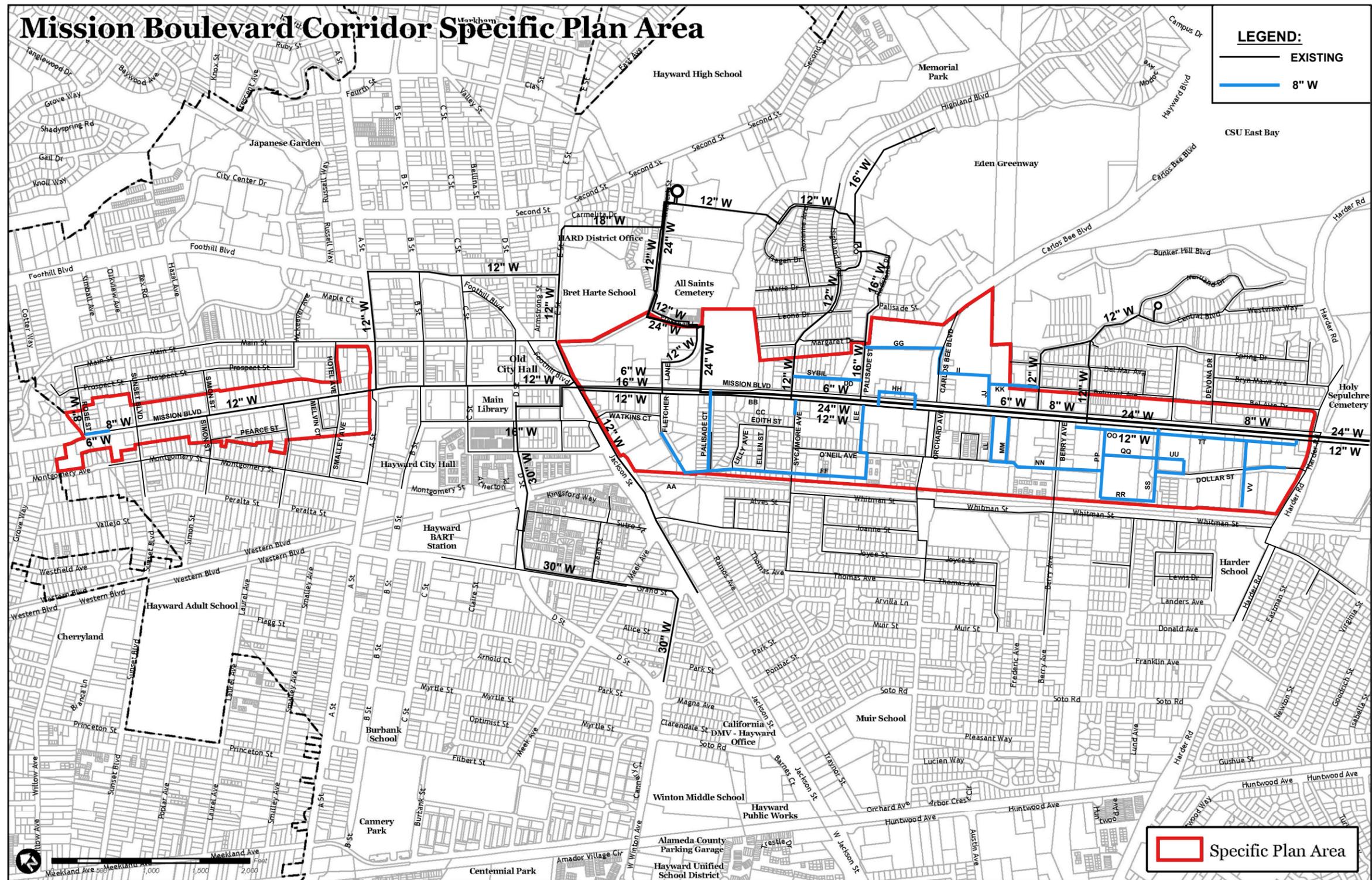


Figure 5-3: Proposed Water System

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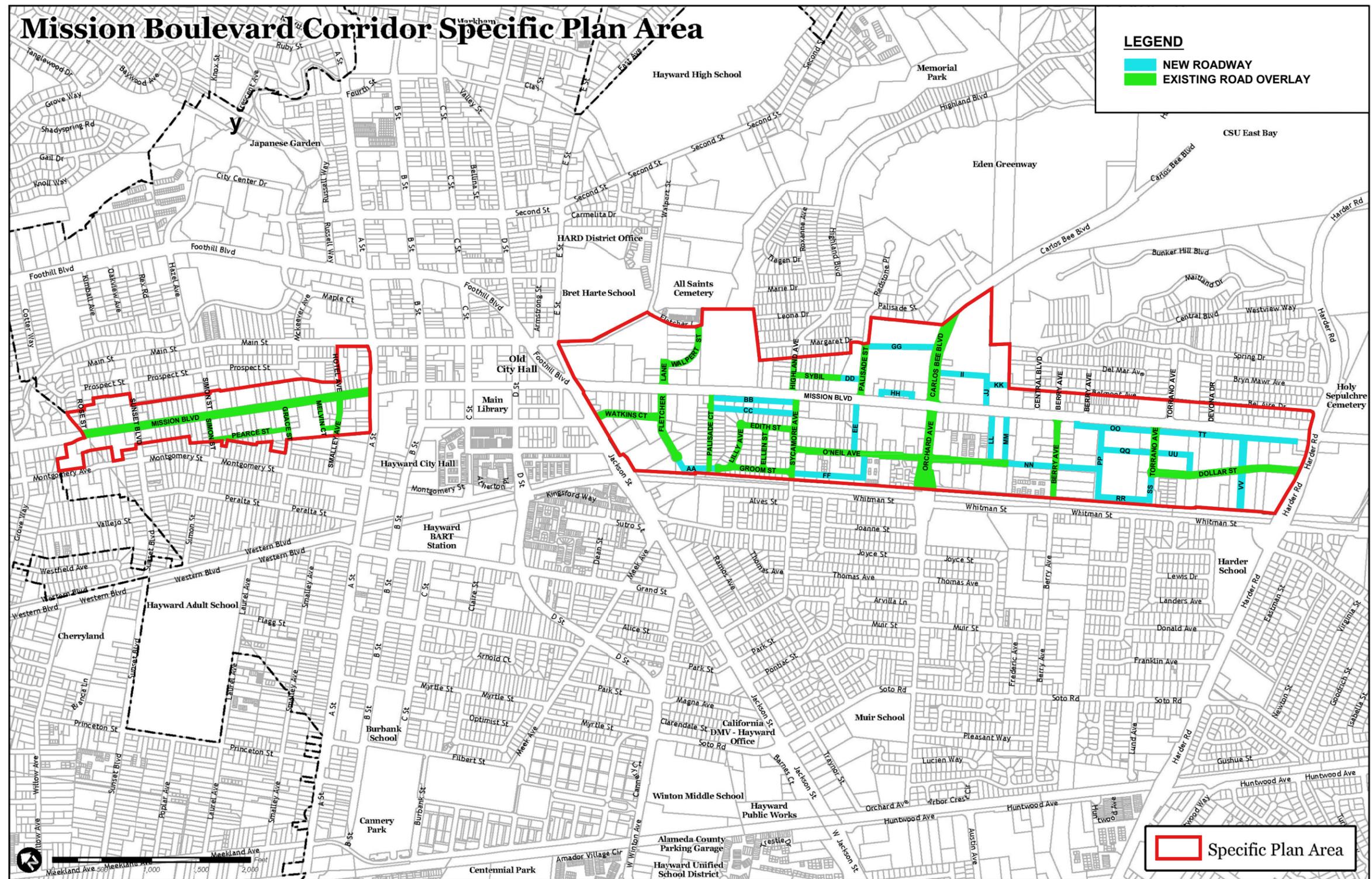


Figure 5-4: Proposed Roadway Plan

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5.3 Mobility Plan

The Mobility and Circulation Policies and Strategies of the General Plan include:

- Goal 4.1. The Specific Plan will help improve mobility to foster economic vitality.
- Goal 8.4. The Specific Plan will help create improved and safer circulation facilities for pedestrians.
- Goal 9.1. The Specific Plan will help provide the opportunity for safe, convenient and pleasant bicycle travel in its area.
- Goal 10. The Specific Plan will help encourage land use patterns that promote transit usage.
- Goal 13.1. The Specific Plan will help provide for future parking demand in ways that optimize mode choice.
- Goal 14.2. The Specific Plan will help seek to address traffic safety concerns.

The Mobility and Circulation chapter describes the existing transportation context and planned improvements in the Mission Boulevard Corridor Specific Plan area. The element also sets forth the circulation concept and detailed policies and standards for the street system within the specific plan area. The intent of the policies is to foster a “complete” street network that accommodates the needs of motorists, pedestrians, bicyclists and transit riders within the planning area, and facilitates safe and efficient local and regional access. The primary goal of the Mobility Plan is to encourage mode shift from auto dependency to alternative modes using regulatory, design, and pricing policies for managing parking demand and car travel.

5.3.1 Automobile

The existing planning area is very disconnected, largely due to the patchwork and dispersed nature of the development areas. Furthermore, the planning areas are clustered around State Route 238/ Mission Boulevard, which bisects the study area but does not provide adequate continuity or consistent access. The areas also tend to be locked in by geographical constraints and a railway right of way. Furthermore, the southern planning area caters primarily to large auto dealer parcels that have primary frontage on Mission Boulevard and very little access to each other. Access and circulation between the parcels currently has to rely on Mission Boulevard creating a disconnect between the parcels and any future uses associated with these parcels. This is well described in Figure 1-3 of the Synoptic Survey. Therefore the intent of the Form Based Code plan is to develop compatible mixed uses that would enhance the community and benefit from better connectivity and improved access for all transportation modes. Auto access would be improved by providing a new street system of thoroughfares to complement Mission Boulevard and also to provide alternative routing and access, as shown in Figure 1-3. The characteristics of the new street system are further described in Table 2 of the Mission Boulevard Corridor Form-Based Code showing the Thoroughfare Assemblies for each street type.

Additional collectors west of Mission Boulevard will help to connect the new smaller sized parcels together and minimize the need to access Mission Boulevard for circulation among the parcels. The planning area south of Jackson Street and west of Mission Boulevard will include a new parallel local internal street network from Harder Road to Jackson Street that will provide almost continuous access and circulation for autos, bikes and pedestrians. This is accomplished by connecting the existing streets with an extension from Dollar Street to O'Neill Avenue in the south sector and Fletcher Lane to Groom Street in the north sector, thus

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providing almost continuous access for the entire planning area. This new access combined with compatible mixed land uses would help to reduce traffic and reliance on Mission Boulevard and potentially minimize impacts to signalized and unsignalized cross street intersections. The plan includes new slip lanes parallel to Mission Boulevard in three locations that will provide additional access and improved circulation to land uses fronting Mission Boulevard with the benefit of reduced auto travel speeds, improved safety, and additional commercial parking situated off the main street. The eastern planning area will include new connections to Carlos Bee Boulevard that will join two disconnected areas to the east of Mission Boulevard. The new thoroughfares connecting to Carlos Bee Boulevard will require more detailed traffic analysis in the future with related development applications to determine whether these new intersections will need signal or stop control and whether traffic should exit with full access, or limited by right-in and right-out control.

The City of Hayward is currently upgrading the entire Route 238 Corridor. This project involves a widening of Foothill Boulevard north of Downtown and a one-way road system around downtown with one-way northbound flow on Foothill Boulevard and one-way southbound flow on Mission Boulevard. South of downtown, Mission Boulevard is being upgraded with selective widening replacing on-street parking and other improvements to upgrade the roadway. The Route 238 corridor north and south of Downtown has an Avenue designation with 100 feet right of way and the roadway characteristics are further described in Table 2 of the Mission Boulevard Corridor Form-Based Code.

Access into the planning areas will primarily be from the cross streets on Mission Boulevard. In the north planning area, access will be via Rose Street, Sunset Boulevard, Simon Street, Grace Street and Smalley Avenue. In the South, access will be via Watkins Street, Fletcher Lane, Pinedale Court, Highland Boulevard, Sycamore Avenue, Carlos Bee, Orchard Avenue, Central Boulevard, Berry Avenue, Torrano Avenue, Devon Drive, Dollar Street and Harder Road. While most of these cross streets are unsignalized, there are signals located at Sunset Boulevard, A Street, Walpert Street, Highland/Sycamore, Carlos Bee/Orchard and Harder Road.

5.3.2 Bicycle

In addition to pedestrian access, bicycle access is also an important component of the Specific Plan. The City of Hayward General Plan includes a comprehensive bikeways map describing the bicycle system. The Bicycle network is further detailed in the City's 2007 Bicycle Master Plan.

The Caltrans Highway Design Manual (Chapter 1000) generally identifies three categories of bicycle facilities. These are similar to the system identified in the City General Plan:

- Class I – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized (typically called a “bike path”).
- Class II – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted (typically called a “bike lane”).
- Class III – Provides a right-of-way designated by signs or permanent markings (e.g., sharrows) and shared with pedestrians and motorists (typically referred to as a “bike route”).

Currently, a number of bicycle facilities exist in the planning area that connect to the existing and proposed bikeway network as shown in the map of existing Bike Network (Synoptic Survey Figure 4-2, Page 4-2 of the Synoptic Survey). Throughout the Planning Area, the bicycle network provides direct routes to major destinations as well as connections to bus stops, BART stations and surrounding neighborhoods.

Hayward does not have any Class I facilities, so most existing bikeways in the study vicinity are Class II (portion of A Street, D Street, Harder Road, Soto Road) and Class III (part of Mission Boulevard, 2nd Street, C Street, Carlos Bee Street, Orchard Avenue, Whitman Street, portion of Sycamore Avenue, Silvia Avenue, Meek Avenue, Grand Street). Proposed bicycle routes would be extended to include Class II facilities on a portion of Main Street, portion of Foothill Boulevard, portion of B Street, portion of C Street, Watkins Avenue, Fletcher Lane, and Class III facilities on portion of Mission Boulevard, portion of Main Street, C Street, Montgomery Avenue. In addition, the Hayward Fault Trail does provide for a bikeway as planned by others.

The streets directly inside the planning areas do not currently have any existing bikeways or planned bikeways. However, all new planned thoroughfares would allow for at least Class III facilities. In addition, the section of Mission Boulevard north of A Street will be designated as a Bicycle route, while the section south of Jackson Street would be designated as a transit route, but not as a bike route. Carlos Bee would be designated as a new bike route.

5.3.3 Pedestrian

Pedestrian accessibility relates to the level of ease and comfort for pedestrians as they travel in an area. A high level of accessibility and ease of travel to key destinations and public services provides a framework for long-term sustainability. This is very important for communities that are transit-dependent, like those with seniors, low-income families, and school students, where walk access to services like transit, neighborhood retail, schools and social services is essential.

Existing pedestrian facilities currently include sidewalk access on all thoroughfares within the study vicinity together with crosswalks at key crossing locations on SR 238 Mission Boulevard. These facilities are shown in the map of existing Pedestrian & Public Transit Amenities (Synoptic Survey Figure 4-1, Page 4-1 of the Synoptic Survey). One of the key goals of the Specific Plan is to maximize connectivity in the Planning Area through creation of denser street grid pattern in the new development areas. This goal would provide improved access and circulation for pedestrians accessing the housing and commercial areas in the study vicinity and providing better access to transit stops in the corridor. Planned pedestrian facilities include sidewalks on all new thoroughfares as shown in Figure 1-3, Site Location Map, together with crosswalks on Mission Boulevard at all key signalized intersections in the study vicinity. Crosswalks would include push button equipment for signal crossings.

In the south corridor, pedestrian access across the railway right of way west of Mission Boulevard has limited crossing locations. Sycamore Avenue has a pedestrian overpass over the BART tracks and Jackson Street, Orchard Avenue and Harder Road have pedestrian access via roadway underpasses.

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The Route 238 Corridor Improvement project eliminated pedestrian crossing at some locations on Mission Boulevard. Therefore to improve pedestrian safety and accessibility, some additional pedestrian crossings are proposed:

1. The Route 238 Corridor Improvement Project eliminated the unprotected pedestrian crossing at Pinedale Court and included a landscaped median to discourage pedestrians from crossing the street between the Jack in the Box and the Hayward Plunge just west of Pinedale Court. At the present time, there is no demand for a pedestrian crossing. At such time that development occurs and when sufficient demand has been established, then the developers will be required to evaluate potential options for pedestrian crossings, including a signalized pedestrian crossing. In the interim, there is a safe and viable pedestrian crossing at Fletcher Road. The City worked with AC Transit to appropriately locate bus stops as part of the Route 238 Corridor Improvement Project. Where possible, bus stops were relocated on the far sides of intersections. In addition, the existing bus stop on Southbound Mission Boulevard at Pinedale Court was moved further north towards Fletcher, so that bus riders can take advantage of the signalized crossing at Fletcher Road to access the Plunge, restaurants and other destinations on the east side of Mission Boulevard. This should reduce the near-term demand for a crossing at Pinedale Court.
2. The unprotected crossing at Devon Drive was eliminated. However, the City is providing an illuminated crosswalk at Torrano as part of the Route 238 Corridor Improvement Project. This should address any pedestrian-crossing concerns. At the time a new thoroughfare is constructed between Harder Road and Devon Drive as shown in the Form-Based Code, City staff will analyze the feasibility of providing a pedestrian crossing at that location, as there is a significant distance between these two streets.

5.3.4 Transit

Mission Boulevard is a major transit corridor. As shown in the map of existing Pedestrian & Public Transit Amenities (Synoptic Survey Figure 4-1, Page 4-1 of the Synoptic Survey), every property within the Specific Plan area is within a five minute walk of one of the Mission Boulevard bus stops, and in addition, those portions of the Specific Plan area that are closest to downtown are within a 10 minute walk of the downtown Hayward Bay Area Rapid Transit (BART) station.

As described in Chapter 1, a key objective of this Specific Plan is to establish a vision for transit-oriented development along the corridor, and to then back up that vision with detailed design and development standards that both allow and encourage compact, pedestrian-friendly and mixed-use new development. The City's General Plan sets forth the following goals that specifically address transit and transit-oriented development:

- Land Use Goal 2. The Specific Plan will help support higher-density and well-designed quality development in areas within 1/2 mile of transit stations and 1/4 mile of major bus routes in order to encourage non-automotive modes of travel.
- Land Use Goal 5. The Specific Plan will help promote transit-oriented development in the Mission/Foothill Corridor in order to help create a distinctively attractive commercial boulevard.
- Circulation Goal 10. The Specific Plan will help encourage land use patterns that promote transit usage.

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This Specific Plan's all-encompassing Form-based Code component provides the comprehensive design and development standards required to implement these goals, allowing buildings to be built that will allow many people to live, work and play in new neighborhoods along Mission Boulevard, with easy access to the extensive existing transit along Mission Boulevard and at the nearby BART station. These new buildings will aid in generating new ridership to support the existing transit lines. In turn, the transit lines make this corridor an appropriate place for new development, minimizing its traffic impacts and parking demands.

Bus service along the Mission Boulevard is provided seven days a week, 24 hours a day, by the Alameda-Contra Costa Transit District (AC Transit). AC Transit routes traveling along Mission Boulevard through the Specific Plan area include routes 93, 99 and 801 in the portion north of A Street, and routes 22, 99 and 801 in the portion south of A Street.

As described below, the Parking & Transportation Demand Management provisions of this plan's Form-based Code component are specifically designed to minimize automobile traffic generated by new development and to maximize transit ridership, so that over time, as new buildings emerge, new ridership is generated, making it cost-effective and feasible to increase transit frequencies along the corridor.

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5.3.5 Parking & Transportation Demand Management

Every parking system has two key parts:

1. Quantity (number of parking spaces)
2. Management (policies, regulations and prices)

The parking and transportation demand management policies and regulations set forth in this Specific Plan are designed to address both quantity and management. They ensure that the Specific Plan area will develop over time with *quantities* of parking that are appropriate for a transit-oriented area, and equally importantly, with the *management* strategies in place that will be required to ensure that (a) automobile traffic from new development is minimized, and (b) nearby residential neighborhoods are protected from unwanted “spillover parking” (i.e., vehicles associated with new development filling up the curb parking on nearby neighborhood streets).

This approach implements the City’s General Plan Policies and Strategies regarding parking and transportation demand management. As described in Section 1.5, the City’s General Plan sets forth the following Policies and Strategies that specifically address parking and transportation demand management:

- Circulation Goal 13.1. The specific plan will help provide for future parking demand in ways that optimize mode choice.
- Conservation & Environmental Protection Goals 12.5. and 12.7. The Specific Plan will help support implementation of Transportation Control Measures adopted by the Bay Area Air Quality Management District.

Parking to serve existing and new development will be provided in two ways. Most streets, both existing and new, throughout the Specific Plan area provide on-street parking on both sides, as detailed in Table 2, Thoroughfare Assemblies. This helps to buffer pedestrians from passing traffic, supports street-facing shops and dining, and minimizes the amount of parking that must be provided off-street parking lots and garages. In addition, the design and development standards set forth in the Form-based Code component of this Specific Plan allow new private developments to provide the amount of parking appropriate to serve the development, while ensuring that all privately-owned parking is provided in ways that preserve a high-quality and pedestrian-friendly public realm.

In addition, the parking and transportation demand management provisions of this plan’s Form-based Code component are specifically designed to minimize automobile traffic and to maximize transit ridership, in order to minimize the traffic congestion, pollution and other impacts that result from new automobile traffic. *[Note: Nelson\Nygaard will be providing transportation demand management ordinance provisions to supplement the parking standards contained within the plan’s Form-based Code component.]*

Finally, Appendix D, Parking & Transportation Demand Management Strategy, sets forth a comprehensive management strategy for both public and private parking. This strategy is designed to ensure that curb parking within the plan area is appropriately managed, so that it is well-used but readily available, and to ensure that nearby residential neighborhoods are protected from unwanted “spillover parking”.

5.3.6 Mission Boulevard, A Street to Rose Street

Mission Boulevard will be improved from just north of A Street to the City Limits, at approximately Rose Street. The overall intent of these changes is to improve the physical appearance of Mission Boulevard, provide an incentive for more pedestrian activity, and incentivize economic development in abutting private parcels. As shown in Figure 5-5 below, the proposed typical street section includes maintaining the four (4) existing travel lanes (two northbound and two southbound), providing two (2) seven (7) foot parallel parking lanes, ten (10) foot sidewalks, as well as installation of a new four (4) foot landscape median. Also included are new pavement for parking and travel lanes, installation of new curb, gutter and sidewalks. In addition, overhead utilities will be placed underground, new LED (light-emitting diode) street-lighting would be installed, and requisite signage and striping would be installed.

All of the work would be done within the existing eighty (80) foot right of way. No additional right of way is necessary. At Mission Boulevard and A Street, the project would tie into improvements to be constructed as part of the separate Route 238 Corridor Improvement Project. Figures 5-6, 5-7 and 5-8 provide an overhead plan view of proposed changes to this thoroughfare.

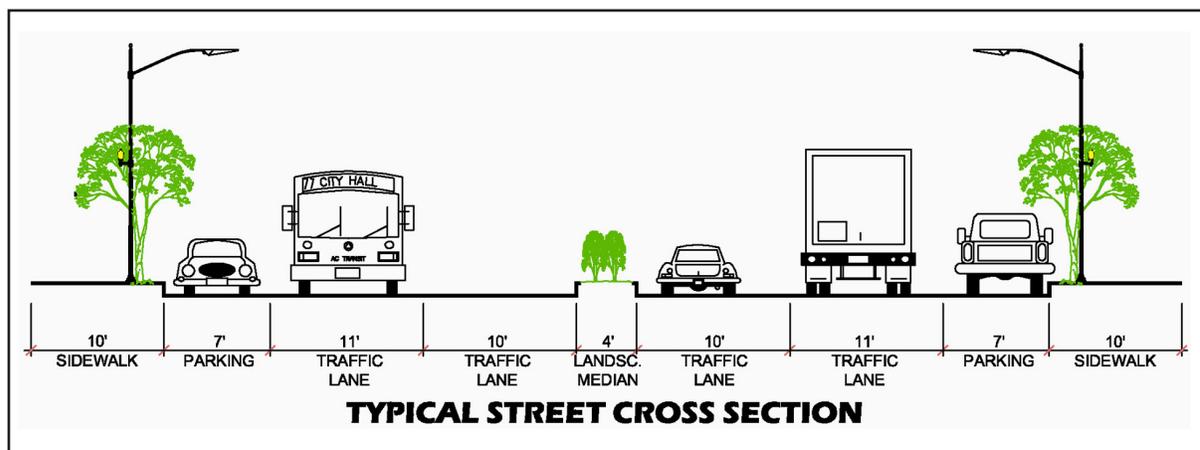


Figure 5-5: Typical Street Cross Section for Mission Blvd, A Street to Rose Street

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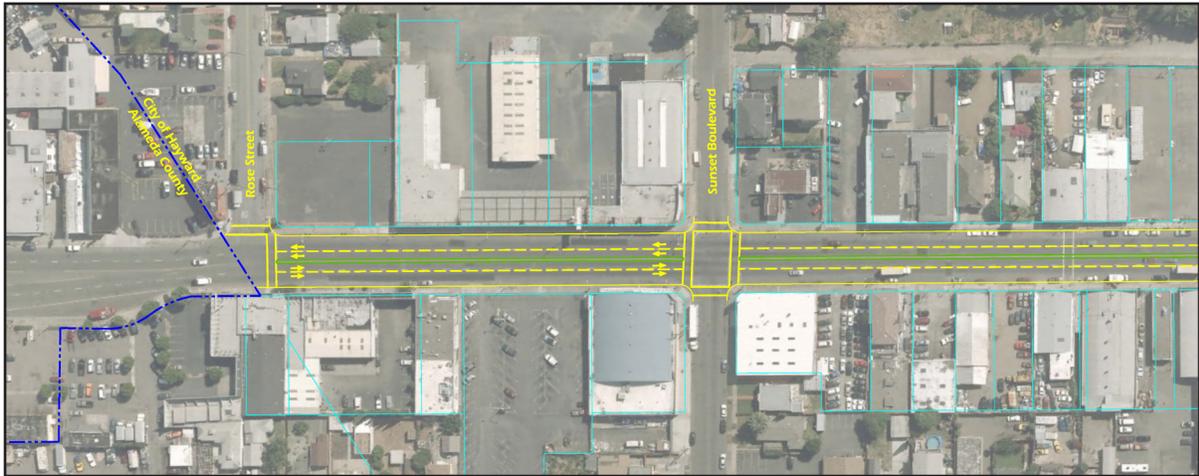


Figure 5-6: Mission Boulevard, Rose Street to Sunset Boulevard



Figure 5-7: Mission Boulevard, Simon Street to Grace Street

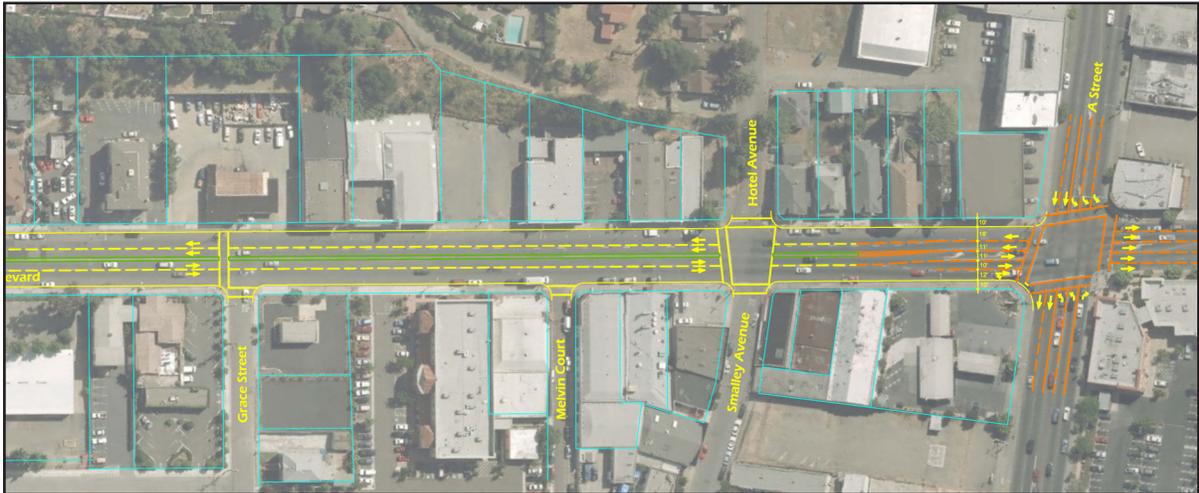


Figure 5-8: Mission Boulevard, Grace Street to A Street